

How do practitioners examine individuals living with chronic pain and trauma - are we asking the right questions?

Item Type	Thesis or dissertation
Authors	Jugpal, Sukhwinder
Citation	Jugpal, S. (2023) How do practitioners examine individuals living with chronic pain and trauma - are we asking the right questions? University of Wolverhampton. http://hdl.handle.net/2436/625772
Publisher	University of Wolverhampton
Rights	Attribution-NonCommercial-NoDerivatives 4.0 International
Download date	2025-04-30 03:04:00
License	http://creativecommons.org/licenses/by-nc-nd/4.0/
Link to Item	http://hdl.handle.net/2436/625772

**How Do Practitioners Examine Individuals Living With Chronic Pain and Trauma -
Are We Asking the Right Questions?**

Sukhwinder Jugpal, MSc, BSc (Hons)

School of Psychology, University of Wolverhampton

A thesis submitted in partial fulfilment of the requirements of the University of
Wolverhampton for the award of:

Doctorate in Counselling Psychology

D.Couns.Psych

29th December 2023.

Declaration

I hereby declare that with the exception of any express acknowledgements, references bibliographies cited in this work, the content of this work is the result of my own efforts and of no other person, beyond the role expected of my research supervisors Dr Danny Hinton, Dr Abigail Taiwo and Dr Wendy Nicholls.

Signature:

Date: 29-12-2023

Acknowledgements

Firstly, I would like to thank the willing participants who participated in this study, whom without this research would not have been possible. I am grateful for their support of this study and their willingness to share their experiences so openly with me. I am appreciative for their time and commitment. A special thank you to the practitioners who were invited to review the categories and the theoretical findings, your time and assistance has been valued very much.

My sincerest thank you to my research supervisors Dr Danny Hinton, Dr Abigail Taiwo, Dr Wendy Nicholls and Dr Lisa Orchard for their patience and ongoing encouragement. Their knowledge and insight have been invaluable in helping me to get through my research journey. You have all challenged me in different ways and guided me to grow and develop as a researcher; for this I am truly appreciative. I would also like to extend my gratitude to the Head of Psychology Garrett Kennedy for his ongoing support during the process of this course, I am sincerely thankful for his time and words of wisdom.

Finally, I would like to express my gratitude to my family. I am forever indebted to my parents, for the opportunities and experiences they have given to me throughout my life, I am truly grateful. I thank my husband Raman, whose support and encouragement helped me to make this journey even possible. My sons Tanishq and Krish, thank you both for your patience, smiles and energy that has kept me going. I thank my sister and brothers for their love and inspiration. My brother Palwinder Singh Kapoor, no longer here at the end of this journey. Gone too soon and dearly missed each day.

List of Abbreviations

ACE = Adverse Childhood Experiences

ACT = Acceptance Commitment Therapy

APA = American Psychiatric Association

BPS = British Psychological Society

CAT = Cognitive Analytic Therapy

CBT = Cognitive Behavioural Therapy

CNS = Central Nervous System

CCGs = Clinical Commissioning Groups

DCoP = Division of Counselling Psychology

DSM = Diagnostic Statistic Manual of Mental Disorders

EFT = Emotional freedom techniques

EMDR = Eye Movement Desensitisation and Reprocessing

GAD = Generalized Anxiety Disorder

GP = General Practitioner

HPA = Hypothalamus-Pituitary-Adrenal

IASP = International Association for the Study of Pain

ICD-11 = Classification of Diseases 11

IPA = Interpretive Phenomenological Analysis

MDT = Multi-Disciplinary Team

MSK = Musculoskeletal

NICE = National Institute of Health and Care Excellence

NHS = National Health Service

PHQ = Physical Health Questionnaire

PMP = Pain Management Programme

PTMF = Power Threat Meaning Framework

PTSD = Post Traumatic Stress Disorder

QoL = Quality of Life

SAMHSA = The Substance Abuse and Mental Health Services Administration

SSD = Somatic Symptom Disorder

UK = United Kingdom

WHEE = Wholistic Hybrid Derived from Eye Movement Desensitisation and
Reprocessing and Emotional Freedom Technique

WHO = World Health Organisation

List of Appendices

Appendix A – Letter

Appendix B – Consent Form

Appendix C – Research Information sheet

Appendix D – Interview Schedule/ Debrief sheet.

Appendix E – Example of Open Coding/ Initial Coding

Appendix F - Example of Focused Coding

Appendix G – List of Categories and Subcategories

Appendix H – Excerpts from the transcripts

Appendix I – Ethics Approval – Application

Appendix J – Table 4

Appendix K – Figure 4

Table of Contents

Declaration	2
Acknowledgements	3
List of Abbreviations.....	4
List of Appendices	6
Abstract	11
Chapter One	13
Introduction	13
1.1 Chapter Overview	13
1.2 Background to the Study	13
1.3 Definition of Chronic Pain	16
1.4 Definition of Trauma.....	17
1.5 Context of Pain Care in the UK	20
1.6 Research Objectives	24
1.7 Outline of Chapters	25
Chapter Two. Literature Review	27
2.1 Literature Search Strategy	27
2.2 Grounded Theory Approach to Literature Review	27
2.3 Trauma in Context to This Study	28
2.4 Relationship Between Chronic Pain and Trauma	30
2.5 The Biopsychosocial Perspective.....	35
2.6 Assessing Chronic Pain and History of Trauma	40
2.7 Management of Chronic Pain.....	48
2.8 Management of Chronic Pain and Trauma	53
Chapter Three. Method	59
3.1 Introduction	59
3.2 Ontology	59

3.3 Epistemology.....	60
3.4 A Qualitative Approach	61
3.5 Choice of Methodology.....	62
3.6 Summary	70
3.7 The Researcher.....	71
3.8 Sample and Participants	73
3.9 Recruitment and Theoretical Sampling.....	77
3.10 Procedure	79
3.11 Data Collection.....	80
3.12 Analytical Strategy	82
3.12.1 Coding	84
3.12.2 Customising.....	85
3.12.3 Category Building	86
3.12.4 Constructing Theories	86
3.13 Trustworthiness	89
3.14 Ethical Considerations	91
Chapter Four. Results.....	94
4.1 Introduction	94
4.2. Explanation of Emergent Categories	96
4.3 Practitioner Awareness Model	98
4.3.1. The Complexity of Chronic Pain and its Links to Psychological Distress	98
4.3.2. The Subjectivity of Trauma and its Links to Pain.....	106
4.3.3. Asking the Right Questions About the Onset of Pain.....	112
4.3.4 Practitioner Understanding of Chronic Pain and Trauma	116
4.3.5 Educating Patients About the Link Between Chronic Pain and Trauma	122
4.3.6 The Value in Exploring the Physical and Psychological Factors of Chronic Pain ..	128

4.3.7 Accessing Psychological Therapy Before Pain Management can Improve Outcomes .	134
4.4 Practitioner Action Model.....	138
4.4.1 Staying in Line With the Professional Remit.....	139
4.4.2. Practitioner Uncertainty Prevents Exploration of Trauma.....	141
4.4.3 Time Determines the Focus of Assessment.	142
4.4.4. Not Asking About Trauma Results in Excluded Patients.....	144
4.4.5 Best Practice Recommendations.....	146
4.5 Storyline and Theoretical Model.....	150
4.5.1. Overview of Two Models With an Emphasis on the Relationship Between Categories.....	150
Chapter Five. Discussion.....	154
5.1 Introduction.....	154
5.2 A Review of the Findings.....	155
5.3 Practitioner Awareness Model.....	158
5.4 Practitioner Action Model.....	169
5.5 Strengths, Limitation and Future Research.....	176
5.6 Contribution, Implications and Recommendations.....	181
5.6.1 Raising Practitioner Awareness.....	181
5.6.2. Improving the Assessment Process.....	182
5.6.3. Best Practice Recommendations.....	183
5.6.4 Evaluating the Theory.....	184
Chapter Six. Critical Appraisal and Reflections on the Research Process.....	186
6.1 My Position as a Researcher.....	186
6.2 Research Process.....	194
6.3 Conclusion.....	197
References.....	198

Tables

Table 1 Participant Characteristics.....	77
Table 2 Analysing the data using the 4 C's method.....	89
Table 3 Emergent categories and sub-categories.....	96
Table 4 Key Themes.....	Appendix J

Figures

Figure 1 Pain Heightens Distress	106
Figure 2 Practitioner Action Model.....	140
Figure 3 Storyline and Theoretical Model.....	153
Figure 4 Emerged Categories From the Data Analysis.....	Appendix K

Abstract

The relationship between chronic pain, adult comorbidities and adverse life experiences is well established in the literature. The maladaptive coping strategies can intensify patients' experience of pain, or disrupt or lengthen pain management. Identifying trauma earlier in the assessment process may support individuals to cope with their pain management long-term. National Institute of Health and Care Excellence (NICE) guidelines stipulate a biopsychosocial assessment be completed when individuals attend a chronic pain management service. The experiences of practitioners in chronic pain services are vastly under-represented, and such voices are needed to help understand how the biopsychosocial approach is utilised when examining subjective reactions to trauma. It was anticipated that the narratives would reveal how practitioners carry out their examination of the individual patient who present with a chronic pain and trauma. **Method:** Eight practitioners working in various pain services within the United Kingdom were interviewed using a semi-structured interview method. Participants accounts were audio recorded, transcribed verbatim and analysed through a process of constructivist grounded theory approach. **Results:** The findings of this study revealed a central storyline of two main processes, highlighting a push-pull dynamic involving Practitioner Awareness and Practitioner Action. Both models explore motivations for change in current assessment practices in pain management services. Practitioner Awareness: Seven subthemes emerged from the data analysis including 'The complexity of chronic pain and its links to distress', 'The subjectivity of trauma and its links to pain' and 'Asking the right questions about the onset of pain'. Practitioner Action: Five subthemes were identified as barriers to practice, including 'Staying in line with

the professional remit', 'Practitioner uncertainty prevents exploration of trauma' and 'Time determines the focus of assessment'. Participants were unlikely to examine chronic pain and trauma directly. Instead, patients were prescribed physical interventions or treatments. Further categories, such as 'Not asking about trauma results in excluded patients' and 'Best practice recommendations', offer a deeper understanding and a voice to this population. **Conclusion:** The shared experiences highlight clear challenges encountered by participants when asking questions about trauma during the assessment process in pain services. Fears of non-containment and not staying in professional remit were reported with participants questioning whether they are 'Asking the right questions?' This study has contributed to changes in clinical practice, with practitioners requesting a screening tool to be developed for examining a history of trauma with individuals who live with a chronic pain.

Keywords: chronic pain, history of trauma, pain management, practitioner, assessment for pain, grounded theory

Chapter One

Introduction

1.1 Chapter Overview

This doctoral research project in counselling psychology commenced during the course of a clinical placement in chronic pain management services. This study aims to make an original contribution to the research literature in the applied field of counselling psychology. This chapter will first introduce the background to the study, providing the reader with some context to the current guidance and recommendations for assessment in chronic pain services. The problem will be identified, highlighting how practitioners currently assess for chronic pain presentation and unresolved trauma in alignment with the current guidance. This section will be followed by a definition of ‘chronic pain’ and ‘trauma’ in relation to this research. To contextualise the study, the fourth section will provide an overview of the chronic pain services that exist within the United Kingdom and how the participants have been designated. The fifth section will explore the research questions that present the objectives for this study. This will be followed by the last section, which will offer a summary overview of the remaining chapters.

1.2 Background to the Study

The National Institute for Health and Care Excellence (National Institute for Health and Care Excellence [NICE], 2018, 2021) guidelines recommend that a biological, psychological, and social assessment be completed by pain specialist practitioners when an individual presents with all types of chronic pain. This includes assessing for any factors, such as previous emotional trauma, mental health (including depression and post-traumatic stress disorder) and biological features that could contribute to the client’s pain experience.

Pain specialist practitioners are clinical professionals registered and/or qualified to an accredited body, such as nurses, allied healthcare professionals, physiotherapists and occupational therapists. NICE (2018, 2021) guidelines stipulate a biopsychosocial assessment, including screening for a history of trauma, should be carried out in chronic pain services.

The researcher's interest to investigate how pain specialist practitioners assess for trauma with individuals who present with a chronic pain condition, transpired during her employment within a pain management service. As a counselling psychologist trainee, the researcher worked alongside an established multidisciplinary team. The pain specialist practitioners were responsible for screening all new patients into the service; this involved carrying out a physical assessment as and when required. Patients were referred to the psychology service at the pain specialist practitioner's discretion, determined by the individual presentation following completion of a biopsychosocial assessment. During this time, the researcher worked closely with numerous patients (as clients) who despite their efforts had experienced either an increase or no improvement to their pain intensity and symptoms. For some, these individuals reported that undertaking prescribed physical exercises, procedures (i.e., pain management injections, radiofrequency, denervation) or consuming long-term pain-relief medication had not helped them to manage their long-term pain condition. Furthermore, patients often reported that they had either disengaged from the pain management programme, missed appointments or had been discharged from other services due to an increase in their pain. An inability to manage or cope with their pain was reported alongside other psychological distress.

Patients frequently reported that they had either been under- or over-doing activities and/or they 'had tried everything they had been advised to do'. This was understandably very frustrating for the patients, often resulting in increased pain symptoms and additional

psychological distress, which complicated matters further. During psychology appointments, clients often reported a sense of the diminished quality of life and a loss of hope for their pain to become more tolerable or manageable. One of the common key factors narrated by these clients was unresolved reactions to a traumatic experience or symptoms of post-traumatic stress disorder (PTSD).

During the psychological assessment, clients reported this was either the first time that they had been questioned about any previous experiences of trauma or they had chosen to disclose this information. After a psychological assessment was carried out identifying the presenting issues, a therapeutic plan was collaboratively formulated using an integrated approach (e.g., cognitive behavioural therapy / third wave therapies) with clients to aid the management of their symptoms. Consequently, once they had begun the therapeutic process and started working on their own underlying emotions relating to their symptoms of PTSD and/or reactions to their subjective experiences of trauma, clients often reengaged with physical exercises and pain management programmes successfully.

The researcher was curious to explore how non-psychological practitioners were currently carrying out the biopsychosocial assessment as recommended by NICE (2018, 2021). Discussions with the wider team (non-psychological clinicians) steered the researcher to identify those patients who were primarily screened upon their physical presentations, and then referred to the psychology services if the clinicians decided it was required. The Patient Health Questionnaires (PHQ-9; Kroenke et al., 2001) and the Generalised Anxiety Disorder scale (GAD-7; Spitzer et al., 2006) were used as part of the screening process. However, these assessments did not necessarily determine if patients were questioned about trauma or if a psychology referral was made within the service.

After reviewing the literature, a growing number of studies highlight a link between reactions to traumatic experiences, adverse childhood experiences, PTSD symptoms and

individuals diagnosed with a chronic pain condition. These studies offer a baseline to why it is important to explore either a history of or the subjective reactions to trauma when chronic pain is present. However, the studies did not emphasise *how* these issues were currently being screened within pain services. For this reason, a gap was highlighted between the evidence base and the application of the evidence. NICE (2018; 2021) guidance emphasises that trauma is an important factor to consider in pain management, but the practice does not necessarily reflect this evidence.

In the applications of findings from this study, it is argued that the identification of trauma in patients from within the pain-service at an earlier point in their care, means that they can be signposted to psychological support, which will enable and facilitate their engagement with care as usual. It is argued that the appropriate signposting at this critical point will amplify the effects of care as usual, resulting in an improved quality of life, better patient outcomes, and a lower duration of time spent in care.

1.3 Definition of Chronic Pain

Chronic pain is pain that lasts a long time. Chronic pain lasting three to six months or longer is very common, poorly treated, and sometimes devastating (Walters, 2021). The distinction between acute and chronic pain is subjectively determined by the interval of time since onset, defined by two common markers used in medicine being 3 months and 6 months since onset (Novy et al., 1995; Turk & Melzack, 2011). Chronic pain is defined as “pain which has persisted beyond normal tissue healing time” (Merskey, 1986), which has exceeded or recurs for more than 3 months (International Classification of Diseases [ICD] 11th Revision, 2019). As will be evidenced in Section 2.5., chronic pain can sometimes be triggered (Cohen et al., 2002) or become worsened by a specific traumatic experience (Turk et al., 1993).

Historically, if an individual presented with chronic pain without any evidence of anatomical or neurophysiological causes (investigated by a medical procedure i.e., tests, X-rays or scans) this type of pain was classified as psychopathological. In the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5; APA, 2013), this would be referred to as a Somatic Symptom disorder (SSD). “SSD is a single diagnostic entity that replaces three of the DSM-IV somatoform disorders (somatization disorder, pain disorder, and undifferentiated somatoform disorder, and in some cases hypochondriasis)” (Katz et al., 2015, p. 164). Due to the broad diagnostic criteria for SSD, some studies have highlighted the likelihood of individuals with significant symptoms of emotional distress can receive an inappropriate psychiatric diagnosis (Ferri, 2020; Katz et al., 2015).

1.4 Definition of Trauma

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) defines trauma as “exposure to actual or threatened death, serious injury, or sexual violence” (American Psychiatric Association [APA] 2013, p. 271). The term ‘trauma’ refers to a physical injury or wound, or a powerful psychological shock that has damaging effects (Guha, 2010). Trauma in everyday language may be understood as an intense physical and/or psychological stress reaction to an adverse experience.

An individual can be assessed for symptoms of trauma and stressor-related disorders, that require professional treatment according to the DSM-5-TR (APA, 2013). PTSD might be considered if an individual has been directly exposed to, witnessed a distressing event or a series of occurrences, that is experienced as emotionally or physically life threatening (APA, 2013). Indirect trauma could be experienced through the process of sharing details of the distressing event, for example, due to professional role or duty (i.e., police officers, fire officers, medics). Symptoms, such as, distress, emotional dysregulation or difficulty in

relating to others, can be observed as a presenting issue and may vary in intensity. The diagnostic criteria for PTSD (DSM-5-TR) are based on four categories: Intrusion; Avoidance; Alterations in Cognition and Mood; and Alterations in Arousal and Reactivity. The duration of symptoms must have persisted for more than one month, causing detrimental effect or functional impairment to an individual.

Repeated instances, or exposure of the same or multiple types of traumas, over a length of time may be defined as 'complex trauma' (Substance Abuse and Mental Health Services Administration (US), 2014). Complex PTSD (C-PTSD) was added as a new disorder in the ICD-11, to acknowledge the existing core categories for PTSD, with the addition of essential (required) features. These include frequent or continued exposure to an event or series of events of an extremely threatening or horrific nature (e.g. slavery, prolonged domestic abuse, repeated childhood sexual or physical abuse, torture). The distinct features in C-PTSD considers how the severe and pervasive exposure can "affect regulation, specifically dissociative symptoms or diminished, defeated beliefs about oneself or one's inability to experience pleasure or positive emotions" (ICD-11, 2022). Additional clinical descriptions, symptoms, developmental presentations, cultural-related features and boundaries with other disorders and conditions must be considered prior to C-PTSD diagnosis.

Trauma can be presented alongside other psychological co-morbidities, such as anxiety, depression, bipolar disorder, psychosis, stress, and drug and/or alcohol abuse (Sturycz, 2014). People respond differently to their individual trauma experience, and it can be useful for clinicians to be able to identify resilience, and how the person has been coping with their trauma experience (Briere et al., 2016). This may involve the therapist identifying key areas where resilience may have already been developed and where further growth is required within the counselling therapeutic setting (McNally, 2003). The literature examining

the association between trauma and chronic pain will be reviewed further in the literature review (Chapter Two; Section 2.3).

The participants in this research study looking at how practitioners assess for trauma and chronic pain, highlight that exposure to a single health procedure, tissue injury, surgery or numerous surgical procedures can cause an individual to experience chronic pain. This is also recognised by the IASP (2012) and diagnostically refers to the ICD-11 as ‘chronic postsurgical’ or ‘post traumatic pain’. Although practitioners acknowledge the relationship between tissue trauma and chronic pain, little research has been carried out to investigate this association. A narrative review by Schug et al. (2019) pinpoints chronic postsurgical and post-traumatic pain is currently “under recognised and undertreated” (Schug, et al., 2019, pp. 45-52). This is further reviewed in Chapter Two (Section 2.4; The Biopsychosocial Perspective).

Participants in this study made numerous references to the term ‘trauma’ in context to their client’s stories. Participant’s narratives were based on adult patients whom they had assessed during the pain management screening. In some cases, the term ‘history of trauma’ was referred to, denoting the distress response caused by an earlier adverse event during the individual’s life. The traumatic memories that can cause distress to an individual after experiencing disturbing events will be referred to as ‘history of trauma’. The term ‘history’ derived from the Greek word ‘*historia*’ refers to ‘inquiry, narrative, account’, understood in everyday language as the study of past events, particularly in human affairs (Stevenson, 2010). In context to this study, ‘history’ refers to:

The chronological development of a case of a disease, esp. with regard to its symptoms and signs; an account of this, (in later use) esp. as given by the patient. Also: the record of health problems experienced by an individual during his or her lifetime, or by a

family over the course of several generations. (Oxford English Dictionary online, n.d., p. 87324).

'History of trauma' refers to an earlier experience or event that an individual has been exposed to, prior to attending an assessment for their chronic pain. This is not to be confused with 'historical trauma' indicating trauma that has occurred in earlier generations of the family – in this study the term history of trauma does not refer to trauma residing in anyone else.

1.5 Context of Pain Care in the UK

Services for pain management were introduced in the 1940s, to support individuals living with cancer pain (Collier, 2018). These services were essentially delivered by anaesthetists who carried out procedures involving neurolytic solutions (use of local anaesthetics) to aid in cancer pain management. Over time, individuals with non-cancer pain were referred to pain services. Evidently, these procedures were reported as being less effective in non-cancer patients. Subsequently, pain management services became multi-professional, created by a team of physiotherapists, nurses, psychologists, and occupational therapists. The Multidisciplinary International Association for the Study of Pain (IASP) was founded in 1975, as the leading organisation dedicated to the study of pain (IASP, 2012).

Historically, it has been assumed that any sufficient cause of pain symptoms is due to underlying pathology. Dansie and Turk (2013) state that “the first step in successful pain management is a comprehensive biopsychosocial assessment” (p. 2). They claim the underlying pathology experienced by an individual may not always reflect the expected pain experience. However, for practitioners to assess the impact of chronic pain, areas that require further investigation need to be identified during the initial assessment.

The assessment is key and provides the launching point for access to appropriate and effective care. Evidence however seems to point to a shortfall in this assessment, which may mean that the individualised care pathway is not always as effective as it might be. This section is concerned with outlining the current assessment practice, and the evidence concerning what the optimal focus of assessment might look like.

Pain services have since evolved. The National Health Service (National Health Service England [NHS England], 2019) developed a 'house of care' model to aid pain management for individuals living with chronic pain. This model initiated an emphasis on self-management techniques, empowering individuals living with chronic pain to take some responsibility in managing their physical pain symptoms. Part of this network service model, NHS England (2019) commissioned a highly specialist pain management service. This model enabled pain services and multi-disciplinary teams to work within a tertiary setting to help manage patients who live with a chronic pain condition.

The network service model (NHS England, 2019) comprises the following three tiers of service regarding the assessment pathway for chronic pain services:

Tier I: GP (primary care services). These are commissioned by the Clinical Commissioning Groups (CCG). Tier 1 services provide the first point of contact for individuals living in the community (primary care settings). Individuals are referred by their GPs to specialist services (Tier I or II).

Tier II: Specialist pain management services (secondary care services). This service delivers support for individuals living with chronic and acute pain who require a specific pain related procedure (i.e., spinal cord stimulation). There are clinical referral care pathways in place for individuals who need to be referred to Tier III services. Patients are initially assessed by a team of experienced specialist pain physiotherapists and specialist pain nurses. They undergo a full bio-psychosocial assessment and physical examination (if required) with

a treatment plan agreed based upon their personal goals and evidence-based treatment. This may include a referral to multi-professional assessment from psychologists or medical practitioners.

Most pain patients are managed with Tier II services, this involves a multi-disciplinary rehabilitation programme run by specialist physiotherapists and psychological wellbeing practitioners. The aims are to teach individuals appropriate management strategies to encourage long-term self-management. Patients who become extremely depressed due to pain or have a more complex combination of mental health complaints are referred on for psychological interventions.

Tier III: Adult highly specialist pain management service (referral via Tier II services only). These services provide secondary care for a small number of patients that need the specialist expertise and are based in either a standalone centre or in a network. These interventions are not routinely performed in accordance with NICE guidelines (NICE, 2016). For patients who do meet a specific criterion this may involve treatments, such as a nerve branch block, radiofrequency denervation, or epidurals.

Today, chronic pain affects more than two fifths of the UK population, meaning that around 28 million adults are living with pain (Fayaz et al., 2016; Raja et al., 2020). The condition is difficult to treat (Gatchel et al., 2014), pain is diagnosed as ‘chronic’ when an individual has suffered in a particular area of the body for at least three to six months (IASP, 2012). In the UK non-cancer chronic pain is the most prevalent pain type, with as much as 43% of the population affected (Fayaz et al., 2016). Many people living with painful conditions continue to experience significant pain that impairs their quality of life, causing significant physical health issues, disability, and emotional distress.

NHS England (2019) stipulates a care pathway must be followed for any individual in need of pain management, comprising of an interdisciplinary and multidisciplinary

assessment, leading to specific investigations, interventions (psychological and pharmacological) and resulting in the development of a pain management plan.

Thus, the assessment process (NHS England, 2019) begins with a detailed investigation of the patient's history, a physical examination, and further tests/scans (diagnostic imaging procedures) as and when required. However, in cases where there is no identified pathology, it is assumed by healthcare professionals that the symptoms of pain reported may be due to psychological factors (NHS England, 2019). In this case the health practitioner may request that a further psychological assessment be carried out to identify other factors (i.e., emotional) that may be underlying the pain symptoms reported. This has been the predominant model of medical practice, dating back to Descartes, 1644 (Dansie & Turk, 2013). This can further complicate matters for those individuals who do report symptoms of severe pain but have no identified organic pathology for their experience. Equally, it can raise questions for individuals who have substantial objective pathology but report no pain experience.

Traditionally a biopsychosocial approach (e.g., Engel, 1977) has been deemed appropriate for the assessment of the individual's (patient's) pain experience, to help understand if there are any underlying psychosocial presentations. This includes assessing the patient's current pain behaviours (avoidance/withdrawal) and any underlying emotional conditions (low mood, anger, or anxiety). The patient's understanding and awareness of their acute and chronic pain symptoms and their reactions to those symptoms from significant others (Turk et al., 1983) may also be considered.

Previously, Turk and Meichenbaum (1983, 1984) proposed that any individual who presents with chronic pain should be questioned about the biopsychosocial aspects of their pain presentation. Later, Dansie and Turk (2013) proposed that chronic pain assessment should explore the extent of suffering or the individual's inability to enjoy usual activities.

This indicates a longstanding emphasis on the symptom (psychological or social) exploration, that is necessary during the assessment process.

The current study aims to explore the practitioners' experiences and how they approach the subject of trauma during initial screening and assessment for pain services. The question of how trauma gets addressed in appointments with the patients living with chronic pain who they see regularly in their clinics will also be addressed by the current study.

Although there is a wealth of literature that specifically focused on a history of trauma and chronic pain as two separate mechanisms, there is still very little understanding of how these two phenomena can relate with one another (Brennstuhl et al., 2015). The researcher is interested in the practitioner's perspective based on their experiences and what they observe in their clinical practice whilst working with chronic pain patients. This includes practitioners' understanding about unresolved trauma, and how this can impact an individual's management of their long-term pain.

1.6 Research Objectives

Practitioners who have experience in working within Tier II services of pain management will be invited to volunteer as participants for in-depth interviews. All participants will be interviewed using a grounded theory approach (Charmaz, 2006) to offer further insight through their lived experiences. This approach offers a rich, complex, and deep form of inductive analysis. Instead of gathering data from pre-existing theoretical frameworks, this process focuses on creating new theories through inductive analysis of the data gathered from participants. To attain theoretical sensitivity (sensitivity to the data), the researcher aims to start with some predetermined ideas, such as remaining open to the participants experiences as their subjective version of reality (Charmaz, 2006). This involves the researcher keeping an open mind, though not an empty head (Dey, 1999).

It is ideal to utilise a grounded theory approach to investigate the circumstantial factors that affect individual, social or behaviours of groups (Crooks, 2001), especially if there is limited research in a specific area. In this case, there is no previous research carried out to investigate how practitioners examine a history of trauma within pain management services. Reasons for using a grounded theory approach have been discussed in further detail within the method section (Chapter Three). It is expected that the emergent data will contribute knowledge through best clinical practice to the subject area of a history of trauma, chronic pain and the assessment process utilised by practitioners. In the long-term, this may allow for individual's living with chronic pain to be assessed for a history of trauma sooner thus resulting in improved self-management of their chronic pain and appropriate trauma-informed treatment planning where required.

1.7 Outline of Chapters

Chapter Two starts by reporting how the literature search was carried out in this study. The timing of the review is then reported in relation to the constructivist theory. A review of the literature is then presented to aid the positioning of the study and clarify its contribution to knowledge. This comprises an exploration of the relationship between chronic pain and trauma, following an examination of the biopsychosocial perspective, with reference to the assessment and management for chronic pain and trauma.

Chapter Three provides an overview of the methodological process. A grounded theory approach was employed in this research. Once the various versions of this approach have been explored, the researcher discusses the reasons into why this study will incorporate a constructivist methodology. Participant characteristics and recruitment procedures are further discussed, followed by an overview of the key characteristics involved in the

methodological processes, such as coding, and constant comparative analysis. The validity, trustworthiness and ethical considerations for this study are then reported.

Chapter Four presents the findings of the study. The participant's voice is grounded within the data, bringing forward the patterns that have emerged in this study. Each section presents the core categories and subcategories, with an overview of the findings presented in a diagram representing 'Practitioner Awareness' and 'Practitioner Action'.

Chapter Five discusses how the results link to current theories and previous empirical findings, before coming to an overall conclusion, and exploring implications for practice. The critical appraisal and a reflection on the research process are presented in Chapter Six.

Chapter Two. Literature Review

2.1 Literature Search Strategy

The search was conducted using the search terms: *chronic pain, underlying trauma, adverse life events, physical health and wellbeing, chronic pain management.*

Electronic databases including Psych INFO, Psych ARTICLES, CINAHL, Em-Care, Medline, and Google Scholar were used. Articles were selected relative to their relevance to the current study and publication dates in line with papers published since the new NICE (2018, 2021) guidelines were issued. Relevant literature from the referenced list of identified articles were also included. Literature was accessed via the libraries of the University of Wolverhampton and Coventry and Warwickshire Partnership NHS Trust.

2.2 Grounded Theory Approach to Literature Review

Charmaz (2006) recommends the literature review be carried out in two stages for a grounded theory approach to the research. The first stage involves writing an initial introductory literature review prior to collecting the data. The preliminary review can help to set the scene and offer a rationale as to why the proposed study is required. Charmaz (2006) acknowledges a preliminary review is required for ethical and institutional reasons (research proposal/ethical application), however, warns that an in-depth literature review prior to data collection may influence the emerging categories. Charmaz recommends researchers should refrain from engaging with the literature or pre-existing theories to avoid introducing any bias into the findings (Charmaz, 1990, 2006; Giles et al., 2013). The second stage comprises delaying the review until the codes and categories begin to emerge from the data analysis. Once the analysis process begins, the researcher can expand on the initial review or write a

secondary literature review that supports and strengthens the data collected to offer further clarity and credibility (Charmaz, 2006).

Bryant and Charmaz (2007) suggest a preliminary literature review can support and guide the researcher to offer direction to the study. As advocated by Lempert (2007), it is important to carry out the initial review to prevent ignorance of any existing literature. In accordance with these recommendations, in the present study, a secondary literature review was conducted once the data analysis had begun, to review and engage with the ideas relevant to the emerged data. This process enables an enhanced focus upon a source of literature and contribution to knowledge that is applicable to the context and outcomes of the study.

2.3 Trauma in Context to This Study

The relationship between chronic pain and trauma will be considered in the next section (2.4) in detail. It is argued that trauma is an essential part of assessment for pain management services, therefore it is instructive to offer a brief explanation of the developmental trajectory, and the theoretical model of trauma which this research will align to.

The term ‘trauma’ is not straightforward to define due to the broad and complex experiences and behaviours encompassed by this term. A multifaceted, general characterisation of trauma has been challenging to evidence (Weathers & Keane, 2007) because the features of trauma vary along several characteristics including the intensity, frequency, predictability controllability and duration (Matlack, 2010). Participants in this study referred to ‘trauma’ more broadly, such as a single or several events of surgery, various forms of exposure to abuse (i.e., sexual, physical, psychological, combat/warfare exposure, experience of witnessing someone being seriously injured or killed, experience of ‘threatened

death') or a life-threatening incident (i.e., automobile accidents, knife injury, or natural disasters) (APA, 2013).

Horowitz (1989) claims that the traumatic event does not need to be direct physical harm, but instead depends on the individual's interpretation, ability to cope and way of experiencing the event. The literature reveals that the events defined as trauma have changed over time and have come to include a variety of events (Breslau, 2002; Johnstone et al., 2019; McNally, 2003; Weathers & Keane, 2007). Previous research, investigating the psychological consequences caused by exposure to accidents, war and disaster rescue operations contributes to the development and understanding of post trauma stress as it is understood today (Arnberg et al., 2012; Mehlum & Weisaeth, 2002; Renck et al., 2002).

Papadopoulos proposes that a person who has experienced trauma may struggle to relate "to their previous ways of life or way of being" (Papadopoulos, 2007, p. 304). Consequently, he suggests a traumatic experience may lead a person to become disorientated, further causing them to erase their earlier experiences and becoming off balance with harmful effects. Alternatively, Papadopoulos claims that despite this, an individual may gain from this negative experience and find a new way of being. Papadopoulos's longstanding work on *'Refugees, Trauma and Adversity-Activated Development'* introduces 'The Trauma Grid', which outlines a variety of levels and responses to adversity (Papadopoulos et al., 2004., 2007, p. 309). He shares three categories to describe the effects of trauma; these are negative, positive and neutral responses to trauma. The negative effects of trauma are broken down into three levels of adversity: "ordinary human suffering (OHS), distressful psychological reaction (DPR) and psychiatric disorder (PD)" (Papadopoulos, 2007, p. 305). PD is considered the most distressing and negative effect of trauma, requiring specialist treatment from a professional.

2.4 Relationship Between Chronic Pain and Trauma

Seven participants in this study spoke about the experiences of trauma exacerbating the intensity of pain experienced. Similarly, participants acknowledged that prolonged pain could increase the symptoms of anxiety and stress (see Figure 1; Section 4.3.3). The relationship between chronic pain, adult comorbidities and adverse life experiences is well established in the literature (Bellis et al., 2015; Felitti et al., 1998; Isobel & Edwards, 2016; Kopec & Sayre, 2005; Kunze, 2019; Linton, 2002; Mathews et al., 2014; Raphael & Widom, 2011; Sachs-Ericsson et al; 2017; You et al., 2018).

When looking for an explanation for this association, a physiological causal pathway has been found to explain the association between childhood trauma and pain in later life. Mathews et al. (2014) reported a link between childhood abuse and neglect earlier in life and elevated inflammation levels of C-reactive protein (CRP) in mid-life women. They concluded that some types of abuse and neglect resulted in changes in inflammation, therefore increasing the likelihood for individual's developing chronic inflammatory conditions, such as fibromyalgia, rheumatoid arthritis and osteoarthritis (Davis et al., 2005).

Kunze (2019) examined the effects of adverse childhood experiences (ACEs) on pain interference and anxiety in an integrative chronic pain clinic. A sample of 162 participants were recruited to participate, each completing a self-reported measure. The findings highlighted those individuals referred to the chronic pain clinic, tended "to report they had been exposed to four or more adverse childhood experiences, than the general population" (p. 4).

In this study, participants identified earlier traumatic events as one factor that can increase the risk for chronic pain in adulthood. Several health studies suggest that childhood abuse may be associated to individuals being diagnosed with health conditions, such as chronic back pain, debilitating musculoskeletal conditions, cardiovascular disease, diabetes,

inflammatory conditions, chronic pelvis pain and severe migraines (Anda et al., 2010; Brennstuhl et al., 2015; Harris et al., 2018; Kunze, 2019; Rich-Edwards et al., 2012; Roberts et al., 2012; Tietjen et al., 2010). Therefore, it is argued that pain practitioners should be assessing their pain patients for any earlier experiences of trauma, that may be exacerbating the pain experience due to unresolved or untreated symptoms of trauma.

A wealth of literature (Bellis et al., 2014; Brent & Silverstein, 2013; De Bellis, 2014, Felitti et al., 1998; Sara & Lappin, 2017; Norman et al., 2012) contributes to a diverse and broad range of long-lasting emotional, social and physical health issues, due to adverse childhood experiences. Research in this area highlights particular attention to the prolonged health issues that can occur for some individuals who have been exposed to an adverse childhood experience. Although, it is not necessary that an adverse childhood experience would result in an individual experiencing distressing symptoms or ‘trauma’, it is acknowledged by some researchers that reporting adverse childhood experiences is an international health priority (Klinge et al., 2009; Sara & Lappin, 2017). Particularly in pain services, screening for a patient’s reaction or interpretation to a traumatic event may offer insight into the client’s current symptoms to determine the treatment plan going forward and referral to appropriate department/service (i.e., psychology) if required.

Examining a relationship between childhood adverse experiences and chronic pain has been investigated by researchers for some time. Davis et al.’s (2005) meta-analytic review described individuals who report having experienced childhood abuse “are at an increased risk of experiencing chronic pain in adulthood” (p. 1). Therefore, emerging literature identifies a need for a trauma-informed approach when it comes to managing chronic pain or longstanding physical health issues. Although practitioners are skilled at assessing the illnesses that arise, the external forces that can shape what hides inside are often not considered (Purkey, 2018). Purkey’s (2018) study examined the primary care experiences

of women who had experienced a history of childhood trauma and presented with chronic disease. Purkey reported that most women attending health services were not asked about trauma by their general practitioners. The findings from this study draw attention to the need for using a trauma-informed approach when individuals attend health services presenting with a chronic disease. Likewise, Schafer et al. (2017) identifies childhood abuse and neglect as one of the most common yet least noticed or observed experiences.

Various studies demonstrate the correlation between trauma and distress to the physical body, highlighting a relationship between previous traumatic experiences as a risk factor to chronic pain conditions. A study by Tietjen et al. (2010) investigated the relationship of childhood abuse and migraines, and reported child maltreatment may be risk factors for development of chronic headache. Tietjen et al. recruited 1348 participants from a headache clinic, who were asked to complete a range of electronic surveys, such as The Headache Impact Test-6 (Kosinski et al., 2003), PHQ-9 (Kroenke et al., 2001), The Beck Anxiety Inventory, and the Childhood Trauma Questionnaire (Bernstein et al., 1994), amongst other tests. Findings from this study reported an association between emotional abuse in childhood and transformed migraine (Tietjen et al., 2010).

Similarly, Lampe et al. (2003) examined chronic pain conditions and their associations to childhood maltreatment and stressful life events. They found that physical childhood abuse, stressful life events, and depression played a key role in the development of chronic pain. However, sexual childhood abuse associated to chronic pelvis pain. Furthermore, depression was also linked to a history of childhood sexual abuse. Lampe et al. (2003) proposed that psychosocial factors must be taken into consideration by clinicians while treating chronic pain patients.

Researchers (Davis et al., 2005; Lampe, 2003; Purkey et al., 2018; Schafer et al., 2017; Tietjen et al., 2010) propose that it is critical that health practitioners ask their patients

about previous experiences of trauma in the same way they assess other risk factors for ill health (e.g., past family history, previous substance abuse). Here, the two different perspectives are acknowledged by the author, that of the patient and the practitioner that to help identify the possible causes, to understand the patients' experiences and intervene appropriately. These studies are an example of why it is imperative that practitioners ask their patients about trauma, especially when chronic pain is presented as the primary concern.

Purkey et al. (2018) state that providing such health care involves the entire healthcare service and system and all the professionals in it, especially for individuals who live with chronic pain disorders, such as fibromyalgia and present with complex symptomology. Imbierowicz and Egle's (2003) study examined the presence of childhood psychosocial difficulties experienced by adults diagnosed with fibromyalgia. The findings revealed that those living with fibromyalgia reported higher levels of childhood adversities compared to those without a fibromyalgia diagnosis (Imbierowicz & Egle, 2003). These findings were echoed in subsequent research further supporting the link between childhood adversities and chronic pain (Imbierowicz & Egle, 2012). As the fibromyalgia condition is understood as neurochemical imbalances in the nervous system (Clauw et al., 2011), this can impact the way pain disorders are processed. This highlights the impact childhood adversity can have on the central nervous system, causing dysfunction to the pain processing in the body. These findings offer some grounding to the current study to help demonstrate a history between childhood trauma and health issues or chronic pain in adulthood. It is through the understanding of the previous literature and research that one can appreciate the importance to why and how this relationship ought to be examined by practitioners within pain clinics.

Research investigating the links between a PTSD diagnosis and symptoms reported for chronic pain are very common (Fishbain et al., 2017; Moeller-betram et al., 2011; Schafer et al., 2017). Evidence suggests that pain is commonly reported by individuals who have a

PTSD diagnosis, despite the type or severity of trauma experienced. There exists a body of evidence indicating a link between post-traumatic stress disorder and chronic pain. Siqveland et al. (2017) examined patients attending a specialist pain clinic. They investigated the exposure to intentional events, non-intentional events, PTSD connection to pain experience and treatment outcomes. They found exposure to trauma is linked to chronic pain, in a similar way to mental disorders. They reported the severity of pain was strongly linked to intentional trauma, therefore suggesting that practitioners in pain services ought to be attentive of their patient's trauma history and PTSD presentation.

Research by Fishbain et al. (2017) reported numerous individuals diagnosed with chronic pain problems also have PTSD. Moreover, ten to fifty percent of people receiving treatment for chronic pain were found to have PTSD (Fishbain et al., 2017). For this reason, it is essential that patients are informed and educated about the relationship between chronic pain and PTSD, to help them understand that this is not about giving them another diagnosis or label, but instead it is about assessing and teaching them how to manage their symptoms long-term. Managing the difficult symptoms for PTSD could not only help an individual in reducing their memories or thoughts about the event but also the physical symptoms they may be experiencing.

Shaw et al. (2006) highlight the difficulties of differentiating between the main psychological symptoms presented from those related to the individuals' ailment or treatment. They bring attention to specific symptoms used to diagnose PTSD, for example, "hyperarousal, irritability, anger, sleep disturbance and poor concentration" (Khouzam & Donnelly, 2001, p. 2) and argue these may be secondary to illness or pain (Shaw et al., 2006). Consequently, the occurrence of PTSD (Ehrenreich, 2003) and PTSD treatment (Kind & Otis, 2019) may be overestimated in patients with chronic pain, unless symptoms related to the pain are considered. Evidence of this exists in the literature (Outcalt et al., 2015; Page et

al., 2009), suggesting that symptom clusters differ between patients with chronic pain and PTSD and those with PTSD with chronic pain. Diagnosing PTSD correctly requires a great deal of attention being paid to PTSD criteria, utilising each in turn. One may propose that for a pain practitioner to examine any prevalence of chronic pain and history of trauma, then it is important for them to have awareness of the diagnostic criteria available for detecting symptoms of PTSD (i.e., PTSD scales) or from the DSM criteria, which could potentially help reveal individuals who may be presenting with symptoms of PTSD.

Psychological interventions, such as Eye Movement Desensitisation and Reprocessing (EMDR), Cognitive behavioural therapy (CBT) and Mindfulness are some of the treatments recommended according to NICE guidelines (2018, 2021) for reducing symptoms of trauma. The treatment interventions have been further considered in Section 2.8. (Management of Chronic Pain) and Section 2.9 (Management of Chronic Pain and Trauma).

2.5 The Biopsychosocial Perspective

In researching the link between trauma and pain, it is helpful to examine the theoretical models that might explain such an association. The relationship between chronic pain and trauma has been investigated for decades, with some researchers (Anda et al., 2010; Gatchel, 2004; Kendall-Tackett, 2000; Nelson et al., 2017; Turk, 1996) referring to and explaining this phenomenon as the ‘biopsychosocial perspective’. This perspective has influenced how practitioners have continued to support individuals who live with a chronic pain condition and pain management practices worldwide. The biopsychosocial perspective has offered a broader understanding that people respond differently to their individual trauma experiences, which has been useful for clinicians to identify how the person has been coping with the trauma experience (Briere et al., 2016). This may involve the therapist identifying key areas where resilience may already have been developed and where further growth is

required within the therapeutic setting (McNally, 2003).

Engel (1977) formulated the biopsychosocial model of pain after critiquing the biomedical model in medicine. Engel claimed that the biomedical model has oversimplified how illnesses were viewed and treated, and this impacted on the health quality and recovery process for individuals. The theoretical model proposed an association between the cause of pain (i.e., injury) and a physical problem. This may lead to psychological distress and behaviour determined by illness, creating a 'sick role' (Bever et al., 2016). Engel brought attention to how an integration of the biological, psychological, and social components may occur. Criticisms were mainly focused on the absence of the 'holistic' view of the patient when new practitioners were being educated or trained.

Engel's work has long been debated by practitioners, specifically evaluating a number of theories and assumptions about individual patient care. One of the strengths of the biopsychosocial model is that it can assist practitioners to understand and rationalise the various interpersonal differences of pain presentation. This can help practitioners to identify how pain is affected by a history of trauma, considering the social factors, genetic predispositions, thoughts, feelings, and habitual action. The basic principles of Engel's approach emphasise that pain may not correspond with tissue pathology. In line with this, Garner and Tatta (2022) argue that psychosocial factors may affect vulnerability and the natural progression of chronic pain. They argue that pathological findings should not be used as a diagnostic crutch and, more importantly, that the interpersonal relationship between a primary care practitioner (physical therapist) and patient can influence treatment success (Garner & Tatta, 2022).

The understanding that biology can impact an individual's psychological state is not a new notion. The glucocorticoid cascade hypothesis (Finsterwald & Alberini, 2014) offers the example of how anxiety, tension or physical distress can instigate the production of adrenal

cortex to produce the glucocorticoid hormone, cortisol. The excess creation of cortisol can trigger biochemical changes, resulting in degenerative neuron loss in the brain (Scholz, 2014). Specifically, the changes are noted in part of the hippocampus, that works to create narratives in the memory. This can create cognitive problems with thinking/perception/reasoning, changing the process of how an individual with chronic pain may cognitively function. It is proposed by Sherin and Nemeroff (2022) that the changes caused due to the excess cortisol in the hippocampus are the same as seen in individuals presenting with depression. Although the biochemical changes can have a detrimental effect, techniques to reduce stress (for example, mindfulness practice) can assist to improve cognitive function (Finsterwald & Alberini, 2014).

Identifying a physical or structural abnormality or being diagnosed with a medical condition that justifies a reason for pain can often mean that the psychosocial factors are no longer considered important, and the focus can often become biomedical. Practitioners may, therefore, find it inappropriate to associate a subjective experience to the objective measures of pain (Jaini & Lee, 2015). However, literature demonstrates that pain, by definition, is a subjective experience. The IASP encourages practitioners, when moving toward the biopsychosocial model of pain, that it is their responsibility to listen to patients' stories to help understand more accurately how pain affects their lives (IASP, 2021). Listening to patient's narratives can offer opportunity for transformative learning beyond the biomedical to a more humanistic, patient-centred approach of health care (National Institute for Health and Care Research, 2019) and potential barriers to treatment effectiveness (Madden & Morley, 2016). This encourages having an open dialogue and may offer insight for the practitioner to perhaps assess if any other factors may be contributing to the chronicity of pain.

Despite the value of the biopsychosocial model within pain services, the model has

been criticised due to the three domains (biological, psychological, and social) being vaguely defined, suggesting that each domain has some shared and overlapping features (Stilwell & Harman, 2019). Researchers, clinicians, and educators have reported difficulties when teaching and applying the biopsychosocial model in a holistic manner. Henriques (2015) emphasises “the problem with the biopsychosocial model is that it’s inclusiveness results in an unscientific, ‘fluffy’, pluralistic approach...” (p. 26). Henriques (2015) expands that the biopsychosocial model ought to be applied in a way whereby practitioners break down the presentation of symptoms and align each one with each component of the model as opposed to a holistic approach stating the model hypothetically rationalises a morass of “anything goes” (p. 26) in medicine and health. Likewise, Carr and Bradshaw (2014) report when the biopsychosocial model is applied in practice, there is a propensity to divide the patients' pain into two (biological or psychosocial) or three (biological, psychological, or social) areas. Once the areas are isolated, the attention leans towards the biological. As Köke et al. (2017) claims there is opportunity for improvement when it comes to integration of the three domains, acknowledging the phenomenology of experience (Stilwell & Harman, 2019). Similarly, Wideman et al. (2019) claims that the model does not clearly outline how the different forms of assessment relate to the subjective experience of pain.

Chronic pain is understood as being either nociceptive or neuropathic. ‘Nociceptive’ pain can start due to inflammation or a tissue injury triggering sensory pain messages in the body called nociceptors (Dubin & Patapoutian, 2010). These neurons are typically silent and only become stimulated due to inflammation or tissue damage. The peripheral activation can alert pain in the human body (Costigan et al., 2009; Latremoliere & Woolf, 2009).

Neuropathic pain can be caused by an injury to, or a malfunction of, the nervous system (Keay et al., 2000).

Literature highlights persistent hyperactive nociceptors mediate increased sensitivity

to feeling pain and an extreme response to normally painful stimuli. Painful responses (hyperalgesia) are stimulated by innocuous stimuli, due to sensitisation of the central pathways (allodynia) (Loeser & Melzack, 1999; Reichling & Levine, 2009; Walters, 2021). Studies examining neuropathic pain and hyperalgesia in rodents, reported nociceptor changes can contribute to the continuation of pain. (Reichling & Levine, 2009; Walters, 2021; Yasko et al., 2019). A variety of changes were noted, specifically in the transformation of the associated genes and cells (Walters, 2021).

The impact of pain can change the way the central nervous system functions, so an individual may present as being more sensitive to pain and reporting further intensity of symptoms with less provocation (Woolfe, 2010). The alterations in the central nervous system (CNS) are referred to as 'central sensitisation'. This is understood as an over-sensitivity to the experience of touch and applied pressure. This experience is amplified compared to individuals who do not have central sensitisation due to chronic pain (IASP, 2012).

The role of sensitisation has been detected in several common diseases (Havelin et al., 2016), for example, neuropathic (nerve injury) pain, fibromyalgia, osteoarthritis, irritable bowel syndrome, musculoskeletal disorders, headaches, temporomandibular joint disorders, hypersensitivity disorders and post-surgical pain. Similarly, in cases where individuals have been diagnosed both with chronic pain and anxiety, sensitisation has been identified as a dysregulation of the hypothalamic-pituitary-adrenal stress response (Brennstuhl et al., 2015; Lauterbach et al., 2005; Lumley et al., 2015).

A literature review carried out by Mense (2008) claimed that sensitisation can be triggered by muscle tension, continuing to increase the experience of pain without apparent provocation. For this reason, researchers have questioned if central sensitisation is the main source for neurological issues. Although the existence of central sensitisation is widely

recognised as a key factor in pain becoming persistent, the reason why this is the experience for some individuals and not others is still unknown. Both environment and genetics have often been considered as some of the reasons; however, it is difficult to ascertain it being one thing more or less than the other (Thernstrom, 2010).

A hermeneutic review by Kusnanto et al. (2018) found practitioners reported utilising the biopsychosocial approach within multidisciplinary settings to assist their patients understanding. Practitioners promoted the biopsychosocial approach to patients to increase awareness of the interactions between biological, psychological and social factors. Despite this, they report the application of the biopsychosocial model is not necessarily followed or practiced by all practitioners in primary care services. Although the benefits of the biopsychosocial approach are acknowledged, it appears the biomedical model may be the primary approach applied in practice by practitioners. Fundamentally, Kusnanto et al. (2018) claim that research addressing long term illnesses or disorders have highlighted the need for the application of a biopsychosocial approach.

2.6 Assessing Chronic Pain and History of Trauma

The biopsychosocial model of mental distress and chronic pain offers both the individuals who live with chronic pain and those practitioners who support them an explanation that involves interpreting and adapting theories to understand the biological (CNS), psychological (resistance, fear, avoidance) and social (environment) evidence to help explain and make sense of their symptoms. This model does not emphasise the biomedical explanations of chronic pain. Instead, it takes a holistic view by including psychological and social factors into consideration. According to Bevers et al. (2016) the introduction of “the biopsychosocial model has been responsible for developing the most comprehensive basis for

the assessment and treatment of chronic pain” (p. 100); an interdisciplinary multifaceted pain management strategy (Gatchel et al., 2007, 2014).

Individuals living with muscular chronic pain reported improvements to their quality of life (Beyers et al., 2016; Rothman et al., 2013) due to receiving a multimodal pre-treatment assessment. This was in comparison to those individuals who were assessed using a multidisciplinary approach. Wright and Gatchel (2002), who investigated occupational musculoskeletal pain and disability, reported the interdisciplinary approach to be most effective for patients’ healing time and recovery period. The interdisciplinary model incorporated a cognitive behavioural approach, allowing practitioners from different disciplines to work together and alleviate their service-user’s fears or barriers to treatment through consulting with a network of specialists within different disciplines. This was particularly helpful for individuals who were seeking pain management treatment due to physical deconditioning or musculoskeletal issues. They found that when a patient is assessed jointly by a team consisting of a physician, a specialised nurse, a physical therapist, a psychologist, and an occupational therapist, an objective assessment can be offered of all aspects of functioning allowing for the systematic assessment of function to determine improvement.

A study by Ansari-Moghaddam et al. (2016) reviewed documents over a 17-year period between 2000 and 2016 to examine how pain is managed with patients who present with trauma. They identified a variety of ways that pain is assessed and managed within acute pain management services. Administration of multimodal techniques were found, including assessments that could be used for practitioners to measure and score the level of trauma and pain being experienced by their patients. This study highlighted a variety of assessments were used to assess if pharmacological or non-pharmacological interventions were used to treat the pathology. Due to the pain being acute, there was no specific assessment utilised to measure

any PTSD symptoms. However, a referral to a psychiatrist or psychologist was advised if a practitioner suspected this was required. This study indicates not only that a level of sensitivity is required by practitioners when examining and trying to work out ways of reducing the physical pain their patient is presenting with, but also the need for practitioners to have some awareness of the psychological symptoms that a client may be demonstrating.

Trauma is an emotional response to a negative event, for example, an accident, rape, or natural disaster (APA, 2013). Due to this event often being unexpected, it is natural for an individual to react with shock or denial. The psychological impact of this can affect how an individual's pain is perceived by their brain and how they may react in response (Beecher, 1956 as cited by Ahmadi et al., 2016). Assessment for pain and trauma can be a complicated process due to the individuals presenting issues, such as extreme levels of anxiety, fears and emotional distress. Combining this with the need for analgesia, patients ultimately want to reduce the levels of physical pain experienced. Therefore, when considering the physical and psychological dimensions of pain management, assessing for all the relevant matters can become a challenging task for any pain practitioner. This may impact on the practitioner to carry out a reliable assessment (Ahmadi et al., 2016; Bruce et al., 2001). One has to deliberate what the patient needs first and foremost, and if the patient is ready to address any barriers to pain management, for example, avoidance/denial behaviours. This applies to instances where individuals may have been exposed to a traumatic event resulting in severe physical injury to the body, for example, head trauma, concussion, brain injury or removal of limbs (impacting on the level of consciousness at the time). Assessing and asking questions about how the pain started may not necessarily result in straightforward answers.

This draws attention to the many complications and challenges that practitioners face when identifying and treating chronic pain with trauma. Research conducted by Spijker et al. (2018) examined psychiatric comorbidities in adult survivors of major trauma. Spijker et al.

(2018) were interested in how the experience of a major traumatic event can impact individuals psychosomatically up to a year following the event. They specifically examined symptoms of PTSD, chronic pain, diminished quality of life, substance use and depression. Participants who had previously attended hospital following a traumatic incident within the year were sent questionnaires to determine the level of their health-related symptoms. They found the majority of participants reported experiencing highly distressing psychosocial symptoms within the first year and, therefore, recommended that screening and management for “comorbid presentations could improve care and outcomes for survivors” (p. 293). This coincides with the NICE guidelines (2021), that stipulate individuals presenting with any comorbid presentations are to be screened and assessed according to the biopsychosocial approach, specifically in chronic pain services.

In line with assessing for comorbid presentations, several pain services utilise screening assessments (for example, PHQ-9 or GAD-7) to identify any presentations of depression or anxiety. This can indicate if further assessment is required by the practitioner carrying out the initial pain assessment before onward referral. Due to the associations found between an exposure to adverse childhood experiences and depressive disorders later in adulthood (Chapman et al., 2004), it is essential that a thorough assessment is carried out. Previous clinical research conducted by Gironde et al. (2006) and later Clark et al. (2010) demonstrated an appreciation of this symptom overlap. However, these studies were primarily focused upon applying programme models for concurrent treatment for veterans instead of examining practitioner experience and chronic pain (Department of Veteran Affairs, 2017).

Although several studies have examined the relationship between trauma exposure and chronic pain, only a few have included patients with chronic pain as participants or examined how practitioners assess chronic pain. Stinesen et al. (2019) highlights how

existing research does not identify the difficulties that can occur in patient-practitioner interaction; specifically, when exploring the psychosocial issues that may be presented alongside chronic pain. Although studies that consider practitioner experience and chronic pain are limited (Jamison et al., 2016; Kristiansson et al., 2011; Varsi et al., 2021), these primarily examine the attitudes and relations of primary care practitioners and how they work with chronic pain patients who have been prescribed opioids for pain or digitally supported self-management interventions.

A pilot study by Otis et al. (2010) investigated the use of cognitive processing therapy (CPT) for PTSD and CBT for chronic pain management for military veterans (participants) attending a pain management programme. CBT is one of the psychological therapies recommended by NICE (2021) to support individuals with the management of chronic pain. The CBT approach is skills based, focusing on teaching individuals to identify and change maladaptive thoughts, feelings and behaviours. CPT, is a cognitive based approach, primarily focused on cognitive restructuring. This is a highly effective treatment for working with trauma populations, such as a diagnosis of PTSD (Ahrens & Rexford, 2002., Chard, 2005., Monson et al., 2006., Schulz et al., 2006). Therapists utilising CPT work with clients collaboratively are “challenging false beliefs about safety, trust, power, control, esteem and intimacy” (Otis et al., 2010, p. 1302). All participants in Otis et al.’s (2010) study reported the format of treatment had helped them to learn and understand how chronic pain and PTSD share common symptoms. They appreciated learning how the two disorders (chronic pain and PTSD) can interrelate with one another. Although Otis et al. (2010) concluded that participants in their study appeared to benefit and receive the integrated treatment for pain and PTSD, they acknowledged the participant group may not be considered applicable to a civilian population (Siqueland et al., 2017).

Jamison et al. (2016) study was based upon the appropriate use and the

administration of opioids by participants to help their patients manage their chronic pain symptoms. This form of pain management was determined by what medications their patients reported were helpful in managing their chronic pain and if a stronger dose or a different type of medication was required. Due to the nature of this study being focused upon opioid management, issues surrounding any history of trauma with chronic pain presentation was not explored.

Increasing evidence suggests being exposed to potentially traumatic events earlier in life, interferes with the necessary stages of development in childhood (Zlotnick et al., 2008) associating to a higher probability of psychiatric disorders later in life. A study by Copeland et al. (2018) reports “cumulative childhood exposure is associated to negative outcomes in health and functioning in adulthood” (p. 1). Research conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA) panel (Center for Substance Abuse Treatment (US), 2014) reveal that individuals with a history of trauma are likely to “display symptoms that meet the criteria for other disorders” (p. 91). Two main barriers identified in trauma assessment for clients presenting with substance-abuse are firstly, patients are not forthcoming in disclosing a history of trauma to service providers during screening assessment. Secondly, if providers are not screening their patients for a history of trauma and related symptoms, this may go undetected, or result in clients being misdiagnosed. The Treatment Improvement Protocol (TIP, SAMHSA) identifies health settings as one of the core domains where trauma-informed screening is vital for clients to receive the appropriate assessment and treatment planning required.

Empirical evidence suggests that patients will not readily disclose if they have been exposed to trauma earlier in their life unless they are questioned about this (Otis et al., 2010), especially when chronic pain is presented as the primary concern (Friedman & Schnurr, 1995). This might be problematic for practitioners because if clients will not (necessarily)

readily disclose (Otis et al., 2010), how do practitioners examine or assess a history of trauma when individuals present with a chronic pain? It is therefore necessary to consider the processes involved when screening or assessing for a history of trauma (Center for Substance Abuse Treatment (US), 2014).

Psychological theories indicate that understanding, listening, and creating space for an individual to share their history of trauma can often be the starting point for collaboratively working towards managing their pain and starting the process for healing. The latter is of value as it has a powerful potential to lessen human suffering, thus it is considered the core element of any therapeutic encounter.

The Power Threat Meaning Framework (PTMF; Johnstone and Boyle, 2018) has been considered by the researcher as a platform to explore a history of trauma. PTMF draws upon various models, practices, and philosophical traditions, however, is not dependent on any theoretical orientation. The core principles of PTMF propose that emotional distress can be precipitated by an individual's body and biology (Johnstone et al., 2018). Johnstone et al. (2018) emphasise that this framework "does not assume pathology; rather, it describes coping and survival mechanisms which may be functional as an adaptation to conflicts and adversities in both the past and present" (p. 9).

The PTMF's main purpose is that it focuses on the pattern and consistency of the distressing experience and how this is expressed by the individual instead of centring on the biological or psychological disorder or diagnosis (Johnstone & Boyle, 2018). Although the 'biological' factors such as pathology can be acknowledged, these are not assumed or take priority over the experienced aspects of the distress reported by an individual. Relational factors are subjectively considered depending on social aspects relating to the culture, community, and the biological elements combined altogether. In other words, the PTMF brings attention to the unique 'meaning' and subjective experiences created for the individual

by combining all these factors together. The PTMF evolves out of four elements; these are Power, Threat, Meaning and Threat Response (BPS, 2018).

This framework highlights the tensions that can rise at the root of distress, proposing that practitioners replace the core questions which derive from a medicalised approach, such as “what is wrong with you?”, with four other questions that can assist during the assessment phase (Johnstone & Boyle, 2018):

- “What has happened to you? (*How has power operated in your life?*)”
- “How did it affect you, (what kind of *threats* does this pose?)”
- “What sense did you make of it? (What is the *meaning* of these situations and experiences to you?)”
- “What did you have to do to survive? (What kinds of *threat response* are you using?)”

(p. 10)

In practice with an individual, family or group, two additional questions need to be asked:

- ‘What are your strengths?’ (What access to *power resources do you have?*)
- ...and to integrate all the above, ‘what is your *story?*’

(p. 10)

In reference to the research question, the PTMF demonstrates how a practitioner may go about examining an individual who presents with a persistent physical pain that has exceeded the healing time expected. This framework could offer insight for those individuals who may or may not have a diagnosis or an explanation for their chronic pain symptoms. By

examining ‘what has happened to you?’ may bring attention to and help them resolve what they have experienced, and identify the “patterns of embodied, meaning-based threat responses to the negative operation of power” (Johnstone and Boyle, 2018, p. 191.). A vast amount of literature (Beard & Aldington, 2012; Brave Heart, 1998; Cichowski et al., 2017; Daoust et al., 2018; Dong et al., 2003; Dorahy & Van der Hart, 2007; Felitti et al., 1998; Flehr et al., 2021; Gilbert et al., 2015., Hildyard & Wolfe, 2002; Leserman et al., 2006; Mersky et al., 2019; Nurius et al., 2019) highlights that being consistently exposed to or having lived through adverse life experiences throughout one’s life can contribute to their threat system becoming activated and further influencing the way in which their mind, body and spirit continue to heal from pain (Cichowski et al., 2017., Van der Kolk, 2014).

2.7 Management of Chronic Pain

Individuals who present with chronic pain and trauma include a broad spectrum of patient populations, including healthy young athletes, vulnerable children, and frail elderly. It is necessary that practitioners are well prepared to provide optimum pain management care to these patients, by utilizing modern evidence-based practices and knowledge (Gausche-Hill et al., 2014). The diagnostic codes for conditions relating to chronic pain are included in the International Classification of Diseases (ICD-11) of the World Health Organisation (WHO). These are not methodologically organised or define the epidemiology of chronic pain. The ICD codes are often referred to by many health care systems in many countries for coding diagnosis and verifying examinations or measuring therapeutic outcomes (World Health Organisation, 2019).

The British Pain Society guidelines (Lee et al., 2013) specify that a psychologist and physiotherapist must be involved in all pain management programmes. The aim of pain management services is not to necessarily focus upon the treatment or cure of chronic pain.

Instead, it is primarily aimed at teaching individuals techniques and strategies on how to reduce symptoms and improve their overall wellbeing. All patients want their pain justified and without any medical evidence or explanation for their pain experience they can often feel that the severity of their symptoms has not been taken seriously (Osborn & Smith, 1998). It is therefore important to “introduce patients to self-management philosophy relatively early in their clinical journey, rather than to wait for treatment failure first” (Gauntlett-Gilbert & Brook, 2018, p. 3).

Management has, therefore, involved utilising one or more strategies, such as medical interventions, physiotherapy, pain-education, and various other types of approaches, for which there is evidence to support assistance in the management of long-term pain. The multi-disciplinary team (MDT) approach, which includes a team of professionals from different backgrounds, has enabled pain services to combine their skills and knowledge to explain issues involving chronic pain from a complex biopsychosocial perspective. Over time, new medical interventions and therapeutic approaches have been introduced and developed, with chronic pain being internationally acknowledged as a separate medical condition rather than merely a symptom (Kress et al., 2015).

The first pain management programme (PMP) in the UK was developed at the Walton Centre, Liverpool, in 1983. Since then, programmes have been specialised and designed across the UK to meet the needs of the community. In 2015, a team of pain specialists (physiotherapists and clinical psychologists), a general practitioner with a special interest in pain management and a chaplaincy manager, piloted and delivered a PMP for people who speak Urdu (Shoiab et al., 2016). The PMP was customised to be language specific and culturally exclusive in a geographical diverse area. This enabled patients to access services, learn concepts involving self-management of chronic pain, formulate goals, relaxation techniques and how to breakdown activities to build strength (pace one-self). They

highlighted that not all concepts are universally known, therefore adapting services to meet patients' needs can help them to manage long term. This pilot study demonstrates the effectiveness of joint-working and how practitioners from different professional backgrounds can engage those individuals who may be 'missed' due to language or cultural barriers.

The need for specialist pain services to provide a multi-speciality and multi-disciplinary service has been recommended by NHS England since 2013. In 2018, a study by Kailainathan et al., brought attention to the inconsistencies reported on the discrepancies that exist in the multidisciplinary provision availability and quality of pain service delivery nationally. They completed a survey in pain services throughout the United Kingdom and Ireland, examining multidisciplinary working and the extended working role for nurses (Kailainathan et al., 2018)). Lengthy waiting times for appointments, as well as a lack of awareness of the pain role, were reported (Kailainathan et al., 2018).

The Department of Health and Social Care emphasises the importance of the MDT working approach in order to support individuals with complex health conditions. The results from the survey (Kailainathan et al., 2018) found that, although many pain clinics have a multidisciplinary pain clinic, "15% did not use the MDT approach and 41% did not meet the IASP criteria for a level-2-pain clinic" (Kailainathan et al., 2018. pg., 8). Despite the Department of Health and Social Care recommending MDT consultations as the primary approach for the management for chronic health issues (Raine et al., 2014a), there was a lack of evidence demonstrating this in clinical practice. The importance of MDT working approach is further deliberated in the following section, Management of Chronic Pain and Trauma (2.8).

One of the popular approaches used by clinicians has involved incorporating mindfulness practices alongside pain education to help patients understand and reduce symptoms of pain, based upon the biopsychosocial model. This approach, alongside

compassion-focused therapy, has proven to be particularly helpful for clients who present with chronic pain.

An interpretative phenomenological analysis carried out by Hearn and Cross (2020) explored the lived experiences of eight individuals, diagnosed with neuropathic chronic pain due to spinal cord injuries. The results highlighted how the experience of living with neuropathic pain was determined by the meaning provided by each participant. This study drew attention to the prominent biopsychosocial consequences of neuropathic pain, specifically how this can impact an individual physically and psychologically; therefore, indicating the need for health care professionals to incorporate a biopsychosocial approach. This study highlights the need for an emphasis to be placed upon pain management instead of pain relief, with ongoing pain education for patients, their families, and friends, as well as health care professionals disseminating information about the consequences of neuropathic pain caused by spinal cord injury. Hearn and Cross (2020) concluded that an acceptance-based therapeutic approach be recommended to support individuals with neuropathic chronic pain.

Mindfulness based approaches, such as Acceptance Commitment Therapy (ACT), have shown to be effective for the treatment of musculoskeletal pain (Barker et al., 2016), spinal cord injury (Hearn & Finlay, 2018), and chronic abdominal pain (Yu et al., 2021). Yu et al. (2021) investigated how ACT may benefit people with chronic abdominal pain. They reported psychological flexibility processes were positively associated with daily general, social and emotional functioning in chronic abdominal pain. In contrast to these findings, Hearn and Cross (2020) conducted a systematic review to consider mindfulness-based interventions for pain. They examined data from 1996 to 2018, reporting mixed support for mindfulness-based approaches for pain. Mindfulness was predominantly reported useful for symptoms of anxiety and depression.

Barker et al. (2016) introduced ACT to a physiotherapy-led pain rehabilitation programme, asking all staff in the pain service to participate. The key findings from this study highlighted that introducing mindfulness approaches such as ACT into traditional health care systems can cause anxiety for some professional groups. One of the core discoveries from this research emphasised the challenge of moving away from ‘fixing’ pain towards ‘sitting with’ (Barker et al., 2016). Participants explained this as being uncomfortable, due to mindfulness not fitting with their biomedical training. The innovation of this study brings to light the potential barriers and facilitators to embedding an ACT philosophy within a physiotherapy setting.

The focus for this study, considers the evidence for how a practitioner examines, assesses, or questions a patient about a history of trauma when their training has primarily involved utilising strategies to help ‘fix’ or prescribe medications or an exercise-based program. Mindfulness and pain education is often at the core of many pain management services that run group programmes for individuals. This is often where some patients who may not have been screened initially as having underlying trauma may be assessed as needing further psychological or one-to-one support. How does a practitioner feel about examining any underlying trauma when chronic pain is presented as the main issue, or when their medical training has not involved assessing individuals for history of trauma or any underlying adverse experiences that may be contributing to an increased experience of distress within the physical body or as chronic pain? This study is interested in the practitioner’s voice, to understand individuals presenting with chronic pain and what they believe works well and what doesn’t. Previous research studies and literature informs us of good practice and what pain services *should* look like, however the author is interested in what does this look and *feel* like in practice for a practitioner.

Baronian and Leggett (2020) investigated the efficacy of cognitive analytic therapy

(CAT) for 53 adults living with chronic pain. Participants participated in eight individual therapy sessions, with most (67.9%) reporting improvements on a 34-item self-report measure for psychological distress (CORE-OM). Improvements in symptoms were reported in 28% of the participants. Baronian and Leggett's study proposes that CAT is a promising intervention for adults with long-term pain. Their findings provide support for a short-term approach to pain that focuses on not controlling or eliminating pain but on revising and revealing unhelpful patterns that may impact upon one's management. Helping an individual to become aware of their own unhelpful attachments or patterns relating to their distress offers them an opportunity to learn and manage. This study demonstrates that when pain is presented as the key issue, it is not necessarily about eliminating the pain but exploring what symptoms, behaviours or attachments to the pain are causing further distress, such as what happened when the pain started, how did they manage, how does the body maintain this pain to stay active in the body, etc. This, therefore, highlights the complexity involved with the relationship between chronic pain and trauma and how individuals can be supported to manage or to reduce the symptoms reported.

2.8 Management of Chronic Pain and Trauma

Key findings in this literature review highlight the relationship that is currently acknowledged between chronic pain and trauma. The emphasis on *how* practitioners currently explore these two perspectives with their patients or clients has been presented in the analysis section (Chapter Four).

Accumulated clinical experience and research has guided the UK NHS policy for management of chronic pain (NHS England, 2017, 2019) identifies psychological therapy services to be incorporated into physical healthcare directives, indicating the value for a skill

mix required when supporting individuals with complex needs. Psychiatric provision within pain services is low (Kailainathan et al., 2018), with 85% having no attached service even though it is broadly acknowledged that most individuals living with pain have co-morbid mental health issues. These health issues encompass anxiety, depression, substance dependency and post-traumatic stress disorder. Respectively the idea of pain clinics involving psychiatric provision to enhance patient care has been long supported by Wallace and Panch (2001), who claim that this would lead to improved patient care.

Ongoing studies investigating the relationship between chronic pain and trauma have continued. Burger et al. (2016) investigated individuals living with chronic musculoskeletal pain, including their acknowledgement of the pain and the emotional awareness followed by expression therapy. The researchers stated that pain was only modestly being reduced and these limited effects may be due to the failure of current therapies. Their objectives for therapy involved “a) educating patients about the central nervous system psychological processes in relation to their pain; and b) to enhance awareness and expression of emotions related to psychological trauma or conflict.” (Burger et al, 2016. Pg.20). Almost two-thirds of individual’s living with chronic pain reported improvements of 30% in pain and other outcomes. One-third of the individuals reported 70% improvement overall. This study highlights how psychological interventions can assist in the improvement of symptoms and management of emotional dysregulation when chronic pain is presented as the primary issue.

Leading on from these studies, Purkey et al. (2018) proposed the five principles of trauma-informed care. These guidelines were proposed for all clinicians in caring for complex patients who are often survivors of ACEs, who may be labelled as *difficult*, *borderline*, or *chronic pain*, or are neglected or shunned. “The five principles of trauma informed care were identified as 1. Trauma awareness and acknowledgement, 2. Safety and trustworthiness, 3. Choice, control, and collaboration, 4. Strengths-based and skills-building

care, and 5. Cultural, history of trauma, and gender issues (p.171). The principles of trauma-informed care have been provided for general practitioners to support how to address the challenging matters regarding ACEs, that are key to an individual's health and identity. Purkey et al. (2018) advise that seeing "patients through a trauma-informed lens can lead to considerable patient healing and much greater professional satisfaction" (p.172).

Drawing attention to the NHS Policy for MDT working in pain management services, one must consider the importance of the MDT approach in relation to the management of chronic pain conditions. A study by Siqveland et al. (2017) investigated how exposure to intentional and non-intentional traumatic events and PTSD are associated. Specifically, bringing attention to pain severity and treatment outcomes for individuals who had been exposed to traumatic events, they found a strong association between intentional trauma and chronic pain, similar to the pattern found between trauma and mental health disorders. PTSD diagnosis moderated the association between trauma exposure and pain. Although, individuals diagnosed with both chronic pain and PTSD initially reported more pain, they reacted similarly to pain management as persons without PTSD (Siqveland et al., 2017).

MDT working can support practitioners in pain services to develop skills and share knowledge from different clinical perspectives (Kailainathan, et al., 2018). A key discovery from Jones and Williams (2020) study, investigating therapists' judgements of pain and treatment options, reported that practitioners' training often affected treatment decisions. Jones and Williams (2020) investigated cognitive behavioural therapists (CBT) judgements of pain and treatment. Participants were recruited to view on-line computer-generated faces expressing pain. This research highlighted that a lack of medical explanation for chronic pain and long-term conditions biases assessment and treatment by CBT therapists. Alternatively, they found that patients were more likely to be referred to CBT for depression by practitioners, instead of a referral to a specialist service for psychological treatment for

chronic pain. This suggests further training or awareness of different specialist psychological treatment options would be helpful, for individuals to be referred for management of chronic pain. Hence, further clarity is needed for the role of the pain practitioner on how assessment and treatment options are decided for more complex chronic pain patients.

Relative to the management of chronic pain and suffering, Grant and Threlfo (2002) considered contemporary and more effective approaches to improve coping strategies such as Eye Movement Desensitisation and Reprocessing (EMDR). Three adults diagnosed with chronic pain were invited to participate in the study, to examine the effectiveness for the EMDR intervention. Participants reported levels of pain were measured prior to, during, and post-intervention with a follow-up two months later. The findings indicated that all participants reported a considerable reduction in levels of pain, decreased negative affect, and improved ability to manage their pain following EMDR intervention. Although EMDR treatment for chronic pain patients can be effective, most of the research in this area highlights its effectiveness with pain which is associated with trauma.

A systematic study by Tesarz et al. (2014) reported EMDR technique can be a safe and favourable option for individuals living with chronic pain. EMDR is a psychological approach, intended to ease distress associated with traumatic memories (Shapiro, 1989a, 1989b). Shapiro's (2001) Adaptive Information Processing model proposes that this approach can facilitate healing and treatment by enabling individuals to process difficult traumatic memories. Therapists apply this technique to support clients with the re-processing of traumatic events (Gelinias, 2003, Solomon & Shapiro, 2008). Shapiro (1996, 2001) hypothesises that this approach accesses the traumatic memory network, to enhance information processing, with new neuroplasticity links created between the traumatic memory and more adaptive memories or information. Different associations are developed to facilitate complete information processing, new learning, elimination of emotional distress,

and development of cognitive insights (Grant & Threlfo, 2002., Tesarz et al., 2014). Studies based on EMDR have reported positive controlled outcomes, indicating that after three 90-minute sessions, 84%-90% of single-trauma victims reported recovery from PTSD symptoms.

Mazzola et al. (2009) investigated the effectiveness of EMDR with 38 patients suffering from chronic pain. Significant improvements were reported for patients' pain intensity as well as symptoms of depression and anxiety (Mazzola et al., 2009). They found the adaptive and reprocessing functions of EMDR, can enable specific emotive elements of the pain experience to become desensitised. In other words, the separation of emotionally associated memories and the somatic perceptions of pain, allowed patients to reprocess and adapt the memory of pain, changing how this was perceived and experienced. Similarly, Schneider et al. (2008) investigating EMDR treatment of chronic pain patients reported elimination of chronic pain symptoms in addition to lessening symptoms of PTSD and depression. The EMDR approach was utilised with a 33-year-old male patient after several other treatments had been tried and tested. Failing to reduce the symptoms reported by using other treatments after three years, a reduction in pain symptoms were noted after only 9 sessions of EMDR (Schneider et al., 2008).

The above studies indicate the need for an MDT approach (NICE, 2018, 2021), as trauma-based approaches must be considered to support individuals living with chronic pain conditions. These approaches can only be considered as a treatment option, if pain practitioners are assessing for this earlier in the care pathway (NHS England, 2019., NICE, 2019) such as the assessment or screening phase.

Emotional freedom techniques (EFT) (Craig & Fowlie, 1995), originally developed as a brief intervention for trauma-based clients (Flint et al., 2006), combines both cognitive and somatic stimulation of acupuncture points on the face and body (Friedman et al., 2018).

Systematic reviews and meta-analysis (Feinstein, 2012., Church et al., 2013) have reported this novel approach as being efficacious for treating a wide sample of populations for example., chronic pain (Bougea et al., 2013., Church & Nelms, 2016), students (Church et al., 2012), and individuals suffering from PTSD (Geronilla et al., 2016).

The wholistic hybrid approach (WHEE) founded by Benor (2005), involves combining aspects of EMDR and EFT. A randomised, controlled trial carried out by Benor et al. (2017) examined WHEE for self-treatment of pain, depression, and anxiety in chronic pain patients. This study accentuated that most of the chronic pain patients had been exposed to psychological trauma in their childhood and/or adulthood. This pilot study involving 24 chronic pain patients (17 with chronic fatigue/fibromyalgia) were randomised into WHEE treatment and wait-list control groups for 6 weeks. Various assessments examining the pain, anxiety and depression were carried out prior to, during, and one and three months after treatment. Treatments were replicated for the wait-list control group with differences reported in the findings between the two groups.

Benor et al. (2017) stated that participants in receipt of WHEE reported decreased symptoms of depression and anxiety in comparison to the control group. Alternatively, decreased pain severity and depression was reported for the assessments completed in the control group with no pain interference or anxiety changes. Benor et al. (2017) claim that these results are encouraging, stipulating the WHEE approach can be of benefit for individuals living with chronic pain, depression, and anxiety in comparison to utilising medical interventions alone.

Through understanding and learning ‘how practitioners examine both chronic pain and trauma’ this research is focused not only on celebrating the good work that is already being done within pain clinics across the region but hopes to offer a front-line perspective on what could be improved for future practices within pain clinics and services.

Chapter Three. Method

3.1 Introduction

The purpose of this study was to develop an in-depth interpretation of how practitioners working in chronic pain services assess for a history of trauma with patients who present with a chronic pain condition. The factors that facilitate or influence a practitioner to explore a history of trauma with their patient during assessment was investigated. The choice of methodology was guided by the research aims to examine the relationship between the two phenomena from the practitioners' experience and perspective and how this influences their approach.

The aim of this chapter is to provide an overview of the philosophical underpinnings of the methodological approach utilised and to explain how the research was carried out. Firstly, the case for utilising constructivist grounded theory as being the appropriate qualitative approach of enquiry and suitable system of analysis will be examined. The origins of grounded theory and its characteristics will then be discussed, following an overview of the participant recruitment, data collection and analysis procedures. To conclude, the validity, trustworthiness, and ethical considerations in relation to this study will be considered.

3.2 Ontology

Kasket (2012) proposed a counselling psychology researcher does not equate to being a qualitative researcher; instead, ontologically, counselling psychologists should be able to explore all paradigms and differences by adopting a wide range of perspectives.

Ontologically, the current research adopts a relativist approach which considers that truth is ascertained via individual experience, and therefore multiple realities exist as a product of individual construction (Moon & Blackman, 2017). A critical realist philosophy position that

reality is subjective, based upon individual interpretation. Therefore, the researcher acknowledges that different languages, perceptions and experiences and how these are interpreted by one individual is not necessarily one objective truth (O'Mahoney & Vincent, 2014). There are, however, elements of pragmatism within the ontological positioning of the research. Pragmatists do acknowledge that whilst there is an objective reality, this is only accessible, and therefore understood, through human experience (Kaushik & Walsh, 2019). Therefore, whilst the current research aims to explore the participants' experiences of assessing for chronic pain and trauma, it is acknowledged that those interactions and actions do form part of an objective reality (i.e., via objective observation). However, it is through the experiences of the participants, that this perspective of reality is accessed.

3.3 Epistemology

Charmaz (2003) advocates that constructivist theory “takes a middle ground between postmodernism and positivism and offers accessible methods for taking qualitative research into the 21st century” (p. 250). Charmaz's (2003) method appears to appreciate the inductive originality of the classical grounded theory, as well as the epistemological stance that asserts reality is constructed by individuals as they assign meaning to the world around them (Appleton & King, 2002).

The constructivist view does not state that meaning lies hidden within objects waiting to be revealed; instead it is created as individuals interact and interpret these objects (Crotty, 1998). This approach challenges the assumption that there is objective truth that can be summarized or measured through research enquiry (Crotty, 1998). In relation to this study, practitioners' interactions with clients are rooted in their own realities and therefore constructed based on their subjective experiences. For this reason, the constructivist epistemology will be the dominant stance due to the data driving the theory, as the present

research aims to elicit and understand how research participants construct their individual and shared meanings around the phenomenon of interest. Therefore, it seems relevant, particularly to the subject of counselling psychology, which places attention on the individual experience.

Symbolic interactionism theory introduced by Mead (1863-1931) and carried forward by Blumer (1900-1987) sought to understand humans' relationships with their society by focusing on the symbols that help one to give meaning to their experiences (Fink, 2015). Symbolic interactionist approach takes a small-scale view of society, focusing on the interactions between individuals and the constructs assigned. Schwandt (2005) highlights a symbolic relationship between two similar constructs: sense making and adult learning. He identifies both constructs deal with the creation of meaning (Schwandt, 2005) asserting that the cognitive mind is involved in constructing and interpreting reality. Accepting that each individual is different, the reality constructed and therefore the meanings individuals attach to their perspectives are also different. Similar to the philosophy of constructivism, that knowledge is co-constructed (Charmaz, 2006., Schwandt, 2005), the counselling psychology standpoint accepts that every person's reality is different. Therefore, multiple realities, different perspectives, and the meanings attached to these are acknowledged. The aim was to gain insight into what this experience is like for those who live it, and, consequently, what it is like for clinical practitioners to examine this phenomenon with individuals who attend pain management services.

3.4 A Qualitative Approach

A few studies (Edwards et al., 2016; Felitti et al., 1998; Kunze, 2019; Turner et al., 2021; Sheinberg et al., 2019) have adopted a mixed-methods approach, utilizing both quantitative and qualitative procedures to illustrate a link between trauma and adult

comorbidities, such as chronic pain disorders. A wealth of literature draws attention to how chronic pain and trauma can correlate with one another (Perez-Aranda et al., 2017; Sheinberg et al., 2019), yet there is seemingly no qualitative research that attempts to explore the lived experiences of how pain practitioners examine a history of trauma with their patients when they present with a chronic pain condition.

The present research aims to elicit and understand how research participants construct their individual and shared meanings around the phenomenon of interest. Therefore, it seems relevant, particularly to the subject of counselling psychology, which places attention on the individual experience. While employing a quantitative approach might enable causal relationships to be examined (longitudinal research), a qualitative approach enables relationships to be described and explained (Mack et al., 2005). Qualitative approaches allow the researcher to be more sensitive to various interpretations that individuals may make to gain understanding (Lincoln & Guba, 1985). A deeper understanding may, therefore, be acknowledged about the participants' experiences, links between perception, meaning and behaviour.

3.5 Choice of Methodology

This study offered an opportunity for the researcher to explore the phenomenon discussed above, to provide a method of explanatory hypotheses. Taking the researcher's relativist stance and lack of current guiding theory, constructivist grounded theory (Charmaz, 2006) was deemed a better fit than other qualitative methods to meet the purpose of this study. In line with the 'lived experience' integral to the aims of this study, other qualitative procedures were contemplated such as interpretative phenomenological analysis (IPA). The need to create rich participant narratives based on pain assessment and its focus upon the 'lived experience' seemed to appeal. However, the emerged findings and interpretations in

IPA are utilised to compare to existing theory (Chamberlain et al., 2008). In this study, however, the interest was focused on the discovery of new information being generated and expanding on new theory, from participant experiences (Fassinger, 2005). Therefore, unlike IPA methodology, the literature review would be completed after the saturation of data has been achieved. This would allow the researcher to refrain from engaging in previous literature and remain neutral to the emergence of data. “Although the researcher is not fully external to the process of emergence because she is actively constructing the theory, she is not part of the constituent elements in that she acknowledges a world that exists outside of her mind” (Levers, 2013, p. 5).

Alternatively, constructivism (Charmaz, 2006) takes the researchers world view influences into consideration, with the understanding that one must not naively assume that people leave aside everything. The researcher in this study acknowledges the relationship between the data and the emergence. Specifically, how she remains external to the data, yet at the same time recognising the internal role she plays in the emergence of constructing the theory. This involves the researcher to “generate a new theory that reduces the complexity found in the data” via her interpretation of the data, with acknowledgement that the interpretation of the data is influenced by the emerging theory (Levers, 2013, p. 5).

The method of grounded theory was traditionally established by Glaser and Strauss in 1967; a way of discovering a theory from data analytically acquired from social research (Charmaz & Belgrave, 2007). They highlighted the need for researchers to find a process that would allow them to progress from data to theory, so that different theories could be discovered in relation to the context in which they had emerged. Consequently, the grounded theory method was developed to open a space for the creation of original, contextualized theories (Willig, 2001). This method allows the researcher to use any qualitative data such as observations, focus groups and interviews to not only offer explanations to the subject of that

study, but additionally to create a theory of the phenomenon in question (Barker et al., 2002). The core concept of grounded theory approach is that theories should be generated from experiential data and its investigation or, subsequently, theories should be ‘grounded’ in such data. The data and the themes are prioritised over the theoretical assumptions in the grounded theory approach. In accordance, theories should not be concerned with the field under study. Instead, theories should be articulated and ‘discovered’ via the experiential data from itself.

In line with this study, investigating how practitioners examine chronic pain and trauma, the researcher was keen to identify the key issues that can impact clinical practice. In other words, how do pain practitioners demonstrate the application of NICE (2019, 2021) guidance for chronic pain services pragmatically; how do participants interpret their understanding of chronic pain and trauma collaboratively from the biopsychosocial perspective; how does this influence clinical practices and decisions that are made during the assessment process? It is anticipated that the development of a theory would offer this niche area of research further insight into the current assessment practice that is observed in pain management services.

The grounded theory approach enables the researcher to enter the participants’ realm and to examine the interactions and interpretations that individuals make of their environment and worldly experiences. This is one of the reasons why grounded theory appeals as being a useful approach for this research study. The qualitative data is gathered and analysed in a methodical and thorough way, which assists in developing our knowledge and understanding of the psychological experience being investigated. The grounded theory process of developing a theory comprises the repetition of discovery from the categories and identifying significant meanings from the data. This involves a combination of category identification as a procedure, a process in terms of a method, which enables a theory to emerge from the data (Strauss & Corbin, 1994).

In principle, the grounded theory procedure recommends identifying categories and then linking these to establish a relationship between them. In essence, the theory is the outcome of the grounded theory process, which produces a descriptive outline of the phenomenon under study. Grounded theory procedures have been designed that are unique to the process, to ensure that both data collection and analysis should occur concurrently. Glaser and Strauss (1967) specified the process should proceed in a systematic fashion, stipulating specific procedures such as theoretical sampling, coding, constant comparison saturation and memo writing. Glaser (1992) defined theoretical sampling “as a process of data collection for generating a theory whereby the analyst jointly collects, codes and analyses the data and decides what data to collect next and where to find them, in order to develop its theory as it emerges” (p. 101).

Although the initial grounded theory methodology was developed from a positivist and objectivist stance, it has since altered and progressed into many variations inspired towards postmodernism and post-structuralism due to the changes in social science (Guba & Lincoln, 1994). As a result, three versions of grounded theory method have emerged, each driven by its own philosophical framework and conflicting approaches (Kenny & Fourie, 2014). The three main versions dominating the area of interest (McCallin, 2004) include the ‘classical’ (Glaserian) version, the Strauss and Corbin’s (Straussian) more structured methodology and Charmaz’s (2006) constructivist approach. The three main versions have been further discussed below, to better understand and identify the most suitable approach for this study.

Classical Tradition

The classical grounded theory approach reiterates that the researcher must refrain from exploring or engaging with any previous academic literature about the subject being investigated, thus proposing that the researcher must maintain an open mind and not be

biased by preceding literature. From a positivistic viewpoint, the aim is to remove the researcher from the research (Glaser & Holton, 2004), to prevent any interruption from the analyst's ability to identify any new concepts emerging from the data that has not been presented in the previous literature (Glaser & Holton, 2004). In other words, original grounded theory encourages the positivist position to not contaminate the development of theory from the data (Charmaz, 2008).

Traditional grounded theory originated with the idea that the researcher is to uncover something that is already there, meaning the theory is uncovered out of the existing data. Similarly, the concept of categories or a theory 'emerging' from the data proposes the same approach. For this reason, one could claim that the grounded theory process is predisposed to a positivist epistemology, challenging the very notion of the qualitative approach as an inductive, open, flexible research method that is involved with an exploration of meanings and creating a theory. One of the issues associated with induction and the classical approach is that the role of the researcher is not considered. It is suggested that the data speaks for itself, and that categories and theories simply 'emerge' from the data (Willig, 2001). Willig (2001) calls attention that all observations are made from an individual standpoint, meaning it would be impossible for a researcher to avoid the imposition of categories or meaning of the data. Therefore, whatever emerges from a field through observation depends on the observer's position within it (Dey, 1999).

Straussian Tradition

During the 1990s Strauss and Corbin, reviewed the original method of grounded theory into a prescriptive method allowing researchers to follow a step-by-step guide. Strauss and Corbin (1990) categorized four coding approaches: open coding, axial coding, selective coding, and conditional matrix. These coding approaches were "designed to enhance the effectiveness of grounded theory methodology" (Strauss & Corbin, 1994, p. 273). This

introduced a deductive approach to this version of grounded theory as the aim was to encourage researchers to search for patterns in the data, so theory is discovered and not assisted to emerge.

Strauss and Corbin (1990) also questioned the principle of not exploring the existing literature prior to commencing the research process. They urged that literature should be appropriately explored at every phase of the analysis, claiming that the researcher's existing knowledge and experience to the subject and the previous extensive literature should be utilised throughout the entire research process (Charmaz, 2006; Strauss & Corbin, 1990). By urging the analyst to absorb and employ existing understanding during the research process, Strauss and Corbin (1990) stress the difference between an "open mind" and an "empty mind" (Jones & Alony, 2011). Several benefits were identified by Strauss and Corbin (1990) for engaging with existing literature such as uncovering gaps in the relevant research area, generating further awareness into existing theories, introducing further questions in the studied phenomenon, and becoming a secondary source of data.

Although the use of literature was proposed at each stage of the process, they did not advise to complete an in-depth or thorough prior review of all the associated knowledge. They advocated caution in losing sight and becoming so blinded by it, as to avert any new findings being discovered (Kenny & Fourie, 2014). Like the post-positivists' values, they acknowledged how the researcher can unavoidably contaminate the research process. In addition, the use of literature recommended by the Straussian method is consistent with the critical-realists attention to endeavour for the closest interpretation of reality as possible (Kenny & Fourie, 2014; Willig, 2001). In summary Strauss and Corbin (1990) claimed that the classical approach was too complex, due to the complexity of human life, as it was designed for the purpose of enhancement and clarity, rather than confusion (Strauss & Corbin, 1990). This prescriptive approach has since been critiqued as being inflexible due to

its deductive component (Willig, 2001). This challenges the original principles of grounded theory, where the theory is discovered naturally from the data, without the researcher enforcing any defined categories. Glaser (1992) proposed that the Straussian approach was in fact not a grounded theory method at all: instead, it generated ‘full scale conceptual forced description’ (pp. 61-2).

Constructivist Tradition

Charmaz recognised the methodological changes that have occurred in grounded theory since it was founded in 1967. A former pupil of Glaser and Strauss, Charmaz introduced a version of grounded theory within the constructivist and social constructionist tradition. Departing from both Glaser’s original philosophy and Strauss’ prescribed coding process, she stated that her understanding of grounded theory is through a methodological lens of the present century (Charmaz, 2006). Charmaz (2006) articulates those categories and theories do not emerge from the data but are constructed by the researcher through the process of interaction with the data. This comprises flexible guidelines which would enable the researcher to “raise questions and outline strategies to indicate possible routes to take” (p. XI). Charmaz (2008) stresses the significance of flexibility, claiming that the researcher must become skilled and receptive to create emergent categories and to accept uncertainty. By being flexible, Charmaz proposes that the process of coding in grounded theory requires the researcher to be simultaneously working with at least two stages at the same time, for example, from memo writing, constant comparisons, theoretical sampling, and saturation (Charmaz, 2008a).

Kennie and Fourie (2015) set apart Charmaz’s (2008) coding process as being revelatory, intuitive, and less prescriptive than those of Classic and Straussian grounded theory. Additionally, Charmaz highlights that data collection during detailed in-depth interviews can generate an intimate exploration of the meanings that participants attribute to

their experiences (Charmaz, 2006; Hallberg, 2006). Therefore, this suggests that constructivist coding methods do not determine a predictive or analytical theory, but instead an interpretation of the researcher's understanding of the social processes involved within the phenomena being studied (Hallberg, 2006). Kenney and Fourie (2015) claim constructivist grounded philosophers integrate theoretical concepts into description by using a narrative approach, specifically as the constructing story incorporates certain components, such as conceptual relationships, categories, conditions, and significances.

Although Charmaz (2006) recommends making use of the existing knowledge throughout the research process, they also suggest putting together a specific literature review chapter as well as referencing existing academic knowledge throughout the study (Charmaz, 2006). She endorses that one must only engage with gathering the literature once the data analysis has been completed. This is to prevent the researcher from losing their openness or creativity due to becoming engrossed within the literature itself. Furthermore, this is to facilitate a comprehensive literature review which can strengthen the researcher's credibility, the evidence and developing case, to rationalise and explain the researcher's reasoning for entering the chosen field of dissertation (Charmaz, 2014).

In line with the constructivist viewpoint, Charmaz (2006) proposes that the research is influenced by the context in which the researcher is functioning (Kenny & Fourie, 2014). As stated earlier by Willig (2001), whatever emerges from the data analysis is theoretically informed because all analysis is unavoidably directed by the researcher. Similarly, constructivist grounded theorists acknowledge that whatever themes are discovered through observation are determined by a position from which objects or principles are viewed and according to which they are compared and judged. The constructivist approach aims to tackle the question of flexibility by identifying that category does not exist prior to the categorisation and, therefore, do not merely reveal themselves from the data, instead the

researcher's role is to construct these during the process of analysis. For this reason, it is advised that, to increase reflexivity, one must keep detailed records during each stage of the process to demonstrate how the researcher's values, expectations, sampling choices, rationalisation techniques and interpretations are formed (Pigeon & Henwood, 1997).

3.6 Summary

The grounded theory approach is often employed by researchers within psychological and social sciences as its emphasis is in revealing and discovering the social processes (Bowen, 2008; Charmaz & Thornberg, 2021; Glaser, 2005; Goulding, 1998). Grounded theory is valued for analysing fundamental behaviours and social relationships, especially where there is a gap in understanding, or little has been explored in relational factors that concern individuals (Crooks, 2001). Certainly, in this study the emphasis is upon the practitioners' experiences of examining patients who present with chronic pain and a history of trauma. Although much research has been conducted on chronic pain and history of trauma collectively and independently, a gap identified within counselling psychology is how do practitioners investigate this phenomenon with their patients? The main grounded theory methodology is to get through and beyond conjecture and preconception to exactly the underlying processes of what is going on (Goodman, 2013), so that professionals can intervene with confidence to help resolve the participant's main concerns' (Glaser, 1998. p. 5). This reinforces the main purpose of this study, which is to generate a theory that answers the research question from the practitioners' viewpoint.

In summary, the three different versions of grounded theory are based upon opposing and distinctive adaptations of grounded theory, yet they come together on foundational elements. This is demonstrated by the constructivist and Straussian grounded theorists as they continue to incorporate certain techniques originating from the classical grounded theory

approach, such as memo writing, constant comparison, theoretical sampling, and saturation (Kenny & Fourie, 2014).

The Glaserian grounded theory approach offers an objectivist stance, one that allows the researcher to remain neutral to the data by refraining from engaging with literature prior to the data collection. Although this can support the researcher to remain objective from the emerging data, the researcher felt this prevented her from being transparent due to the preliminary reasons this study first came about. The researcher's involvement of working in pain services, could not be ignored. On the other hand, the Straussian method was more prescriptive and deductive in nature, proposing that literature should be explored at each stage.

3.7 The Researcher

The researcher is considered as the interpreter of meaning throughout the progression from data collection, during the analysis of the data up until the results and conclusions are reported. As highlighted earlier by Willig (2001), grounded theory centres on social processes and, therefore, adopts an objective stance whereby the researcher tries to categorise and plan social processes and relationships, and their outcomes for the participants. Yet, if the attention is focused on the participant experience, then this calls for a subjective position and one that questions the phenomena being explored "from the inside out", instead of "from outside in" (Charmaz, 2004. p. 980).

Charmaz (2006) is critical about the classical grounded theorist's approach and how they intend to ascertain underlying patterns of behaviour within the data. Alternatively, she proposes that data and analysis are created through an interactive method involving both the researcher and participant constructing a shared reality. She recommends that, instead of examining one main concern, grounded theorists should look to construct a "picture that

draws from, reassembles, and renders subjects' lives" (Charmaz, 2003, p. 270). This complements the purpose of this project to generate a theory that helps explain if there is a relationship between long term pain and trauma and how this is currently explored by practitioners.

The present research focuses on a constructivist paradigm, which is historically situated within theories of cognitive development where what is constructed is largely subjective (Schwandt, 2005., Von Glaserfeld, 2013). Constructivism assumes that the meaning of experiences and events are constructed by individuals. Therefore, people construct the realities in which they participate (Charmaz, 2006). The pragmatic roots of constructivist grounded theory allow researchers to pursue a critical qualitative inquiry. Therefore, it is appropriate to employ a methodology that offers a process through which meaning, and the individual experience can be explored (Willig, 2001). Kenny and Fourie (2014) state this approach can ensure that the cumulative abstraction of concepts is clearly verified and grounded in the research itself.

Concurrent data collection and analysis allows the researcher to become theoretically sensitive to the data. The researcher acknowledges the constructivist method demands the researcher to be critically reflective and transparent throughout the process (Mills et al., 2006). The reflective process involves "thinking about the conditions for what one is doing, investigating the way in which the theoretical, cultural and political context of individual and intellectual involvement affects interaction with whatever is researched" (Alvesson & Sköldbberg, 2000, p. 245). The researcher grappled how her own world views influenced the research processes reflexively. For this reason, it was paramount that she considered her own and her participants views that are shaped by their positions in society. Memo writing assisted this process, allowing the researcher to be open to her participants positions, whilst acknowledging her own position as a trainee working in pain management services. Charmaz

(2017) advocates some grounded theorists do not entertain how their world view, prestige or power can influence the research process and proposes constructivist grounded theory offers pragmatic strategies to encourage transparent critical inquiry such as memo writing and reflective writing (Charmaz, 2017).

Writing reflective and analytical memos prior to and during data gathering and analysis can assist the researcher to achieve this transparency (Mills et al., 2006). The researcher anticipated that paying attention to the explicit and implicit processes would allow the researcher to remain fluid (Charmaz, 2017) and develop a theory involving the social processes involved during pain assessment. The explicit process of participants sharing their reflections during interviews had an impact on their own understanding of the assessment process, for example, hearing themselves out loud. On the other hand, implicit interactions involved focusing on the meanings participants assigned to the words and language used. For example, words such as ‘opening a can of worms’, was associated to the ‘fear of non-containment’ during assessment. Theoretical sampling involved asking analytical questions from the data, exploring the different interpretations and verifying these with the participants, allowing theoretical sensitivity.

3.8 Sample and Participants

Ten participants responded to the research advert. One did not meet the inclusion criteria, and one declined to participate. Eight participants (seven females and one male) with experience of working in chronic pain services, took part in this study. The professionals were affiliated with completing new patient assessments, examining, exploring, and advising self-management strategies to their patients. Specifically, the sample contained five clinical specialists with physiotherapy background, two occupational therapists, and one nurse specialist. Participants were an average of 41.25 years of age, with having between 8 and 22

years of experience working in this field, which included working in primary and secondary services and in the private sector. Geographically, participants had experience of working in pain services in England, specifically, the Northeast (n = 1), the Midlands (n = 4), the Southeast (n = 2) and the East Midlands (n = 1). Please see description of participants' characteristics presented in Table 1.

A broad set of inclusion criteria was incorporated to facilitate data collection based upon a wide range of practitioners from different professional backgrounds. A definition was not placed on *chronic pain assessment* because of both the existing research already completed on this subject and because this study was primarily focused on gaining knowledge and understanding about the lived experiences of the participants, rather than limiting the research to what the experience of '*chronic pain assessment*' should or should not be. The participant inclusion criterion was defined as '*practitioners who examine chronic pain*' because this participant group was more likely to know about the phenomenon being explored. This inclusion criterion then offered further opportunity and scope for the researcher to explore how a practitioner examines any underlying or unresolved trauma when chronic pain is presented as the primary condition.

A variety of chronic pain services were approached to recruit participants who currently are or have been involved in completing '*assessments with individuals who live with chronic pain*'. It was anticipated that the subject of chronic pain and history of trauma would be explored by interviewing a wide range of health professionals. It was expected that this would include *all* professionals working within pain management services such as psychologists, CBT therapists, wellbeing practitioners, physiotherapists, pain consultants, nurses, and occupational therapists, etc.

During this process, the psychological practitioners reported that they were not involved during the initial screening phase and that patients were often referred into

'psychology services' once the initial assessment had been completed. The researcher deliberated upon the aspect of not having any psychologists involved as participants for this study and concluded that, in line with the constructivist grounded theory approach and based on the rationale for this study, it was necessary for only those participants who were involved in the initial screening to be interviewed. In other words, the professional background of the participant did not govern whether they were suitable participants for this study. Instead, they were selected based upon their involvement in the initial assessment process. The focus for this study was, therefore, to explore how practitioners currently assess for both history of trauma and the presence of chronic pain within pain management services.

While it may be suggested that eight participants recruited for a grounded theory study may be small, it is advised that non-random samples of fewer than ten subjects are considered sufficient if the research question is straightforward, clearly formulated and the sample is homogenous (Guest et al., 2006). Various positions have been taken by grounded theorists based on the ideal sample size, with some paying attention to saturating concepts (Bowen, 2008) and others on the number of comparison groups (Glaser & Strauss, 1967). Charmaz (2014) argues that a small sample can produce a study of lasting significance and the factors that impact on this would be the quality of interviews and the depth of the analysis. Supporting literature (Bowen, 2008; Glaser & Holton, 2004; Mason, 2010; Strauss & Corbin, 1998; Thomson, 2010) recommends that a variety of aspects influence the sample size, such as data saturation, the researcher's interviewing experiences and expertise in reduction of the size of sample for reaching saturation (Glaser & Holton, 2004; Hoare et al., 2012; Lee, 2005; Roulston, 2020).

Table 1

Participant Characteristics for the practitioners working in chronic pain services.

Participant	Demographics	Gender, Age Ethnic Origin	Chronic Pain Experience	Clinical Role
One	Midlands UK	Female, 37 Indian/British	16 years	Physiotherapist
Two	Midlands UK	Female, 39 Indian	16 years	Physiotherapist
Three	Midlands UK	Female, 32 Indian/British	8 years	Clinical Nurse
Four	Midlands UK	Female, 53 White American	22 years	Occupational Therapist
Five	East Midlands UK	Female, 45 Black British	15 years	Physiotherapist
Six	Midlands UK	Female, 37 White British	15 years	Physiotherapist
Seven	Northeast UK	Female, 48 Chinese British	17 years	Occupational Therapist
Eight	Southeast UK	Male, 39 Indian	16 years	Physiotherapist

Participants all met the essential inclusion criteria for this study. Participants were from similar clinical backgrounds, had more than seven years of experience of working in this field and were of similar socio-economic status. Grimmer and Tribe (2001) state that homogeneity can aid the acquisition of rich data, for this reason this sample was considered a homogenous sample. Differences between the participants, for example, *how they explored this* (practitioner action) developed from the need for theoretical sampling.

3.9 Recruitment and Theoretical Sampling

In line with grounded theory, data collection and analysis proceeded simultaneously, the theoretical sampling technique was implemented allowing a rich breadth of data to develop as the process of analysis succeeded.

Recruitment was conducted through displaying an advert letter (Appendix A), placed on the research boards at 25 general practice surgeries after seeking consent (Appendix B) from the practice managers, and in 5 hospitals all within different regions in England. The participant information sheet (Appendix C) was also sent to interested participants with the letter to outline the purpose of the study. The researcher offered the opportunity to answer any questions they may have.

Initially, the aim was to recruit as many participants as possible within the timeframe for this study. Initially, five participants volunteered to take part from this recruitment drive, all of whom were interviewed by employing a flexible, semi-structured interview process. This approach helped utilise the focus upon the participant experiences that were relevant to the emerging codes and categories. Once the analysis section was reviewed, it became evident that the categories within the 'Practitioner Action' model had not yet reached saturation. The saturation process revealed themes that required further investigation, such as

‘the action that participants took to investigate if individuals had experienced a history of trauma’.

The findings at this point established that the participants reported an understanding of how a history of trauma can impact the intensity of pain and some had also made references to how they went about investigating this with their patients. Due to more questions emerging out of the data analysis process, further investigation was required. For example, ‘in what way did practitioners report that their action may examine a history of trauma with clients who presented with chronic pain?’ Glaser and Strauss (1967) stipulate that theoretical sampling is the process of data collection for generating theory by which the analyst concurrently collects, codes, and analyses the data. A decision is then made in what data to collect next and where to find this data, to develop theory as it emerges (p. 45).

The researcher preceded to further explore the emerging sub-categories that were discovered within the ‘Practitioner Action’ category. The researcher continued to interview participants, analyse, and return to the data until she felt she had reached the end point of theoretical saturation. This involved examining and elucidating the thematic categories that had emerged, returning to the data to examine all the variations within each category. Charmaz (1990) proposes theoretical sampling is best used to generate further data to confirm and refute original categories. The process of theoretical sampling involved the researcher going back to the field and asking more questions in relation to this category. Line by line, open-coding, customising, category building enabled the researcher to draw out the implicit meanings which facilitated the evolving theoretical propositions and the links identified between codes and categories. Following this, participants were selected on a theoretical basis; thus, a further four participants were recruited. However, one of these volunteers was unable to participate due to ill health. Theoretical saturation is achieved once the researcher reaches a point in their analysis when sampling more data will not lead to any more

information related to the research question (Charmaz, 2006). In this study, the data analysis process was considered having reached theoretical saturation after the eighth interview.

3.10 Procedure

Each participant who expressed interest to take part in the study did so by email. All participants were sent the participant information sheets and a consent form was completed for audio recording agreement. The participant information sheet was provided, advising what would happen during the interview, and how confidentiality and data protection will be maintained. Convenient times and dates were agreed to meet and conduct the interviews, with additional time accounted for to go over any questions or concerns the participants may have had.

All participants were provided with an information sheet, stating the purpose of the study and the reasons why they had been chosen. Participants were invited to share their experiences of screening and assessing individuals with chronic pain, who may be presenting with any underlying unresolved trauma history. The participant information sheet provided reasons to why this study was taking place, offering a choice to what happens if they did/did not choose to take part in the study. Confidentiality issues, the benefits, and risks of taking part and what will happen at the end of the study was also shared with all participants prior to signing the consent form. All participants verbally verified their consent on the audio recordings, prior to the interview questions being asked.

All participants were asked to confirm that they had read and understood the participant information sheet and that by signing the consent form they were agreeing to voluntarily participate. The consent form reiterated that they were providing approval for their interview to be audio recorded. All interviews were conducted once the consent form had been signed and dated. All participants were informed verbally and in writing that they

could still withdraw from the study at any point if they did not wish to continue with the interview. Once the interview was recorded, the participants were informed how the transcription process will commence and how their data will be kept secure and anonymous (GDPR guidelines, 2018). At each interview, all participants were reminded that they could take a break at any time and the recording would be paused to ensure their comfort and needs were catered for.

The interview time lasted between 40 to 60 minutes in total, with all interviews recorded on a MacBook Pro. Seven out of the eight interviews were conducted face-to-face, at the participants' place of work. This involved travelling to various locations to conduct the interviews. One interview was conducted online due to the participant's limitations on time and access to a location. The consent form and participant's information sheet were given to participants and informed consent was obtained before the interview commenced. The interviewer was attentive to the inter-subjective and the inter-professional dialogue used during the interviewing process, recognising the need to go at the participant's pace (McIlfatrick et al., 2006).

3.11 Data Collection

Charmaz (2016) outlines the interviewing method as the most appropriate for administering the grounded theory as opposed to participant observation and/or focus groups approach, because it focuses on subjective experience and allows an in-depth exploration of the phenomenon under investigation. An interview guide was developed with a list of prompting questions to aid discussion during interviews (see Appendix D). Intermediate questions were designed to ground the interview within the subject area of the study; these were open-ended, non-leading questions. Interview questions were designed with a starting, middle and end guide for the interviewer to ask questions focused on the social processes that

occur during pain management assessments. This was based on the preliminary literature review conducted prior to the study taking place. Accordingly, the aims of this study were to ask participants how they examine chronic pain and a history of trauma. Sixteen interview questions were created as a guide and submitted with the ethics application. Open-ended questions, such as, 'Please tell me what the word chronic pain means to you? Please in your view, how might we explain this? Please tell me how you usually explore this in your service?' were created as prompts for the participant interview.

Corbin (2021) state the interview guide is a useful starting point, with the aim of the interviewing process evolving as the study proceeds. This determines theoretical sampling, a process which involves the researcher to continue ongoing reflection during and after each interview and reach theoretical saturation. Timonen et al. (2018) claim the interview guide should not be inflexible in nature but instead, should be adapted to encourage prompting (where required) to allow room for theoretical sampling. The interviewing method supports the researcher to sensitively probe, and pull-out the key issues that require further understanding. Emerging concepts in the data should fundamentally evolve as further depth and insights into the inquiry develop (Foley et al., 2021). Constructivist theoretical sampling (Charmaz, 2014) enables the researcher to allow concepts to emerge, as they move from purposive sampling to sampling for concepts in the data (Corbin, 2021., Foley et al., 2021).

The interview process was guided by the grounded theory methodology (constructivist) which required the researcher to focus on the dynamics of the interactions between the participants paying critical attention to what was being said (Kvale, 1996). The aim was to ask the participants' open-ended questions, with presumption that the researcher knows very little about the participants accounts (Sbaraini et al., 2011).

The researcher, intuitively held in mind the humanistic principles based upon the person-centred approach (Rogers, 1963) during the interviews. The participant's lived

experiences were first and foremost the driving force for data collection. Taking the person-centred approach with participants, and remaining client-led (Foley et al., 2021) supported the process to remain open to the participants understanding, with potential to explore what determined the assessment processes in pain assessment from their perspective. The process of interviewing was complicated and not as straightforward as gathering data for emerging concepts. Foley, et al. (2021) stipulates the researcher should consistently ask questions from the data collected in the interest of commencing theoretical sampling. In this study, the researcher constantly questioned where she should go next, what was further required to understand better, and how could she accept (or reject) the emerging themes in the data.

This type of semi-structured interview approach allows flexibility in asking participants questions, and at the same time offers the participants the opportunity to tell their story. This assists direction in terms of the subject matter being explored within a flexible framework (Dearnley, 2005) but also invited the participants to share their unique experiences. Open-ended questions encouraged participants to personalise their response according to their interpretation and personal experiences. The researcher was mindful to be flexible in her approach, prompting all participants to elaborate on their reflections during the interview process.

3.12 Analytical Strategy

This process involved simultaneous collection and analysis of data. The development of analytic codes and categories evolved from the data and not by pre-existing conceptualizations (theoretical sensitivity). The researcher immersed herself in the data to understand what the participants had shared, what they were identifying as necessary and significant to the process of assessment in pain management. The researcher had become theoretically sensitive to the data via the concurrent data collection and analysis process. The

researcher was open to her own experiences of pain management assessment and, therefore, this transparency allowed insight for her to acknowledge theoretical sensitivity and separate her own perspectives in comparison to her participants' experiences. Charmaz argues that existing literature and theory, and prior knowledge and experience of the researcher, can also be used to inform the development of categories. However, the category should not be used be forced to fit the literature and should not be used to create categories (Charmaz, 2006).

The data was analysed in accordance with Charmaz's (2016) approach when using constructivist grounded theory for procedures of coding. Charmaz and Henwood (2008), provide a summary to highlight the key qualities of grounded theory as follows:

'We gather data, compare them, remain open to all possible theoretical understandings of the data, and develop tentative interpretations about these data through our codes and nascent categories. Then we go back to the field and gather more data to check and refine our categories'. (p. 241)

Charmaz (2016) reiterates the importance of the researcher approaching the data 'creatively', remaining flexible, with the ability to "learn to tolerate ambiguity" and "become more receptive to creating emerging categories" (Hesse-Biber & Leavy, 2013, p. 168).

After each interview, the researcher started the process of transcribing and thus the analysis via coding. Any sensitive data shared in the interviews, such as locations or names of the participants was anonymised during transcription. Microsoft Excel software was used to facilitate the analysis process, as it offered a structured system to arrange the data accordingly.

A memo writing technique was employed to examine the codes and categories, as Charmaz (2008) suggests this can help 'identify gaps in the data' as well develop conceptual 'conjectures' (Charmaz, 2008b). This strategy helped to discern between the minor and major

categories, by determining the associations between the groups of data and by enabling theoretical concepts to emerge.

During the process of understanding how grounded theory works in practice, the researcher examined various software packages that can assist in analysing qualitative data. All the coding was conducted manually rather than the use of a computer software programme. The 4 C's table (please see Table 2) was adopted from MAXQDA (software) as a brief overview to help make the process of analysis much clearer.

The procedure for analysis, as presented in the 4 C's table has been explained in further depth (please see Table 2).

3.12.1 Coding

The first stage of the initial or open coding process involves reviewing the interviews, which commences in cycle with the continuous collection of data. Holton (2010), states that “line-by-line coding forces the researcher to verify and saturate categories, minimises the risk of missing an important category and ensures relevance by generating codes with emergent fit to the area under study” (p. 24). This enabled the researcher to stand from a position of openness towards exploring whatever theoretical possibilities were evident in the data. The data were coded in relevance to the action words, meanings, and assumptions. For example, the line *‘That’s what I think bothers me that, should I ask? But I’m probably scared too as sometimes. Yes, if I do ask, what I do with that information is another thing’* (P2, L101-103) was coded as ‘practitioner uncertainty prevents exploration of trauma’.

This required the researcher to keep the principles of grounded theory at the forefront of her analysis, by consistently questioning ‘what is happening in the data?’ (Glaser, 1998) and ‘from whose point of view?’ (Charmaz, 2017). The initial coding process was promptly followed as recommended by Charmaz (2006), to help identify what concepts and

interpretations were significant (Charmaz, 2008). It was a challenge not to simply label the data. Instead, by asking the above two questions, the researcher found she was able to question her findings from a different perspective. Implementing line-by-line coding was a timely process, often resulting in duplication of the codes in an effort not to neglect anything during the process, for example, chronic pain symptoms. In this study, the first interview generated 89 codes, and no new codes emerged after interview four. After the fourth interview, 32 new codes were identified. All the transcripts were re-analysed, to investigate for any new insights that may have been overlooked. A total number of 242 codes were initially discovered from the data. These codes were then focused, to identify the links between them as further explained.

3.12.2 Customising

Charmaz (2006) advises constructivist researchers to examine the data, to assess and make decisions based on the relevant initial codes that make the most analytic sense. Thus, the second stage is the ‘focused coding’, a process where codes are inspected for any relationships, links and then minimised into further categories. 169 codes were identified as a result, and 73 of these were focused.

Although this approach was time consuming due to the vast number of codes discovered, this process provided the opportunity to condense the open codes to ensure that only relevant aspects of the phenomena under study were identified (Charmaz, 2008). Once the data were coded into individual components, this assisted the researcher to establish meanings from the data (please see Appendix E) and to engage intermittingly with the emerging patterns.

3.12.3 Category Building

The selective coding process involved going through the focused codes that had emerged to select those that were significant according to the research question. Here the analysis process involved moving between interviews and observations, comparing experiences, actions, and interpretations to restructure the data in a logical, meaningful, and analytical way.

At this stage, concepts began to emerge, and new lines of analysis followed. This was done until a category reached saturation. In this case, 73 codes were divided into 18 categories, with further sub-categories, for example, '*Practitioner Understanding*' was one category, with three further sub-categories of '*How it is explained*', '*Coping determines healing*' and '*Incongruence in the body*'. These were merged into one core category as '*Practitioner Understanding of Chronic Pain and Trauma*'. Memo writing was crucial at this point, as it assisted the researcher to reflect, explore her thoughts and ideas that were being discovered in the data.

3.12.4 Constructing Theories

The next stage involved theoretical coding, which involved the researcher to conceptualise and integrate categories and identify the links between them. Glaser (1992) supports this process of analysis as it can prelude the need for axial coding, weaving the 'fractured story back together'. At the beginning, the researcher was hesitant to start theoretical sampling to avoid premature closure of the data analysis. However, the researcher incorporated the use of theoretical memos to help define codes, compare the findings, and identify the gaps found in the data, which assisted with mapping categories and subcategories. This method allowed the data to continue to develop during the process of

writing and to refine the categories. Integrative diagrams (Strauss, 1987) were utilised to help integrate and understand the interaction between categories to create a theoretical framework. Subsequently, the categories were further developed and refined, which facilitated the process of discovering theory from the data. Constant comparative methods (Glaser & Strauss, 1967) were reemployed as in the other stages to discover analytic distinctions and to test the emerging theory. The constant comparative analysis method was developed to facilitate the discovery of new patterns in the raw data (Charmaz, 2000, 2006; Glaser, 1967; Strauss & Corbin, 1990).

Grounded theory involves supporting a constant comparative method. Therefore, the consistency and soundness of codes, concepts and categories is an important sign for a valid grounded theory (Strauss & Corbin, 1990). This process can help to categorise and interpret findings collected in the earlier stages of the interviewing process by comparing it with the existing and emerging codes and themes throughout the data analysis.

An exploration of relationships and patterns across categories was carried out, and new units of data were subsumed under existing themes or developed into new ones. The aim of this process was to check if all the data was exhaustive (e.g., do the categories cover all the data, are the findings mutually exclusive, were the findings overlapping, or were they different?).

The explicit process of participants sharing their reflections during interviews had an impact on their own understanding of the assessment process, for example, hearing themselves out loud. On the other hand, implicit interactions involved focusing on the meanings participants assigned to the words and language used. For example, words such as “opening a can of worms”, was associated to the ‘fear of non-containment’ during assessment. Theoretical sampling involved asking analytical questions from the data, exploring the different interpretations and verifying these with the participants, allowing

theoretical sorting and integration to take place. In the example provided (fear of non-containment), investigating the relationships between the theoretical categories allowed for the saturation of concepts, in this case it was identified as practitioner uncertainty prevents exploration of trauma.

Charmaz (2006) claims that “categories are saturated when gathering fresh data no longer sparks new theoretical insights or reveals new properties” (p.113). The researcher continued to revisit the findings to make certain that all emerging categories had been checked and verified within the grounded data. ‘Saturation means that no additional data are being found whereby the researcher can develop the properties of the category’ (Glaser and Strauss, 1967, p. 61). After eliminating and having selected data further, the 18 main categories were organised into eight interrelated categories with sub-categories as displayed in the results chapter (please see Figure 3 – Storyline and Theoretical Model).

Table 2

Analysing the data using the 4 C’s method.

Step	Criteria
1	Coding the data: Find repeating themes by thoroughly reviewing the data (Open coding)
2	Customising the code system: Coding the emergent themes with keywords and phrases (Axial coding)
3	Category building: Grouping the codes into concepts hierarchically (Selective coding)
4	Constructing theories: Categorising the concepts through relationship, identifying links (Theoretical sampling). Collecting further data to develop the emerging theory and elaborate the main categories consuming it.

Note: *Adapted from the ‘4 Cs’ (MAXQDA, 2018).*

3.13 Trustworthiness

This section aims to present the concepts of trustworthiness, validity, and quality as these are considered appropriate constructs for evaluating qualitative research (Williams & Morrow, 2009). In particular, the constructivist method values the importance of ‘trustworthiness’, rather than ‘truth’ of its findings. Trustworthiness is demonstrated when the participant’s experience is accurately represented in the research (Speziale et al., 2011), further developing the credibility, dependability, transferability, conformability, and contribution during this process (Cooney, 2011; Hannes et al., 2011; Tuckett, 2005). These concepts have been critiqued for being elusive and hard to define (Creswell & Miller, 2000; McLeod, 2011). For this reason, the researcher recognised the need to distinguish these concepts whilst attempting to make sense, define and evidence how each concept contributed to the process of this qualitative study. Dey (1999) defines this process as sufficiency rather than saturation. In other words, saturation of concepts does not mean exhaustion of data sources, instead it is considered as a full development of a category.

The saturation of concepts involves theoretical narrowing during data collection, using theoretical sampling and sensitivity. During the process of exploring all the relevant properties of a category, theoretical narrowing can to some extent limit the unpredictability of new theoretical developments being identified. Lincoln and Guba (1985) state that credibility is assumed through ‘prolonged engagement’, which further assists understanding of the ‘culture of the participants. In this case, credibility was developed through the researcher’s personal familiarity of the subject matter and through the understanding of her participants’ stories during the last two years of this research process. The developments throughout this process of study were also regularly discussed with the research supervisors. In addition, peer debriefing with one counselling psychologist, one clinical psychologist and two trainees, was utilised to discuss and analyse any ideas and concerns (Erlandson, 1993). Lastly, four

participants were invited to review the categories and the theoretical findings of the study. These participants confirmed that the results reflected their experience.

The grounded theory approach requires the researcher to be open-minded, reflective, and able to look at the data through many lenses. Regarding dependability, all the data gathered in the study, such as, interview guides, transcripts for interviews, memos, researcher's notes on the emerging categories, and personal reflections of the researcher, were often shared with the research supervisors and are included in the appendices.

Grounded theory has its own criteria to assess the rigour or quality of the study (Glaser, 1998). The researcher has shared a range of information based on the context of the research and participant characteristics to encourage examination of transferability. The drawbacks of this study have been considered and discussed in detail in the 'limitations of the study' (Section 5.3), bringing attention to the participants' own words within the analysis, to enable readers to evaluate the effectiveness of the outcomes of this study (story-line model) and how these can be transferred to any context in which they relate to (Shenton, 2004). The constructivist assumptions method is considered reliable when no new categories are discovered in the data collected, meaning one can say the theory is sufficiently developed. The researcher anticipates that the emerging categories, research notes and relevant research memos in the appendices will assist the reader to make an informed choice to whether this study is transferable to different settings. The author hopes this study will offer other researchers the opportunity to transfer the results of this research to other cases or repeat the procedures of this research as closely possible.

It is suggested, that if credibility, transferability, and dependability have been achieved then it is likely that conformability is also achieved (Thomas & Magilvy, 2011). There is much value in maintaining a level of reflexivity, for the researcher to open to establish a deepened sense of self-awareness and understanding the field of study. To keep

transparency, the researcher continued to question if the analysis and conclusions drawn were representing the participants or if there were any underlying assumptions made by the researcher. The researcher found it helpful to keep records of her reflections via journaling. Regular supervision meetings were organised and attended with the supervision team. This offered space to critically challenge any assumptions, observations, and interpretations.

3.14 Ethical Considerations

Prior to conducting this study, an application was made to the research ethics committee at the University of Wolverhampton to ensure ethical suitability and appropriateness. The researcher acknowledged the psychological impact of this study for participants. For example, the psychological reaction or feelings/emotions evoked when recalling specific patient events or stories. For this reason, all participants were debriefed at the end of each interview. This was followed up with a courtesy phone call to thank them for their participation to ensure they have not been affected by this study. All participants were provided a list of local psychological wellbeing services that they could access if required. All participants who are in receipt of regular supervision were interviewed. The participants may disclose reasons for not exploring both phenomena (e.g., service limitations); for this reason, the researcher will ensure all shared information remains confidential to protect and respect the participants' identity and wishes. All participants were informed that all relevant data will be shared with the supervisory team, and they could get in touch should the need arise.

Walliman (2006, 2021) suggests the value of research depends on its ethical reliability as well as on the originality of its findings. There are many ethical considerations to deliberate prior to conducting any qualitative research, such as the plan of intervention, informed consent, participant anonymity and confidentiality. Due to participants volunteering

to share their personal experiences ethical approval was sought from the University of Wolverhampton. In particular, the BPS Code of Human Research Ethics (BPS, 2018, 2021) and Code of Ethics and Conduct (BPS, 2014, 2021), were adhered to prior and during the commencement of this study. The Health Research Authority (HRA) and the Integrated Research Application System (IRAS) decision tools were consulted and considered with the supervisory team before the commencement of the study; this study did not warrant approval by HRA/IRAS. Ethical approval was applied and approved from the University of Wolverhampton.

All participants were provided with an overview of what this research is about and how their information will be used as part of data collection. The researcher was transparent in reporting the research data collection methods. The researcher is accountable for ensuring the participants' dignity, rights, safety and wellbeing are upheld, avoiding any risk or harm to the participants or their place of work. Once all the information was provided, all participants were asked to sign a consent form to agree they are happy to take part. All participants were informed verbally and in writing that they can withdraw at any time should they feel this is necessary.

Any data containing confidential information about the participants was stored securely, for example, any hard copies of consent forms where the subject's names and signatures were visible were filed within a locked cabinet. Any electronic data and audio files were only accessible to the researcher, held on a password protected PC. All confidentiality matters were documented on the participant information sheet and on the consent form prior to the interviews taking place. Every participant was reassured that all the information shared would be anonymised, they would not be identifiable, handled with full confidentiality.

To prevent identifying participants and their place of work all personal information was stored separately from the collated data. All data was protected throughout the study in line with BPS Guidance (2018, 2021), by keeping all information secure. The data will be stored for ten years and then will be destroyed confidentially. All physical data was sealed and stored separately in a locked cabinet. The researcher alone had access to this key. No real names were used on the paperwork (interviews/transcripts). Each participant was identified using a key coded number to secure their identity. All participant's identity was replaced with an I.D. number that could not be traced back to their original identity.

All recordings and transcripts were identified to the code number allocated to ensure anonymity. Any real names of organisations/people mentioned within the interview were replaced by another name to ensure anonymity. All data was stored securely via a password to which only the researcher had access. Any quotes used in the study were replaced with a pseudonym. Place names and any other identifiable information was changed to preserve anonymity. All data was secured according to the guidelines of the GDPR, to ensure all data collected in relation to this research project remains confidential. All participants details and their places of work remained anonymous, to prevent identifying participants. The researcher ensured that all names or phrases identifiable were replaced during the transcription process.

Chapter Four. Results

4.1 Introduction

This chapter presents an analysis of the data gathered through interviews with eight practitioners and how they go about examining individuals who live with a chronic pain condition with any unresolved history of trauma. In line with the constructivist grounded theory approach (Charmaz, 2006), the ‘4 C’s method’ (Table 2) was utilised.

This analytic process and theory development offers an understanding of the words and actions of the practitioners and their interpretations, acknowledged as the outcome of a reflexive research process. This process seeks to present the practitioners making of meanings, offering depth and further scope into what could be considered as universal, or even “routine” practitioner experiences when working within chronic pain services (Charmaz, 2006). It is hoped that the practitioners’ accounts of how they assess their client’s chronic pain and any history of trauma, will not only illuminate the complexity of how this is currently reviewed in everyday practice, but also offer further knowledge and understanding about how this process may be useful for other practitioners working in the same field. In addition, it provides an opportunity to reflect on practitioners’ experiences who are not based in chronic pain services and work with clients that may have a chronic pain diagnosis.

The emerged categories and subcategories that evolved initially during the analytic process are presented in two-parts (Figure 2 & Figure 3). Figure 4 (please see Appendix K) presents an overview of themes according to ‘Practitioner Awareness’. The themes relating to Practitioner Action model are presented in Figure 2. During the data analysis process, the themes were developed into well-defined categories, for example, ‘The complexity of chronic pain and its links to distress’. The developed themes are presented in Table 3. The key

themes that emerged out of the data by each participant is illustrated in Table 4 (please see Appendix J). An in-depth explanation and description of categories has been provided.

Table 3

Emergent Categories and themes identified from the data: How do practitioners examine chronic pain and history of trauma

Push & Pull Model	Emergent Categories
Practitioner Awareness	<ul style="list-style-type: none"> • The complexity of chronic pain and its links to distress • The subjectivity of trauma and its links to pain • Asking the right questions about the onset of pain • Practitioner understanding of chronic pain and trauma • Educating patients about the links between chronic pain and trauma • The value of exploring the physical and psychological factors • Access to psychological therapy before pain management can improve outcomes
Practitioner Action	<ul style="list-style-type: none"> • Staying in line with the professional remit • Practitioner uncertainty prevents exploration of trauma • Times determines the focus of assessment • Not asking about trauma results in excluded patients
Best Practice Recommendations	

The categories are illustrated using examples from participant interviews to provide the human voice that has been previously missing in this area of research. The emerging categories and subcategories through analysis and the discovered relationships that exist between have been provided as illustrated in the Storyline and Theoretical Model (Figure 4).

To conclude, a descriptive summary of the storyline has been presented to provide the reader with an explanation of the theoretical model.

4.2. Explanation of Emergent Categories

The emerging categories highlighted that all the participants identified the human body as being *complex* in how chronic pain is understood and managed. Participants expressed that history of trauma was *subjective* to an individual's experience and reported this could change the neurological mapping (neuroplasticity) over time. All practitioners reported how they go about assessing their patients' chronic pain symptoms and ways in which they manage these symptoms, to determine the treatment or care pathway offered.

The process of assessment appeared to emerge in stages, initially on the participant's own understanding of chronic pain and their symptoms (*practitioner understanding of chronic pain and trauma*). This was firstly demonstrated by the willingness of participants to explore the onset of pain with their clients, to detect if there were any underlying issues or not. One common theme emerged as the participants expressed that they felt it was important to assess their *patient's understanding* of why they believed they had developed chronic pain, which would further determine the outcome of their care.

For example, if patients thought that the pain symptoms were due to a physical injury, the client may be expecting a physical intervention such as physiotherapy or an injection. In cases like this, the patient would be booked in to attend the pain management programme, access physiotherapy intervention or booked into the injection clinic.

The data reveals that any history of an adverse life event or unresolved trauma could prolong and heighten the pain experiences for the individual (P1-7). For example, childhood/current abuse, bereavement, relationship issues, ongoing surgeries, road traffic accidents, veteran experiences and or a diagnosis of terminal illness. For this reason, some

participants (P1, P3, P4, P5, P6, P7) expressed the value in exploring their client's emotional and relational history to address the issues that may not have been reported previously to assist in reducing the pain symptoms such as severe stress, anxiety, and depression. Factors relating to trauma enabled participants to refer clients on to access psychological therapies. Participants conceded that patients who accessed psychological therapy were more likely to engage with self-management strategies for chronic pain and therefore experienced reduced pain symptoms (P1, P2, P3, P4, P6, P7).

Despite participants reporting a depth of knowledge and understanding about the relationship between chronic pain and a history of trauma (Practitioner Awareness), the data revealed that any history or unresolved trauma was not always explored with individuals during the assessment process (P1, P2, P3, P6, P7, P8). For this reason, a second model of categories and subcategories began to emerge out of the data, drawing attention to 'Practitioner Action'. The analysis process began to uncover participant stories based upon their own professional remit (P2, P4, P6, P8), practitioner uncertainty prevents exploration of trauma (P2, P3, P6, P7, P8) and other barriers that they felt often got in the way of exploring a history of trauma. It also transpired that some participants believed that by not exploring the history of trauma during assessment often resulted in patients being 'missed' because they were not referred for further psychological support (P3, P4, P6, P7, P8). In these cases, participants shared stories of patients who had been referred for physical interventions, however had disengaged on account of 'not being ready for pain management' due to not resolving their underlying psychological issues (P1, P2, P4, P6, P7).

The data analysis revealed a multifaceted system of categories and sub-categories; as a result, two separate multidimensional models of the phenomenon were identified as: 1. Practitioner Awareness and 2. Practitioner Action. The evidence for the seven categories within the 'Practitioner Awareness Model' (Section 4.3) will be reported first. This will be

followed by the ‘Practitioner Action’ (Section 4.5) looking at participant’s first-hand experiences of examining individuals for chronic pain and unresolved history of trauma. The ‘good practice’ section (5.5) has been analysed last to demonstrate how both models become merged into one another. The second model (Practitioner Action) is based upon the determining factors that are reported to influence clinical practice. These have been divided into four main categories highlighting the key areas that demonstrate how practitioners examine individuals who present with chronic pain and any unresolved history of trauma. Although each category has been examined separately, it should be noted that all categories reporting ‘Practitioner Awareness’ and ‘Practitioner Action’ do inevitably interlink as they equally inform and influence clinical practice.

4.3 Practitioner Awareness Model

The ‘Practitioner Awareness’ model reflects the participants’ subjective experiences and understandings of both phenomena (Figure 4 – please see Appendix K). All participants shared a wealth of knowledge based upon their personal experiences, demonstrating a rich relational ‘awareness’ existing between chronic pain and history of trauma. This model is based upon seven categories, these have been analysed in further depth below.

4.3.1. The Complexity of Chronic Pain and its Links to Psychological Distress

During the process of gathering data and exploring how participants examine chronic pain and history of trauma, the emphasis on a biopsychosocial assessment was observed. All participants shared their professional stories and experiences of how the two phenomena were interrelated and how this can further impact the healing process and heighten the pain experience. The first category reports chronic pain as being complex, multifaceted and reported to heighten psychological distress.

All the participants interviewed shared a similar interpretation for what chronic pain meant to them, this was often described as ‘complex’. The chronic pain condition was reported as being long-term persistent pain that occurs in the body, lasting more than 3 months. Practitioners described this condition as evolving past the acute phase of healing, resulting in an increase of sensitivity to the nervous system (the nerves, spinal cord, and brain). An increased sensitivity and changes to the nervous system were considered as one of the indicators for an increase in the pain experience overtime. Here Participant One (P1) describes her understanding of chronic pain and the nervous system:

Chronic pain is the increased sensitivity of the nervous system, which can happen due to various reasons, commonly what we see in our patients is either an underlying long-term illness or a trauma or an event that has happened in their’ life. It can be a combination of things like physical, um, illnesses’ as well as psychological affects, um, which causes their nervous system to become hyper-sensitive bringing in the pain symptoms with it (P1, L11-15).

Participant stories revealed a diverse population of patients accessing services for various health conditions, therefore implying that ‘chronic pain’ assessment is not always straight forward. All participants were responsible for completing initial assessments within their professional role, and this often involved them performing a ‘hands on’ physical examination. This entailed the participant’s having to assess what physical treatments may be required for the patient, as part of their treatment care pathway. Participants (P1, P2, P3, P4, P5) revealed the assessment of chronic pain depends on the complex system of the physical structure of the body and the underlying condition the client presents with, for example, chronic fatigue (CFS), fibromyalgia (FMS), or musculoskeletal (MSK) pain. Here Participant

Four describes her experience of how pain experiences can differ depending on the condition a client presents with:

So, it's biological and that it can be triggered by whatever the physical structure is that and when it's a fibro patient that's very different because there is no physical structure there... fibro pain is very different to our sort of MSK type of patients because they have different sorts of pain so patients that have fibro pain it kind of flits around a lot and manifests itself from something that you have done two days ago. So, it's a very different kind of pain compared to those that have say, back pain (P4, L240-247).

Understanding the 'physical structure' or 'what treatment was required' was not conclusive in assessment of chronic pain as often passive treatments were not considered the answer as long-standing or long-lasting treatments. Participants reported long-term pain can effectively be managed but not cured. The data revealed that the management of chronic pain was majorly dependent on how the client had previously dealt with their pain. The following excerpt demonstrates how Participant Six considers patient coping strategies:

I think the chronic pain population is very complex population and also very heterogenous population which makes it a difficult population to study, so you know I think there are similarities with people who manage chronic pain well and people who don't do as well with their chronic pain management and maybe that goes all the way back to the chronic pain and how their chronic pain developed first and the strategies and support they had around that time (P6, L37-42).

It appeared that participants were not only interested in the coping behaviours of their clients, but also their client's personal, biological, and social history. Here are examples of how participants consider their patient's background history and the complexity involved within the context of chronic pain assessment.

It increases the level of complexity... when we talk about formulating goals, helping people to live with their pain, live independently, maybe symptoms resolve to a certain extent. Either by interventions, or some therapies, the outcome of those may not be positive or will take longer time than people would do not have a history of trauma, so that's how I look at it. So, if I know someone with chronic pain and a trauma history... this is very complex and not easy. The goals are not easily achieved (P8, L174-182).

It's too complex and sometimes I feel as a service we, on paper we try and keep an individualised approach and treat every patient, make it personalised ...I feel it really needs a specialist, and this input may be available in the form of a very good multi-disciplinary team but the delivery still feels all most as a broad brush approach, but everyone is given the same form of treatment and I feel this is where sometimes we are losing our ability in improving the quality of patient care, that's how I perceive it sometimes (P8, 247-255).

Varying aspects such as, adverse childhood experiences, current coping strategies, number of health procedures, relational attachment issues, environmental and financial problems were reported as contributing factors in prolonging pain. Subsequently, chronic pain was revealed as being associated with the physiological, biological nervous system, the stress response and hormone regulation. A link was identified between the pain experience

and the nervous system and how the 'management strategies employed' either increased or reduced symptoms of pain. Participants shared their knowledge of how physiological pain can continue to increase pain sensitivity due to certain areas of the body not healing.

Participant Three shares an example here:

I find a lot of patients, younger patients, younger adults coming in for, you know, their 20th or more surgery and you know, it does have a knock-on effect because of the healing process as well and being in hospital, you're being isolated from family members, you're not having that which can impact with your quality of life it does impact overall on the patient (P3, L105-109).

Many of the participants referred to the nervous system, as they explain how pain triggers (or activate) the automatic stress response system also known as the fight or flight response. References were made to the chemical imbalances that can occur due to the prolonged pain experience, inducing central sensitisation (nervous system becomes hyper-sensitive) to occur within the brain.

When someone has gone past the acute phase or of tissue healing or pain related to actual tissue damage, when the pain goes beyond the healing period the nerves get sensitised and the pain persists beyond that healing period and that becomes chronic pain so it could be in one particular area or widespread or all over the body or localised to one particular area (P2, L11-15).

Shared understanding about the nervous system was noted, as participants acknowledged how pain rouses a 'warning signal' with a message that "*chronic pain is a*

stressor, and that is in the brain, it is usually seen as a warning and that there is something is wrong”.

Here Participant Two described her understanding of how pain is experienced within the brain; *“The pain system is firing; neurons are going through the thalamus through the limbic system to the higher centres but after three months the limbic system kind of takes over the control of the pain processing in certain ways”* (P2, L237-42).

Although the ‘nervous system’ was revealed as playing an integral part in prolonging pain, participants were keen to assess for any ‘*red or yellow flags*’, these were identified as a must when assessing for chronic pain symptoms. Participant Two explains the purpose of the initial assessment; *“The purpose of the initial assessment is to clarify any physical, physiological problem there. Again, ruling out any psychological aspects as well. We would have a rough idea of what of yellow flags they have”* (P2, L274-76).

The ‘*flags*’ assessment were used to highlight if further action to take was required by the participants to prevent an increased symptom. Here Participant Eight share’s their experience of assessment:

I start with taking down their history to begin with and then I'll ensure that I clear all the red flags, so that’s the first thing that I rule out...I’m conscious and completely aware no further investigations is required at this point in time (P8, L83-85).

I immediately explore when the onset was, whether its acute, um, like Cauda Equina symptoms. If I feel like it is very much recent onset, it hasn't been spoken about with the GP and its deteriorating, which clearly says that it needs urgent medical attention (P8, L140-142).

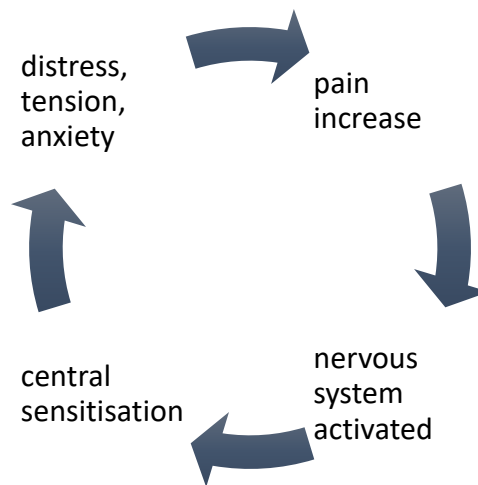
The data revealed many layers that are involved during the assessment of chronic pain, which highlights a diverse range of issues that practitioners felt they need to consider and be aware of. The *management* of chronic pain emerged as a multifaceted factor, due to the patient's current physiological factors such as, sleep, physical tolerance, and intervention history. These factors presented as leading aspects in what the person living with chronic pain was being examined upon in terms of how they were *currently managing*, and what they were *expecting* from the practitioners to do for them. The multifaceted aspects of pain were considered by participants in conjunction with an 'awareness' that pain heightens distress within the mind and body.

Instead of focusing exclusively on the causality or management of pain during assessment as complex or multifaceted, a different position was observed out of the data, this being that pain heightens distress (please see Figure 1). The data revealed how chronic pain does not only cause physiological distress but can be a driving factor for psychological suffering. Participants expressed how patients can present with further anguish due to not having a 'cure or a fix' to their persistent physical pain. This was identified as one of the factors prolonging the nervous system to remain in the 'high alert' phase, consequently causing an increase in symptoms such as increased tension.

Pain was, therefore, found to create distress due to factors associated to client's avoidance of carrying out certain activities and muscle deconditioning due to the psychological fear of causing further 'damage' or 'pain'. Consequently, it emerged that when participants noticed their patients had 'become deconditioned', they expected levels of distress to also increase due to the nervous system becoming heightened (central sensitisation). This concept has been represented below in Figure 1 (Pain Heightens Distress) to help demonstrate these findings.

Figure 1

Pain heightens distress. *How do practitioners examine a history of trauma with individuals who present with chronic pain?*



Participants repeatedly referred to a relational value between *central sensitisation* and an *increase in distress* irrespective of the causality of chronic pain. Here one participant shares her experience of how the pain cycle is not only maintained but how the psychological and physical distress and tension can increase pain over time:

Be afraid to go out at all, or they might be afraid to do any walking, running afterwards. So, again their limiting, coming back to their fitness, their flexibilities, so deconditioning..... not socialising so that kind of depression cycle comes in, so their getting the hormones relating to this depression, this is irritating their nerve endings, getting into more primed to develop chronic pain later on, even with a little exaggeration, they are experiencing chronic pain (P2, L161-163).

Participants referred to a wide variety of occurrences that they had experienced, initiating that the *cause* of chronic pain was not necessarily the factor that maintained the distress, instead it was the 'distress of pain' that was maintaining the cycle of *distress*.

Participant Six shares her experience of how this was observed with one of her client's due to a traumatic experience; *"The surgery was not very successful and the fact that she still had this pain and she had been through a traumatic event during the surgery, not going correctly, this 'reinforced' the trauma every time she experienced the pain"* (P6, P16).

The cycle of pain causing distress was also described by other participants when they had observed individuals who had been exposed to several injuries or surgeries; *"like injuries for example, or multiple surgical interventions....so patients maybe poorly from childhood and they have to have repeated surgical events, and that could be quite traumatic as well for a child and going forward into their adult life"* (P3, L100-103).

All the participants interviewed demonstrated a shared awareness that chronic pain is caused for a variety of reasons, it is effectively prolonged due to the process of central sensitisation inducing a level of distress which is increased over time.

4.3.2. The Subjectivity of Trauma and its Links to Pain

The exploration of any unresolved trauma in relation to chronic pain raised a variety of issues for all participants. During the interviews, all the participants identified varying forms of trauma they had observed during the assessment process. Adverse life events in relation to the physical, cognitive, and emotional aspects were described. Physical and psychological trauma were drawn upon by participants as contributing factors in *creating* and *prolonging* pain. Physical events such as repetitive surgeries, passive treatments, procedures, health conditions, road traffic accidents and injuries were referred to by some participants as 'trauma'.

Psychological trauma was acknowledged by participants in relation to a history of childhood or current abuse, domestic violence, and relational issues. Trauma was described as a contributory factor where chronic pain was concerned, influenced by the subjective

experiences of everyone. In principle, what one individual may consider as a 'traumatic' experience may differ to how another person perceives it. It emerged that trauma was subjective depending on the person experiencing the distress and their ability to acknowledge and process this.

I think it's anything that that person perceives as traumatic for them, so whether it's bereavement, divorce, abuse as a child, perhaps work or a car accident, so anything that they find traumatic, any situation that they have to perceive as dramatic at the time (P5, L25-26).

The results demonstrated that practitioners had their own opinions and professional awareness and understanding of what trauma means to them, how it may be presented or masked by their client's behaviour. Here one participant shares her experience of a client *over-doing or blocking things out* indicates that trauma maybe at the source:

This lady I'm thinking about had a very bad car accident and lost a couple of people who had been with her. She's in chronic pain but she does not stop. She's on the go, on the go all the time. She's working like 60 hours a week..... makes me wonder, whether she's trying to block it out of carrying on with it (P2, L255-259).

The subjectivity of trauma particularly stood out from the data, as the participants often described it was something that could shift in intensity, depending on the individual and their previous experiences.

There is a huge percentage of people who will have a degree of trauma related to their pain. It depends very much on how they present when they come to you...for example if they have been in a car accident, which is more like a physical trauma that will have an effect on their psychological health as well (P1, L47-50)

Overall, a broad range of incidents were identified from the data, in relation to what was considered as being a '*traumatic*' experience. The practitioners demonstrated an 'awareness', consciously holding in perspective the cognitive and emotional impact of experiencing events that were considered traumatic. The behaviours displayed by their patients were often explored as an indicator of an underlying unresolved trauma.

In general, trauma was not considered conducive in relation to chronic pain. Instead, the experience of trauma was identified like pain, in that it caused physical and psychological distress to the individual. Here Participant Four describes how emotional distress associates with the pain system; "*there is the emotional component to the trauma, whether that's got an imprint somewhere and whether that is linking into the pain processing system together*" (P4, L40-42). Trauma was beginning to emerge as a multi-layered concept, a condition that had the ability to manifest and induce a level of distress of its own. Whilst being presented alongside chronic pain assessment, participants understanding of the multifaceted concept of trauma was swayed by many factors. These were based upon the client's '*current physical and psychological presentation*', what the clients *wanted to explore*', and how likely was the patient *ready to engage with the pain management service*'. All these factors appeared to run parallel based upon the participant's understanding and knowledge about trauma and how it could impact upon individual 'wellbeing'. The willingness to explore any underlying trauma with patients however was determined by participant confidence, this is reported in the 'Practitioner Action' category (Table 3).

The data began to draw together an awareness by participants of an existing relationship between the two phenomena, specifically when the reasons for chronic pain being present could not be identified by professionals. Trauma was reported to exacerbate pain, and then vice versa. Here Participant Two describes how she identifies this relationship:

I do see there is a correlation there. Um, more often when you can't explain why they have this long-term persistent pain there is some kind of factor where I can relate with some of my patients...when there is an emotional pain attached somewhere it probably starts to express it-self as physical pain' (P2, L28-32).

Participants demonstrated that they were mindful of not only the diverse types of traumas but also the impact 'trauma' had on individuals. All participants shared their personal stories and experiences of being with patients who had suffered various traumatic events. It was, however, noted that not all participants referred to 'trauma' being psychologically, emotionally, or relationally driven. Instead, the physiological elements were drawn upon, such as "*trauma to the bladder*" or "*physical injuries suffered*". This highlighted that trauma was, therefore, multifaceted, not necessarily in the terms of what 'trauma' is or identified as, but also by what 'trauma' meant to participants and how differently it was perceived by participants from the same clinical background.

A repeating theme that emerged from the data was 'trauma heightens chronic pain', this was discovered in two parts. Firstly, participants reported that patients who already had an existing underlying chronic pain condition were more likely to experience an increase in pain when they suffered additional distress that was considered 'traumatic'. Secondly, the data revealed that in cases where adverse life events had been repeated in a patient's life, this was reported to induce ongoing distress and was often reported to manifest itself as 'chronic

pain' due to the 'protecting stress response'. Here Participant Five shares her understanding of the process:

So that stress response is a protecting mechanism, if somebody is or going through trauma it's the same protecting mechanism... when you're in pain as well it's the same danger that is trying to protect yourself that is sensed so, it is the mechanism that is triggered and that is the link as I see it (P5, L33).

This presented a slightly different position in comparison to the earlier category 'the complexity of chronic pain and its links to distress', as this was founded upon the physiological factors such as deconditioning acting as the activation mechanism of the nervous system remaining in high alert state. Although the biological mechanisms remained the same when participants referred to 'trauma' and "*some say you can't separate the two, one impacts on the other*". The positioning standpoint, however, was interpreted slightly differently when "*the subjectivity of trauma and it's links to pain*" category was revealed.

A pattern of 'underlying trauma' known to 'exacerbate pain' was observed as the participants described a similar concept of how a traumatic event can induce a 'high alert response', also known to activate the nervous system and detected when the body experiences pain. This was particularly referred to cases when patients presented with conditions such as fibromyalgia, where there had been no underlying physical injury reported, but chronic pain was presented as the primary problem. This concept was understood by participants as 'repeated emotional distress can create chronic pain overtime'. Fibromyalgia patients were reported to present with 'more anxiety symptoms' than other's who reported conditions such as rheumatoid arthritis, revealing that by 'not having a definitive reason or cause to the pain' may have been increasing further distress due to the

‘unknown’. This alternatively, was considered a key factor in exacerbating pain. Here Participant Four shared their understanding about fibromyalgia:

It’s a different feeling to say with fibro, where there isn’t a cause and you don’t know what is, there is no blood test for it...and I think yes, because there is more of a diagnosis exclusion which is probably why they end up with being more stressed and anxious because they don’t know (P4, L112-116).

For those patients who were not reported to have any diagnosis (e.g., fibromyalgia or rheumatoid arthritis), trauma continued to be reported as a trigger for pain. Participant Seven shared, *“trauma is what I would class things that have happened to people in their life significantly, and impacted people emotionally and we know that can also lead to chronic pain”* (P7, L20). The data revealed that some individuals who reported experiencing earlier relational abuse, such as emotional, sexual, and physical, were dominant factors often observed by participants when the healing phase had passed, later presenting as chronic pain. The impact of some individuals not processing, help seeking or resolving earlier emotional traumas were reported by participants to be *“prolonging distress due to some individuals still holding on to all of that hurt and pain inside themselves”*. Here another participant provides an example relating to loss and bereavement: *“So... things like bereavement they can be quite significant or even some kind of a loss can trigger the pain as well”* (P5, L60).

It was noted that most participants shared some common ground that *“trauma can heighten pain”*. However, the data revealed that this was not always explored with patients. Instead, there was much focus on the physiological presentation when it came to assessing chronic pain. This has been elaborated in the ‘Practitioner Action’ section (4.5) of analyses.

4.3.3. Asking the Right Questions About the Onset of Pain

Asking the right questions, emerged as the data revealed that whilst participants were curious about their patient's onset of pain, there were mixed views about 'what questions were considered necessary or not'. The exploration of patient's symptoms, onset and the current management of pain was a key focal point for all participants. Participants shared the value in exploring the physiological factors from a holistic position, indicating an awareness that pain can impact a person emotionally too. It appeared the participants *questioning* of their clients about their pain was a way to rule out if any further investigations were required physiologically, to help decide about the planned pathway of care. In cases where there was little patient history provided or something "*didn't seem to fit*" the participants felt they needed to ask more questions that felt 'right' to ask.

Whatever comes up in the form of history taking I just know, or get to know, okay, this is not right, this needs to be explored further and we just need to ask more questions along that line and see where that leads you to (P8, L130-133).

There was a variation observed in the way some participants were *asking* questions, within the context to what they felt was appropriate to ask the client in terms of 'ability to self-manage' or what they felt was 'relevant' within their own professional remit or role. For example, Participant Eight felt it was their role to explore the physiological aspects of chronic pain to identify 'what was wrong' and 'what they could suggest or advise to help: "*So, I would just prioritise, um you know, eradicate red flags and what's the optimum treatment that can be designed for that patient*" (P8, L108-109).

However, other participants reported it was useful to question patients about both physiological aspects in addition to any previous trauma or any history of adverse life events.

They reported that those individuals who had sought help to resolve their history of trauma were more likely to engage with pain management programs and reduce symptoms of pain. It emerged that ‘asking the right questions’, about the ‘onset of pain’ was necessary for some participants to identify ‘how unresolved trauma can impact chronic pain’. This was observed as a theme as participant’s curiosity about ‘*what has happened to the client*’, instead of ‘*what is wrong*’.

Participants appeared to be sensitive to their client’s biopsychosocial history, their ways of coping since the onset of pain and mindful about ‘what the client wanted to talk about’. Participants shared ways of exploring ‘what has happened’ with patients, ‘*there are certain ways that you can ask the questions without being too direct, so using an in-direct approach*’. Here is an example from Participant One and Participant Four, where they share their experiences of ‘*questioning*’ during assessment:

When we are looking at chronic pain patients were looking at the biopsychosocial aspect of their... you know impact on their life, so it’s really important for us to ask all these questions related to their physical health, psychological health as well as their social environment (P2, L96-99).

As you go through the assessment you do kind of pickup on in terms of what they say and how they present in terms of how they are so, if they are anxious or if they repeat stuff that has happened, they go off on a tangent (P4, L363-366).

The exploration of both chronic pain and underlying trauma was not necessarily part of the assessment process, yet some practitioners were still ‘asking the questions’ in relation to this and some were not; “*The kinds of questions we do have is incorporated in the*

assessment but there aren't any questions that I would normally ask to specifically target past history of trauma" (P2, L76-78).

The onset of pain was routinely explored by all the participants, demonstrating a key element to determine what action the practitioner felt was appropriate to take. The 'taking action' was informed by the 'awareness' participants had in relation to why they believed their clients were experiencing pain that was now being presented as persistent. The data began to show that there were two functions behind assessing the 'onset' of pain. Firstly, participants were interested in their patient's physiology, meaning the tissue damage or injuries that had occurred which initiated pain. Secondly, they were interested in the life events that may have occurred during the time of the 'injury'. The second part drew attention to the emotional wellbeing of the client during that process. Here is an example (Participant Two) of the diverse medical conditions reported by participants known to contribute to chronic pain:

It could be any conditions that they've been diagnosed with, so any arthritis or Fibromyalgia type of conditions, that can increase their... maybe accidents or whiplash injuries... any past surgeries or sometimes a bereavement, a loss in certain ways. Yes um, sometimes stroke can cause the chronic pain or any surgeries CRPS type of things can cause this (P2, L132-137).

The issue of exploring the onset of pain, was not a decision that was taken lightly by any of the practitioners, all aware of the different conditions that can initiate the onset of chronic pain. These were not necessarily deliberated by participants as 'physical' conditions, instead the emotional characteristics were being acknowledged as contributing factors to the onset; *"It's not like a sort of one treatment fixes everyone, you've got to work in accordance*

to what your patient's needs are" (P3, L113). Participant Four shares her experience of exploring other aspects other than physiological factors when assessing the onset of pain:

You can't always pinpoint when the symptoms are starting you know when we talk to the patient, they come forward with this stuff actually because often I don't say like "*oh is there anything that...*" (laughs). So, you know, we'll just say, "*can you tell us when all this started?*" And as they start reflecting, "*oh yeah that was at the time when so and so was happening*", and they say, "*Is there a link?*" and I say "*mmm*" (laughs) (P4, L49-54).

The 'onset' was not only referred to as being the 'first time' a client had experienced pain in a certain area, but when they felt pain had become chronic. Here Participant Six shares a client's story whose onset of the chronicity of pain was influenced by surgery that had resulted in the client becoming seriously ill.

I'm thinking in relevance to somebody I saw who had spinal surgery and the spinal surgery did not go very well, and the patient ended up quite poorly and ended up in the intensive care unit and then still had pain unfortunately following the surgery (P6, P16-17).

The onset of pain was presented as a driving factor in what treatment or management strategies the practitioners felt would be helpful to their patients. Here Participant Six speaks about these factors:

I think there are similarities with people who manage chronic pain well and people who don't do as well with their chronic pain management and maybe that goes all the way back to the chronic pain and how their chronic pain developed first and the strategies and support, they had around that time (P6, P37-38).

This category highlights the importance of asking questions about the onset of pain, which subsequently opens a door for the practitioner to ask further questions about any subjective experiences of unresolved trauma that may need to be addressed, prior to physical pain management strategies.

4.3.4 Practitioner Understanding of Chronic Pain and Trauma

For all practitioners interviewed there was a strong sense of knowledge and understanding that they reported to have developed over time about “*assessing chronic pain*”. For most participants there was an acknowledgement of an underlying or unresolved trauma that may be presented alongside chronic pain. However, this was not always necessarily being picked up by practitioners during the assessment process but was observed later during the care pathway process; *‘I am sure it doesn't always come out at the first assessment sometimes, sometimes it doesn't come out until much later’*. Participant Six described her experiences whilst leading pain management programs, reporting that she had encountered patients that had experienced some underlying trauma, and this had not been identified during the assessment.

I think... you can see people that are on pain management programs, that you know something else triggers that memory or maybe a conversation that a person is having

that triggers a memory, and then they start talking about the trauma and therefore the impact that it has (P6, P41).

Similarly, Participant One described noticing when prescribed physical interventions had not been working, due to underlying trauma that had not been assessed and therefore resolved, preventing the patient from moving forward.

I've put people into the physical therapy and seen them become worse, in terms of you know, okay I'm trying to make this person move better but I'm not getting anywhere with this. Because and I've not realised why at that time, but as...I've got more experience and seen people's behaviour, I've realised that they need the therapy first, to get them psychologically sound before that they can move on to become better physically (P1, L410-415).

Participants experiences demonstrated that a broad level of 'understanding' was necessary whilst examining any underlying or unresolved trauma for individuals presenting with chronic pain. The data demonstrated that practitioners did not only hold their own opinions about their patient's presenting symptoms, but they also held in perspective what they believed their *patients understanding* of their own symptoms were.

Participants emphasised that the way chronic pain and a history of trauma is explained to the patient, can determine how patients are more likely to move forward and start utilising self-management strategies. A relational aspect between 'how unresolved trauma can manifest itself into pain' was understood by participants and was often shared with their clients to help them understand what may be going on.

Here Participant Six, described how by explaining the link enabled patients to accept and understand this concept more often.

When you do explain the relationship to people in my experience, people are very accepting of that you know. They can understand that the trauma that they have been through either physically or psychologically has had a lasting effect on them and particularly when you explain nature of chronic pain (P6, P12).

Similarly, Participant Four shared their attempts to explain how ‘pain heightens trauma, or ‘trauma heightens distress’ to help explain the understanding between the two phenomena.

I just say it’s the way of the body trying to protect itself so I will try to explain what is going on and it’s the body’s way of overreacting...I say about the evolutionarily perspective and we need to have pain to learn, and it just sometimes it gets it a little bit wrong (P4, L218-222).

This was followed by *how* she had attempted to *explain* the link by using metaphors to help the patients understanding how pain and trauma can instigate the ‘high alert’ response to be activated with the body:

Then I try explaining it in metaphors as well I guess, so all the sort of things being on the ‘on’ button, orchestra scenario, because everything else is getting in on the act too, it’s now sending signals to everywhere else, so it all is kind of manifesting in itself (P4, L222-226).

Although all the participants had their own style of ‘explaining’ what they believed was prolonging the symptoms of chronic pain, a shared awareness was however observed in relation to the participants understanding about their patient’s current and previous coping strategies.

Working closely with the category of ‘practitioner understanding of chronic pain and trauma’ was the theme of ‘coping determines healing’. All participants reflected on their patients’ ability to use coping strategies to assist with their current levels of physiological and psychological distress. They reported a significant level of distress could be reduced depending on the coping strategies employed by patients, and this in turn was observed to reduce the intensity of pain, further promoting some form of healing. This was described within various contexts, as participants acknowledged; *“Not necessarily all the events will link into the sensitivity of the nervous system but, for these people because their coping mechanisms get affected due to the impact of the trauma”* (P1, L85-87).

The impact of deconditioning, muscle weakness and lack of sleep was considered to impact the way patients were currently choosing to address both their physiological and psychological distress. Participants acknowledged their patient’s emotional wellbeing, the impact of how trauma can physiologically affect the body and how it further created tension and muscle tightness. The following excerpt from Participant Three’s interview illustrates not only the physical impact trauma can have on the body, but also her suggestions on what she believes can help reduce the tension.

We don’t just target the physical pain we look at their mental stability, um, their emotions, how they play, we look at um, see if we can get them to relax a little bit more, because sometimes with trauma as well their muscles can become quite tight and

tense. Um, looking at things like mindfulness and relaxation as well...Looking at, areas that we can help to de-stress, not physically but also emotionally too (P3, L152-158).

The elements of 'coping' or 'not coping' emerged out of the data as participants were describing that a more complex process is involved instead of just offering advice and suggestions to patients. Participants were acutely aware that their patient's current coping skills were subjective to their personal and history of experiences, this therefore determined how open their patients were in accepting the practitioner's advice. Participant Four refers to the patient subjectivity, how coping with distress can be influenced by earlier experiences of trauma that have not been addressed, such as grief; *"I think it depends on the mindset of the people and how they cope as well and what their upbringing has been as well and obviously depending on what the trouble was. I think it's different for everybody"* (P4, L34-37).

Often, I think because they haven't had a chance to grieve as it were, or to deal with it. They hold it all in and of course they haven't released it and some situations happen to them in the physical sense. And I guess the body can't heal in the cognitive sense and you haven't got the congruence, it doesn't have to be physical, it can be the mind over body thing (P4, L41-44).

Interestingly, the questions around *coping* in relation to trauma were not always explored explicitly by all the participants during assessment, unless the patient mentioned it first that they felt distressed due to a specific trauma. Much emphasis was based upon the current strategies patients were using or could start to utilise such as relaxation or physical exercises to relieve tension or improve muscle weakness. All participants did, however, refer to *patient coping* and how a *lack of coping* can prolong and increase symptoms. Participants

(P1, P4, P6, P7) specifically spoke about how they would approach this subject with their clients. Two out of these four participants were occupational therapists, who reiterated the importance of exploring coping strategies with their patients.

The data revealed the *incongruence in body* theme was closely assembled within the *practitioner understanding* category. Incongruence was something that most practitioners referred to in their interviews when they talked about an *internal disconnection* that can occur within the body on a physical and/or chemical level in relation to chronic pain and unresolved trauma. The evidence of an *internal incongruence* existing within the body was observed by participants through the examination of their patient's physical symptoms that were being displayed. Although participants identified the physical links as *tension being held in different places within the body*, the cause for this incongruence was not due to one factor, rather instead various reasons were deliberated.

Stress was acknowledged as one reason, identified in aggravating a further incongruence within the body. References were made to the stress response and central sensitisation which was reported to further reduce the patient's ability to cope. Participant Three shares how stress can worsen pain; "*So, what I found is when patients have got chronic pain and they have any stress adding on to it, it increases and aggravates their current pain symptoms*" (P3, L274-276).

Before stress they will be able to cope better with medications and physical activity, um but when they got the added stress, medications as well as physical activity may not be able to help with the pain that it should do, prior to having stress (P3, 278-281).

The incongruence was not considered as something that could necessarily be measured via a scan, instead it was assessed as conflict within the body causing strain. Here

is an excerpt by Participant Five; *“So even if the scans are fine, it could be because of the tension in the neck, and this could be because we begin to hold ourselves differently”* (P5, L149-151). Participant Two describes how this incongruence may be experienced when an individual has been holding on to unpleasant emotions (such as anger or resentment etc.) for a long time:

When there is a trauma, I suppose people are angry about it or upset about it, they regret that, they resent that experience I suppose and all that emotional impact, how they process it. How they take it or how they react to it...will directly or indirectly affect their stress levels, coping strategies, um which again could be driving the pain..., if they are trying to block it out and overdo their activities, they are generating their own pain (P2, L82-87)

This category brings attention to how practitioner knowledge and experience informs their understanding about chronic pain and history of trauma.

4.3.5 Educating Patients About the Link Between Chronic Pain and Trauma

For this category, participants shared a sense for what they believed their patients understanding was about chronic pain and trauma. In particular, the patient’s understanding of what they felt was prolonging the pain and what they were expecting to achieve from attending the pain service. Participants reported that exploring what their patients were thinking and felt about managing their pain, often opened the opportunity to explore this in further depth. The data revealed that all individuals who were assessed at a chronic pain service, presented with their own predisposed ideas, experiences and offered participants the opening to educate their patients of why they may think they have a chronic pain condition.

Participants in this study shared how their practices and approach had offered patients the chance to explore their understanding of the phenomena. This involved the practitioner *explaining the links* between chronic pain and history of trauma, or by how incongruence in the body can exacerbate pain symptoms. Participants shared that the acceptance of this explanation depended on the patient's mind set and their willingness to engage in finding other ways to cope, other than relying on medication or physical procedures alone.

Participants revealed that in the cases where the patient *searches for a fix* to their chronic pain, it can be very uncomfortable for the practitioner and difficult to engage the patient. Searching for a fix, developed as an ongoing theme in patient understanding which determined the patient's *readiness for change*. Participants emphasised that the way chronic pain and history of trauma is explained to the patient, can determine how patients are more likely to move forward and start utilising self-management strategies. Various examples were provided on how patients may be more accepting and understand the link between the two phenomena: *"They can understand that the trauma that they have been through either physically or psychologically has had a lasting effect on them and particularly when you explain the nature of chronic pain"* (P6, P11-12).

Participant Six expressed that in her experiences, the more a practitioner is willing to explain the mechanisms of chronic pain and unresolved trauma to the patient, the more likely they were to take this on board: *"You can... really start helping the person, the patient to help understand what is really going on. And I don't think I've ever come across a person that has looked at me or said that they have disagreed that there is a link between the two"* (P6, P12-13).

Participant's Two and Eight were focused upon explaining the physical strategies to clients during the assessment process, to engage clients and explain how they may be able to

improve current symptoms by formulating goals. Consequently, little attention was placed upon explaining the '*trauma*' aspect that was being presented alongside chronic pain.

Participant Eight described a level of complexity is involved when a client presents with trauma, and this can, therefore, take longer to resolve for patients who present with chronic pain; "*So, if I know someone with chronic pain and a traumatic history, I know that this is very complex and not easy, these goals are not easily achieved*" (P8, L180-182).

The data revealed that some participants felt their patients often presented with an expectation that their chronic pain will either be significantly reduced or completely treated. When previous treatments or interventions had not worked or facilitated a reduction in the symptoms of pain, this often resulted in patients seeking further surgeries, injections, and passive procedures. Due to all participants having experience of working in pain management services in this study, the emphasis was on self-management, meaning participants were often having to consider alternative interventions.

Due to the advanced medical system and technology available today, Participant One described the tensions she experienced when she would have to tell her patients that '*there was no cure*'. Participant One acknowledged how difficult it was for the patients to accept this; equally it was *not an easy task for anyone*. This was echoed by Participant Two, as she described the level of discomfort experienced by participants when they were being expected to 'fix' the pain. Participant Six described that even when there were passive treatments available, that could offer 'short-term' relief, patients were not often booked for these procedures as these were often not suitable for trauma or in the long-term as it encouraged a false hope of fixing.

It can be a very uncomfortable position to be in, absolutely, in the practitioners position it's very, I suppose the nature of chronic pain conditions the vast majority of patients do

come in and want to be fixed and often that fix in their view is some sort of passive treatment that is going to be done to them. So, their pain is reduced but again that is not always appropriate on someone who has had a past history of trauma (P6, P47).

Participants reported seeing patients who had previously been exposed to several medical procedures, interventions, or treatments with very little success in reducing their pain. This had created a hope and added momentum to the *searching* that maybe there was something else that could be done to reduce or fix the pain. This ‘hope’ was then being crushed when participants were having to tell patients that there were no more treatments or procedures available and instead pain education may be helpful. It emerged that some participants were trying to make an assessment based upon their patient’s *readiness* for engaging with the service, by considering self-management techniques whilst accepting there was no ‘physical fix’ for their chronic pain.

The data revealed that patients often accessed chronic pain services expecting a passive treatment or procedure to take away the pain; however, alongside this expectation, the question of ‘responsibility’ was starting to emerge from the data. Participants stories revealed that patients were coming from a system where the professionals had been ‘*doing to*’, in other words ‘*doing the treatment or procedures*’ with intention to heal or reduce pain. In ‘pain management’ services, the ‘doing to’ was still taking place for some patients in the form of injections or physiotherapy exercises; however, the ‘responsibility’ was being placed upon the ‘patient’ to work on reducing their own pain via self-management strategies, not the professional to carry out treatments.

Participant Six described how in her experience she noticed this responsibility being placed upon professionals, when clients attended pain management services; “*They could be looking at other people to take responsibility for their pain or to provide treatments for their*

pain or fix their pain, when actually... chronic pain management is about taking that responsibility and acting on that management” (P6, L37).

It emerged that participants were assessing patients’ readiness to engage with the service, however, engaging patients to take on a self-management approach was described as a challenge by some practitioners. Here Participant Two reports how engagement may depend on the individual’s previous experiences and engagement with treatments and/or their trust in the process of diagnosis:

If there is surgery that has gone wrong or that person has had a traumatic experience, post op recovery or whatever, then that could really impact on how they engage with the clinician afterwards. It might impact how they react towards suggestion. They might be doubtful, or they might be thinking “are you doing the right thing, because that surgeon or that clinician hasn’t diagnosed me right”, or “I have gone through a traumatic experience since post-surgery”. So “how are you right in any other way?” So, it’s taking on board the information that we give them, can be very challenging for them (P2, L181-188).

Encouraging patients to take responsibility for their symptoms was described as ‘challenging’ for participants when other comorbidities were reported alongside the chronic pain condition. This was especially the case if the participant suspected that a history of trauma may be exacerbating the physical symptoms. Here is an extract from Participant Eight’s interview, where he shares the comorbidities he considers when assessing a client’s readiness to engage with self-management strategies:

It increases the level of complexity which to me means that, when we talk about formulating goals, helping people to live with their pain, live independently, maybe symptoms resolve to a certain extent. Either by interventions, or some therapies, the outcome of those may not be positive or will take longer time than people would, who do not have a history of trauma (P8, L177-180).

A readiness to engage with self-management practices was considered by participants (see below), dependent on how accepting the individuals felt about living with a condition that was now chronic (long-term) and ‘how ready they are in taking on this message’. This was understood as patients grieving for the life they had, prior to the chronic pain diagnosis.

There’s always going to be limitations and a single clinician approach, to manage these clients’ can be a struggle..., how ready they are to take on the message and understand the science behind it. It depends on what stage of their grief cycle they are. So, if they are in the denial stage, it would be really hard to pass the message on, but if they have accepted that condition, then you can work with them, in a better way than you would otherwise (P1, L188-193).

Participant One highlighted the importance of the patient understanding that quite often there is no medical fix to chronic pain:

For them to understand that it is very difficult in the beginning. It takes time, they have to go through that cycle where they are eventually able to accept that. Okay, I need to accept that this pain is possibly long-term within me. And it is because of several contributing factors that have been explained, “I need to now start managing each of

those factors”. So, it’s a big ask from them, you know. It’s not a medical condition, although it is, but it isn’t directly...There is no medical cure for these conditions. So, in today’s day and age it’s very difficult for them to accept there is no fix for this kind of a problem (P1, L290-304).

References were made by participants in trying to understand their *patient’s understanding* of chronic pain and trauma, and how these two were linked and known to exacerbate symptoms. Participants were therefore not only trying to assess their patients understanding about chronic pain but also how likely were they to engage in ‘self-management’ practices within the service.

4.3.6 The Value in Exploring the Physical and Psychological Factors of Chronic Pain

All participants demonstrated an interest in exploring further information with their clients about the way they were currently managing their symptoms. This was described as a biopsychosocial assessment by participants to gain better understanding about their clients and where they believed they were at in terms of their pain journey. The answers given by patients from the exploratory questions were considered valuable by participants as it often determined what decisions were made at that time to assist in reducing symptoms, for example, a referral on to psychology or passive treatments.

The results exposed that the value in exploration was twofold. Firstly, exploration allowed patients to report what they felt had contributed to the onset of their physical pain. Secondly, those individuals who were asked about what contributed were likely to report how they had then coped with their pain symptoms.

The first was described as an active physiological exploratory interest by participants who placed focus upon factors such as exercises, passive treatments, or interventions,

describing a sense of responsibility in advising patients on how to improve their current symptoms.

All the participants felt it was necessary to explore their client's level of physical activities and assess the contributing factors that may have been restricting these, alternatively increasing the likelihood of deconditioning. Participant Two demonstrated how she explored not only the onset of pain but also how this was now impacting on the client's ability to continue with physical activities; *"They might restrict their physical activities..., for example, they have been attacked while they have gone for a walk, they might be afraid to go out at all, or they might be afraid to do any walking, running afterwards"* (P2, L159-162).

Here Participant Two acknowledges the onset of pain may have been caused by an incident (being attacked) that could have resulted in psychological distress however, her position was focused on the outcome (deconditioning of the body) due to the restriction of activities (i.e., not going out).

Participant Eight described the importance of exploring physiological factors as a means of safeguarding against any emergency issues that may need immediate medical attention. Examples of how participant Eight explored the patient's physical presenting issues were shared. This demonstrated the active role of treatment advice and interventions suggested to patients to help them manage. Here are some extracts taken from his interview; *"We can't just move on from or neglect that issue. Yes, so whether it's things like, you know, strictly speaking physiological, bowel or bladder issues or safeguarding issues, anything along those lines"* (P8, L127-130).

My further questioning is more along finding out what interventions will suit the patient the most, and then, depending on what the answers I get whether it's a medication review is most appropriate and should be prioritised. Or, whether it's a pain

management program or a combination or an injection. That's my priority only to see what's the best possible treatment that can be given to the patient (P8, L89-93).

Constant comparison from the initial interviews brought to light the similarities shared between Participant One and Participant Seven; specifically, the importance of taking more of an active role when exploring psychological factors with clients. This was understood as patients being present *'within their emotional trauma, trying to move on with strategies for chronic pain isn't going to be effective until we have addressed the underlying'*.

Participant One revealed the value of explicitly exploring the psychological aspects with her clients as she felt it was important for them to understand the impact trauma can have upon the body.

I would ask them about their past history, in terms of any stresses, an history of any anxiety, depression, any history of trauma that they've gone through in their early life, and I would explain to them how body reacts to all these events in their life (P1, L38-43).

The second form of exploratory interest was revealed as a passive form of exploration, where participants were describing a sense of responsibility being placed on the patients to come forward and tell them about any psychological factors that may have been underlying. Participants (P3, P4, P5) shared that they would only ask exploratory questions regarding any psychological factors once the patient had initiated the conversation first. Here is an example of how Participant Three may take an indirect approach.

If I have an inkling that there is something else, that the patient doesn't want to open up about, there are certain ways that you can ask the questions without being too direct. So, using an indirect approach and that could be, you know, for example...if you're talking to them about a certain topic within pain management, such as pacing, or something like that you can sort of link that back to, you know, things like depression or anxiety (P3, L223-229).

Participant Three explained how in her experiences further exploration with her patients was gained after building up a level of trust, encouraging the client to open-up and share about any previous incidents involving trauma.

You start to build up that relationship and where you build that trust, and that's where I have found the patients are more reluctant to open up, so their more open to opening up, exploring things a lot more, going through their childhood in a lot more, you know, any trauma that they may have gone through (P3, L199-203).

The process of collecting, coding, and analysing the data (theoretical sampling) allowed the researcher to ask further questions from the findings to support saturation as the theory began to emerge. Questions relating to the practitioners' experiences of assessing for pain, trauma and how often this occurred in services was explored in further depth. Participants (P1, P3, P6, P7) expressed the value for clinicians to explore both psychological and physiological wellbeing with their patients. This was considered an essential part of the process to aid chronic pain self-management long-term. Interviewed participants described that by taking a holistic point of view, they were more likely to explore aspects that were not

just physiologically linked, but instead offered insight into how they were coping emotionally.

Participants One and Seven demonstrated via their own experiences how they would explicitly ask direct questions and explore the psychological factors that maybe exacerbating symptoms of chronic pain:

I would ask them about their past history, in terms of any stresses, any history of anxiety, depression, any history of trauma that they've gone through in their early life, and I would explain to them how the body reacts to all these events in their life... Any physical or mental trauma that they've been through, and the chronicity of the nervous system is a build-up response of all these events that they've had in their life (P1, L36-44).

Participant Three acknowledged the value of psychological exploration with her clients was necessary during the later sessions. However, did not explore this during the assessment phase. Likewise, Participants (P2, P4, P5) demonstrated the value of exploring the psychological factors with patients was important, however they chose to take a passive stance and not actively ask about a previous history of trauma. Instead, these participants felt it was important for the patient to make the decision of when this ought to be shared.

I will put it in their hands, so they make the decision rather me because I don't know anything about, and maybe they don't want to open it out so, they don't want to talk to me about it, but they are willing to be referred on (P2, L119-122).

The interviewer continued to ask analytic questions from the data, being led by the emerging patterns and themes. At this point, returning back to the study question was helpful whilst simultaneously categorising the concepts through identifying the links, then collecting further data to develop the emerging theory. This was helpful to establish the relationship between the core concepts and theoretical saturation emerging from the analysis process. Here the interviewer questions Participant Five around the probability of seeing individuals presenting with both phenomena and how likely they are to question the patients about a history of trauma.

P5: It's not always recorded, so it's not always something that people have... well, I've not actually asked people, so everyone that I see... but I would say it's very very high so I would say about 90%.... yes, I think it's that high...I think if I had actually asked everyone it would possibly be even higher than that (P5, L34-39).

Researcher: Ok thank you so please tell me how would you usually explore this in your service?

P5: It depends on how patients appear, so if they appear to want support for the history of trauma so there's something that's happened and they wanted to talk about it I would then look at referring them on at the time, but if I felt that there trauma was mentioned but it's not a significant issue, at that moment for that person then I would explain the link myself just to help them understand how chronic pain can be linked to past history of trauma to then help them (P5, L48-49).

Researcher: So, if they haven't said anything to you about any history of trauma, then you wouldn't go there with them?

P5: No.

Researcher: Ok, you said earlier that if you ‘pick up on something’, so have you ever been in a position where you have ‘picked up something’, so something doesn't feel right...please could you share how you may deal with this?

P5: I've not picked up really on anything that I've thought myself that I did need to delve into that. I'm always aware that I don't want to open a can of worms and although I am very experienced about the psychological impact of chronic pain... I am a physio at the end of the day, and I'd rather pass that on to the appropriate clinician, so sometimes it's about going with a little bit you have and then leading them in the right direction really (P5, L51-54).

The researcher was mindful and continued to question the data ‘*what did this mean empirically in day-to-day work?*’ The data was revealing that participants shared an understanding about the biopsychosocial theory in relation to chronic pain and the role they carried out during the assessment process. It was important for the researcher to get in touch with a sense of what the participants were sharing, to help understand and interpret the meanings behind the shared information whilst checking the categories against new data.

4.3.7 Accessing Psychological Therapy Before Pain Management can Improve Outcomes

The findings indicated that even though the psychological factors were not explicitly explored by all during the assessment phase, psychological therapy before pain management improved patient outcomes. It emerged that patients who had already accessed psychological therapy prior to attending pain management had some awareness or psychological mindedness and were more likely to engage with self-management strategies. This was reflected throughout the data as participants demonstrated their experiences in completing

assessments. It appeared that prescribing physical interventions were less likely to be effective when there were unresolved underlying issues such as trauma. Here Participant One shares her experiences of when psychological therapy has been necessary prior to physical intervention:

I've put people into the physical therapy and seen them become worse, in terms of you know, okay I'm trying to make this person move better but I'm not getting anywhere with this, because and I've not realised why at that time, but as I've got more experience and seen people's behaviour, I've realised that they need the therapy first, to get them psychologically sound before that they can move on to become better physically (P1, L410-415).

Participant One identifies how trauma can prolong sensitivity of the nervous system and therefore can become a barrier to physical wellbeing, causing further issues to the management of chronic pain; *“the factors that are increasing the sensitivity of the nervous system is still present while you're trying to make them desensitize themselves, because those factors are at surface all the time, it's a barrier to improving the physical health”* (P1, L406-409). A sense of caution was detected by Participant Two as she shared her experiences of trying to offer physical treatments whilst acknowledging her patient's underlying trauma, in the fear that these may affect her recovery.

For us to sort of really be careful in terms of how, um, knowing first of all the impact of the trauma on this person and how not to try and trigger the memories, you know, while doing treatment because that will affect their progression (P2, L373-376).

The data revealed that participants were not only sensitive to how their patients presented physically, but the way they spoke during the assessment process. This often demonstrated if their patients were anxious, or if they had other things going on in their life. Participant Four described this as *“picking up if they are anxious or if they repeat stuff that as happened years ago”*, and how this had prompted her to refer patients on for psychological therapy; *“because they are ruminating the same thing over again you know they’re not going to take anything on board in terms of self-management, all the biology of pain”*. Similarly, Participant Three explained how in her experience if a patient had not resolved their underlying trauma this was likely to impact their ability to engage with self-management strategies, *‘So just targeting the physical pain is not going to help them emotionally or socially’* (P3, L242-243).

During the process of analysing the data it became more evident that participants suggesting therapy before pain management was not only due to their personal experience of physical treatments not working but was driven by the participants’ sense of intuition. This was acknowledged by some participants as *‘a feeling’* that instigated there was more going on for a client than what was being shared; *“Sometimes it’s about the feeling you get. You see someone, even though they don’t tell you anything, that some things not right. That’s mostly where I go with this”* (P2, L105-107).

Participant Three not only described intuitively sensing underlying trauma, but she also explained how she had often gone about exploring this with her patients indirectly, to assist them in getting the right help in the long-term: *“If I have an inkling that there is something else, that the patient doesn’t want to open up about, there are certain ways that you can ask the questions without being too direct”* (P3, L244-246).

Participants gave examples of when they had noticed this feeling or intuition before and after the assessment phase. The data analysis demonstrated that participants had often

experienced this 'feeling' but not actively explored this with their patient until later during the planned care pathway. Here Participant Six shares her experiences of having this *feeling* initially, which resulted in the patient being referred on to another service to access psychological therapy for their trauma before returning to complete the pain management programme.

You can see people that are on pain management programs, that you know something else triggers that memory or maybe a conversation that a person is having that triggers a memory, and then they start talking about the trauma and therefore the impact that it has, it is here, it is having on them and then you know you were absolutely right, because that person then has to then go back to being referred somewhere else for trauma therapy and then come back to us to do the pain management program at an appropriate time (P6, P41).

Participants reported how their patient's willingness to be open or make changes to their current symptoms of chronic pain were being assessed as either being ready to change or not. There was an understanding shared amongst all participants that their patients were either accepting of where they were at in terms of managing their chronic pain or non-accepting. This was associated to patients taking responsibility for their wellbeing, accepting that chronic pain management does not involve a medical treatment being done 'to' them, instead it was about taking responsibility for the recovery of their 'own body'. Data analysis revealed a change needed to occur in the patients 'mind set', to indicate a willingness to change, even prior to being referred for psychological therapy:

If you go into how we understand chronic pain and the chronic pain mechanisms and how it works in our nervous system for example, you know the impact that it has on us you can start to really start helping the person, to help understand what is really going on... I don't think I've ever come across a person that has looked at me or said that they have disagreed that there is a link between the two (P6, P12.)

Participants (P1, P4, P6, P7) described the importance of teaching their patients the associations between underlying trauma, psychological wellbeing and heightened stress. They explained this can encourage acceptance, enabling patients to find new ways to reduce tension and sensitivity. Participants reported this was particularly helpful when they explored this with their patients during the assessment phase, especially if patients had not disclosed any underlying trauma. Here Participant Four demonstrates an example of this:

I do kind of mention it in my assessment to say that there is a link between trauma and pain and sometimes patients' just say themselves...they might say that actually "I've never had the psychological support or the opportunity to talk about it" ...and I have had cases where it's not been on the medical notes, and they've told you (P4, L512-516).

The data analysis revealed that those participants that reported having that *feeling or intuition*, or believed their patients were ready to engage, were more likely to explore that readiness for change and sharing their knowledge and information with their patients.

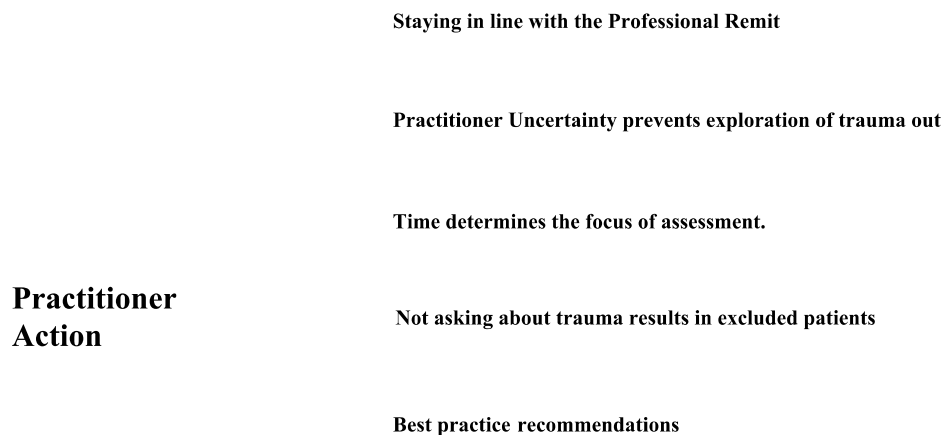
4.4 Practitioner Action Model

The Practitioner Action model reports the key findings discovered in this study. Participant subjective experiences demonstrate how they actively examine individuals that

present with a chronic pain condition and an underlying trauma. Five main categories emerged from the data which are presented in the diagram below (Figure 2). These highlight the barriers identified that prevent participants from asking questions in relation to trauma and what can motivate them to action best practice recommendations.

Figure 2

Practitioner Action Model: Barriers identified for best practice recommendations



4.4.1 Staying in Line With the Professional Remit

Five participants in this study were from a physiotherapy background, two were occupational therapists, and one was a nurse specialist. All participants were actively involved in completing a new patient assessment with individuals attending services for chronic pain management. Feelings of professional responsibility were laced throughout the interviews with some participants describing a history of being responsible for upholding their professional remit and not doing more than what they felt was appropriate or necessary. Additionally, participants described some apprehension in exploring the subject of trauma with their patients as they did not want to step outside of their professional remit.

Participants (P2, P3, P5, P8) did not actively question or explore the subject or history of trauma with their clients, as they described this was not part of their professional remit.

Here are some extracts taken from the interviews with Participants Two and Five:

I'm always aware that I don't want to open a can of worms and although I am very experienced about the psychological impact of chronic pain, um, I know it's, so I am a physio at the end of the day, and I'd rather pass that on to the appropriate clinician (P5, L51-52).

That kinds of questions we do have is incorporated in your assessment but there aren't any questions that I would normally ask to specifically target past history of trauma (P2, L76-78).

Participants (P1, P4, P6, P7) actively explored the subject of trauma with their patients, having acknowledged this was something they described builds with experience over time.

If the focus remains only on the physical health, you miss out on a lot of factors that might be the real contributor to their pain. So, that's why I suppose experience is important, you've been in the field for long, you've spoken to other practitioners in the MDT and then you get more understanding...Although I have to keep within my professional boundary, it's good for me to identify these issues and then I can refer on, but if you're not able to identify these, then you can't get to the root of the problems (P1, L224-231).

While Participant One was referring to experience as something that develops with time and can encourage clinicians to explore the subject of trauma with their patients, Participant Seven described how a *lack of experience* can prevent the subject of trauma being explored; *“If they have been triaged correctly then if somebody has got underlying trauma that has not been resolved my opinion is that not everybody has the ability to be able to notice what's going on or realise what's going on”* (P7, P48). This did not only reflect the participants own personal experiences of exploring trauma and pain but presented the difficulty their colleagues faced when they felt this subject was out of their remit: *“I've had plenty of feedback from therapists that are not psychologists, how difficult that is when um, somebody comes and their presented with such major, what we're talking about is extreme trauma”* (P7, P50).

4.4.2. Practitioner Uncertainty Prevents Exploration of Trauma

The data revealed that participants were aware of the links between trauma and chronic pain by describing how one phenomenon can impact upon the other, however on a practical level some participants described a feeling of unsureness around this topic. Participants described feelings of uncertainty around whether they should or should not be asking and exploring the subject of history of trauma with their patients when presented with chronic pain, and what they do then to follow this up. Participant Two, Five and Eight shared their concerns for their patients, *‘how will they cope after opening up?’*, or *‘how will I support them?’* was reflected in the interviews. The following extract is taken from Participant Two’s interview.

If I did ask them about any questions about it, and they open their heart out to explain this to me, I don’t have the knowledge or the skills to address it on that in that time

limit with me, within that session. And it's not fair for them to open things out and to be left without any support, it's not fair (P2, L 97-101).

That's what I think bothers me that, should I ask? But I'm probably scared too as sometimes. Um, yes if I do ask, what I do with that information is another thing (P2, L101-103).

Participants One and Seven described how uncertainty was linked in with the practitioner's confidence to ask the questions involving trauma, referring to the clinician's time and knowledge base of working within the field of chronic pain.

I'm a clinical specialist, a physiotherapy background and being a physiotherapist, one could look into very much just the physical aspect of peoples' problems and may not have a lot of confidence in asking about the psychological health, and the psychological aspects of the problems, and because they don't have a lot of understanding themselves, the clinicians, they might struggle to ask the question in the first place (P1, L219-224).

It emerged that participants reiterated the importance of *having an understanding about the two phenomena was essential*. Half of the participants in this study reported they did not actively explore the subject of history of trauma with their patients due to describing feelings of uncertainty.

4.4.3 Time Determines the Focus of Assessment.

The theme of *time barriers during assessment* emerged quite often during the data analysis. Several issues were reported regarding the time available for practitioners to

examine chronic pain and any unresolved history of trauma. This included how new patient assessments were being completed, who was responsible for triaging patients and the importance of prioritising what key elements of pain management needed to be covered within the care pathway. *“We have time limitations so that is a major factor that effects how much we can offer these patients, but also because of the time limitations and you can only focus on one thing at a time”* (P1, L181-183).

Four participants raised the issue of time being a barrier during assessment, explaining that this often got in the way of exploring further details with their patients. Three participants out of eight, although they shared the same concerns regarding lack of time, actively managed to examine history of trauma with their patients who presented with chronic pain.

Time emerged as being a barrier due to the participants describing a feeling of restriction which prevented them from exploring further information, instead focus was placed upon what participants felt was necessary for their patients to concentrate on during the assessment depending on how ‘*open*’ they were feeling on the day. Participant Three described the patient’s openness depended upon the relationship developed between the practitioner their patient.

You have to sort of build up a relationship with your client’s first and for the patients then to go in a little bit deeper about their childhood. But other patients for example, will ask or are more open, about their childhood or you know, whatever trauma that they’ve been through and their quite open on the first assessment and others you have to build up a relationship with them to open up (P3, L45-49).

4.4.4. Not Asking About Trauma Results in Excluded Patients

The data analysis uncovered that some participants described feelings for not being able to help some patients who had presented with chronic pain and history of trauma. Participants reported frustration and self-judgment as they believed patients were either being excluded, missed or disengaging from the services. Due to patients not being asked about a history of trauma, resulted in patients not being referred to the relevant psychological provision or clinician if required. Demonstrating the relationship between practitioner uncertainty prevents exploration of trauma and asking the right questions, Participant Six questioned how many patients are being missed and even what she was doing wrong.

I could probably say it's under-reported you know; a lot of these things aren't, are they? So, I would imagine there is a percentage of people that we miss that do have history of trauma for whatever reason they don't report it to us or maybe perhaps we don't ask the right questions?...I don't know if I'm missing people, um, you know, how do you catch other people that you're not picking up the past trauma on (P6, P30).

Participants Six and Seven drew attention to their own length of time working in chronic pain services, describing how they felt by working in a multidisciplinary team had prevented people from being missed within the system. Participant Seven described it can take longer for patients to access the right support if the emphasis has been placed upon physical interventions, revealing how *asking the right questions* and *professional remit* often had resulted in patients being missed.

I do feel competent enough to manage the cases that I've had because that's due to experience, that's because I have worked with a solid MDT, um, but if you don't have

that and it's based on more physical therapy and I'm not saying all physiotherapists can't, don't have that empathic approach or that sort of ability to work through an empathic approach, but I do think it can get missed and then..., it can take much longer to get to the bottom of where we need to even start. Sometimes the physio's have done the initial assessments, and this is in both pain units that I've worked in, um and it hasn't always come across (P7, P55).

Participants One and Six, (physiotherapists) also mentioned experience as a key factor in patients not being missed; "...*I think maybe for me, because of my experience and length of time I have worked in chronic pain services maybe it's something that I feel more comfortable, um, to pick up on...*" (P6, P30).

Further illustrating the feelings of 'having competency' or having the ability to 'pick-up' on patients that were *almost* missed was demonstrated by some participants as they demonstrated reasons to why they felt some of the questions exploring chronic pain and unresolved trauma were not asked earlier by other practitioners.

Yes, quite a lot to be honest, yes, it, because you know, people are assessed by different professionals and if their assessed by somebody who is new into the field, um, you can tell that not all the questions have been asked. You know, not necessarily, knowingly but because it's the limitation of that clinician, they only been new into that practice and then when you see them, you can pick up on those questions that you feel have been missed (P1, L235-240).

The participants were very honest in reporting that they often felt some patients were either missed due to some professionals not asking the right questions to examine chronic pain and history of trauma or due to patients being prescribed a physiological approach only. There was also acknowledgement that some patients are likely to not report history of trauma, especially if not explored by the practitioner first.

4.4.5 Best Practice Recommendations

All participants shared their personal experiences and opinions of what they consider to be good practice, specifically on how chronic pain and history of trauma ought to be examined actively within services. There was a lot of *awareness* about the benefits for exploring a more holistic approach and how various forms of distress or unresolved history of trauma can impact the body and further increase symptoms of chronic pain. However, the lack of active exploration by practitioners was also acknowledged and highlighted as a frustration by participants who felt patients were therefore missed.

Participant Six suggested having a shared resource or tool for newer practitioners to enable them to ask more questions about history of trauma and chronic pain:

you know if you think about sort of newer qualified members of staff working in the service and other services like this and again potentially with less support, it may be that a tool or something, would be useful for them to use or certainly or some sort of structure of some common questions or common themes that they can refer to (P6, P30).

If they've got some sort of tool, um, be it actually a questionnaire or a prompt sheet that they can then ask questions further around which gives them more information about what is going on and that's always going to be helpful (P6, P30-31).

Participant One felt that the length of time and experience in clinical practice had helped her to better her approach, *“As you get more experienced you get better at explaining, and better at you know, identifying the coping mechanisms and giving them the right form of therapy and approach, so I think it definitely comes down to your experience”* (P1, L208-211).

Participant Eight described the value in having new practitioners working with the service was good in one respect, however the lack of experience working with the chronic pain population also presented its own challenges:

We try and include people to work for pain management company who may not necessarily have experience with dealing with chronic pain population, and that's great because we get new ideas and um new approaches, but then we tend to miss out on um, these skills that are extremely important for those clinicians to really get that understanding (P8, L281-285).

All participants reported that being part of a multi-disciplinary team was key in improving practice and awareness, due to drawing on the expertise available within the teams and further development and training; *“So training is extremely important...I would say where I work, we have good psychological provision, so if there is more and more awareness through this provision then at least there will be some improvement”* (P8, L277).

All Participants made references to the importance of training and good psychological provision being available within chronic pain services, as they described a difference in their patient's ability and openness to engage with self-management strategies once they had accessed psychological services.

The majority of patients that I have seen, have attended CBT and they have found it useful. And you see a change, from when you first see a patient and when you see them after a CBT session, there is a lot of change that I've picked up affecting them in a positive manner (P3, L251-255).

The data analysis continued to draw attention to the *value of exploration* and *asking the right questions* as a key factor for good practice and patients therefore not being missed. This was dependent on practitioner uncertainty prevents exploration of trauma and what they felt was appropriate within their remit to address or ask their patients. Participant Four described how by explaining the link between trauma and pain, exploring the onset of pain with her patients during the assessment had offered her patients a voice in accessing help they were either not aware of or had not been available to them before:

I do kind of mention it in my assessment to say that there is a link between trauma and pain and sometimes patients just say themselves. They might say that actually I've never had the psychological support or the opportunity to talk about it and I have had cases where it's not been on the medical notes, and they've told you. I don't know how that's come about I think sometimes they just kind of just say it to you usually when you talk about how it all started the pain and that's one of the questions and then when

they mention it then they question if is all this linked? and we bring it in that way and we say yes (P4, L512-517).

In line with the value of exploration, Participant Seven commented upon the lack of resources available for clinicians to refer patients on to psychology, she reiterated the importance of practitioner communication skills to be at a certain level to actively hear what the patients were saying regarding any underlying trauma.

Not having the resources available obviously for referring the patient for further psychological support, um the usual things that are not, so if you have not got the communication styles, so the way you do communicate with this patient is incredibly important. If you're not hearing them and they know you're not hearing them because they keep saying the same thing, then I think you can become quite stuck and not be able to move on as well so quite a few things that are really important to be able to make that first assessment successful for them (P7, P55).

Participant Seven described how in her professional experience, having psychologists' complete front-line assessments in previous chronic pain services had been successful in examining chronic pain and underlying unresolved trauma. *"If they have been triaged correctly, then if somebody has got underlying trauma that has not been resolved my opinion is that not everybody has the ability to be able to notice what's going on or realise what's going on"* (P7, P48). This was further explored as this was not current practice in the service they were working in. A lack of resources available for patients to be referred on from pain management services to access psychological support was highlighted as an area to improve current practice.

4.5 Storyline and Theoretical Model

The experiences of those interviewed revealed a storyline of two main processes that occur when practitioners examine individuals with chronic pain and any underlying unresolved trauma. All categories and their relationships with each other are presented in the theoretical model below (please see Figure 3). This demonstrates how practitioners' awareness of the phenomena is experienced as one model and what they actively do about their awareness is classed as another. These two models named as 'Practitioner Awareness' and 'Practitioner Action' emerged as two systems demonstrating several strong categories that were present within each model. Both models drew attention to participants' first-hand experiences of what they had or had not found useful within their own clinical practice, drawing attention to key areas that they described as being essential ingredients to enable patients to cope better in the long term. Both models linked into the good practice category as this not only highlighted what participants were aware of in terms of their skills, knowledge, and experiences, but what things got in the way of them being able to actively explore these issues with their patients.

4.5.1. Overview of Two Models With an Emphasis on the Relationship Between Categories

All participants described an awareness of how subjective chronic pain can be, by incorporating a biopsychosocial perspective. Participants described and demonstrated within their interviews a high level of awareness of the relationship between chronic pain and underlying unresolved trauma. The categories within the Practitioner Action model started to emerge as a relationship between *practitioner understanding of chronic pain and trauma* was informed by the participants' *professional remit*.

Participants expressed their professional stance on how likely they were to actively explain the relationship or explore the psychological factors associated with chronic pain with their patients. The relationship between *practitioner uncertainty prevents exploration of trauma* category was revealed as participants made references to the *history of trauma*, the *onset of pain*, *practitioner understanding* and *therapy before self-management*. The uncertainty was very much driven by participants' clinical experiences regarding *history of trauma* and the impact they believed it had upon their patients' ability to cope with and self-manage their chronic pain. A few participants (P1, P2, P3, P6) who demonstrated the value in patients completing therapy prior to engaging with pain self-management were more likely to actively explore this subject with their patients.

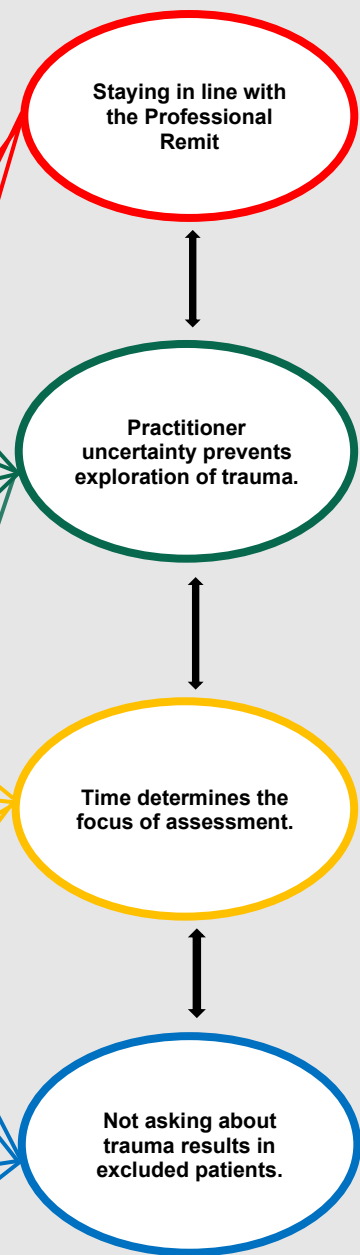
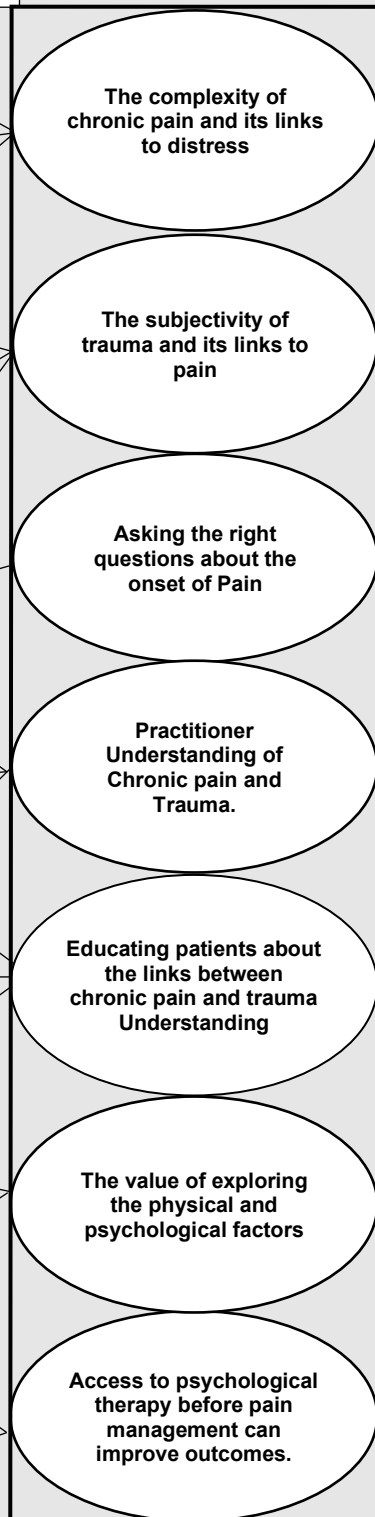
Figure 3. Storyline and Theoretical Model.

How do practitioners examine history of trauma with individuals who live with chronic pain - Are we asking the right questions?

Practitioner Awareness

Practitioner Action

- Complex
- Multifaceted
- Pain Heightens Distress
- Subjective
- Multifaceted
- Trauma heightens Pain
- Asking the Right Questions
- Incongruence in the
- Coping Determines
- How is it Explained?
- Searching for a Fix
- Readiness for Engage
- Physical Factors
- Psychological Factors
- Practitioner Intuition
- Readiness for Change



The time barriers category emerged as the data started to highlight a link between participants' tensions in *asking the right questions*, followed by *practitioner, patient understanding* and the *value in exploration*. Participants raised *time barriers* as a limitation to their clinical practice as they reported this often got in the way for them to ask further questions or explain the relationship between chronic pain and underlying trauma. This drew attention on to the *missed patients* category as participants started to question if the *right questions* were being asked in the place during assessment, what their co-practitioners understanding was about both phenomena's, and how this was then explored with the patients. Both the 'Practitioner Awareness' and 'Practitioner Action' models came together at the end as the data revealed one final category of *good practice*.

This category demonstrated how participants had come to learn through their own clinical experiences the value of having an awareness about the relationship between chronic pain and a history of trauma was necessary. However, the point of *action* was just as important when *exploring* these factors and *asking the right questions about the onset of pain* for patients not to be *missed* during the assessment process.

Chapter Five. Discussion

5.1 Introduction

The aim of this study was to gain insight into how practitioners examine chronic pain and history of trauma. It was anticipated that a rich understanding would be gained using grounded theory of the processes and meanings within the experience and that an explanatory hypothesis could be developed. These aims were developed in response to the current research indicating not only the significant impact that adverse life experiences can have on an individual's physical and mental health and wellbeing, but more specifically, indicating strong relationships between chronic pain, history of trauma, anxiety, and depression and how this condition is managed long-term (Felitti et al., 1998; Sheinberg et al., 2019; Turner et al., 2021).

The purpose of grounded theory is to create a model of understanding of the core processes involved in the studied world (Charmaz & Thornberg, 2021). The researcher's analytic focus in this study emerged as she gained understanding of the core concepts involved concerning chronic pain and trauma assessment. Chronic pain and trauma are key to those that counselling psychology aims to support and, therefore, needed further exploration. Findings from this study are well positioned for counselling psychologists to create change, both by supporting practitioners from different professional backgrounds and through the therapeutic work they carry out with individuals. Working alongside professional peers in a pain management service, psychologists can offer the wider team support concerning assessment for pain and trauma. This may include offering practical guidance and support by exploring what symptoms, behaviours, or trauma related issues are causing further distress to the individual and how these may be examined during assessment.

Previous research has not examined how pain practitioners examine individuals who live with chronic pain and a history of trauma. Whilst various issues raised from previous research (Anda et al., 2006; Cohen et al., 2002; Felitti et al., 1998; Hughes et al., 2017; Sachs-Ericsson et al., 2017; Turk et al., 1993) were found to be relevant to this study, the complexity discovered with the two models (Storyline Model; Figure 3) suggests deeper processes are required than what has been formerly identified. Although previous studies have found more trauma and abuse histories in chronic pain patients (Casey et al., 2008; Van der Kolk, 2014), this is the first study to link trauma to the development of chronic pain from the professionals' perspective who report observing this in their clinical practice.

The first model that has been developed through this study is a model of 'Practitioner Awareness', which refers to the knowledge and understanding practitioners have about the relationship between chronic pain and trauma. The second model demonstrates the 'Practitioner Action' taken by specialists working within a pain management setting, illustrating the key issues that can get in the way of exploring a history of trauma with individuals who present with chronic pain.

The theoretical models that have been developed as part of the methodological process, will now be discussed, reporting how the themes and processes relate to current theories and previous empirical findings. The implications for future research and practice have also been considered, followed by a detailed examination of the limitations of this research.

5.2 A Review of the Findings

The data analysis establishes that practitioners understand and are knowledgeable about the likelihood of pre-existing history of trauma being present when individuals attend for an assessment for the management of their chronic pain symptoms. Nevertheless, this

study demonstrates that the pre-existing history of trauma is not necessarily explored with every patient by each practitioner. Although prevailing literature and research in this area has consistently pointed out a robust relationship between adverse life experiences earlier in life and physical health issues developing later; it appears that to examine this relationship it is not as straightforward as it seems.

The interviewing method was employed as a vehicle for theoretical sampling (Foley, et al., 2021). The interviewing process enabled the researcher to probe into and expand on the findings to allow saturation of key concepts. A push and pull dynamic (Storyline Model) has been identified as a motivation for change. Practitioners have been pushed by barriers, remits and uncertainty. Alternatively, they have been pulled towards good practice by knowledge, conversations with clients, values, and consequences. Practitioners reported that chronic pain sufferers are a complex, heterogeneous population to study. However, if presented with any history of trauma then this can complicate how an individual learns to cope and manage their suffering. The practitioners' narratives offer a rich source of understanding of how history of trauma and chronic pain are inter-linked and, in many cases, how previous trauma can heighten the pain and suffering experience. Examining chronic pain and history of trauma is largely driven by the practitioners' exploration of their patients' healing ability and methods of coping. The trauma element is not directly examined during assessment, emphasis is placed instead from a biopsychosocial perspective looking at the patient's current physical and mental wellbeing, medications, and service expectations (Carr & Bradshaw, 2014).

The history of trauma was not explored, however, practitioners reported that patients who have had attended psychological therapy due to a traumatic experience prior to pain management learned to cope and self-manage their pain better than those that had not. Unresolved history of trauma was therefore identified as a barrier to self-management of

chronic pain by participants, due to the high alert state the body and mind can remain in, alternatively changing the mapping of the brain.

Practitioners highlighted that even though they appreciate and are aware of the chronic pain and history of trauma relationship being commonly observed with their patients, this is often not explored by them personally. This was largely due to the participants' own professional boundaries and fears of non-containment if issues surrounding trauma were to be exposed. Other barriers such as time pressures and not having the right questions to ask during the assessment process were identified.

Participants reported that the way in which chronic pain is sometimes explained to patients can impact the way in which patients continue to cope with managing their symptoms long-term. Few practitioners felt it was helpful for patients to understand what was going on in their body, this would allow them to start creating change to their pain management strategies. Participant's reported using metaphors to briefly explain the pain was caused due to incongruence in the body, and how it had become 'over-sensitised'. It is noted that not all participants felt comfortable about exploring or explaining about the incongruence in the body or talking about the psychological factors that can occur when history of trauma is presented alongside chronic pain. Participants acknowledged that at times they felt more comfortable prescribing physical exercises instead of exploring the psychological aspects of trauma or chronic pain. This was largely due to participants professional background not being psychologically trained and/or not wanting to explore something that they feared they could not contain within the room.

Several participants expressed that the physical exercises were making the pain worse. This often resulted in some patients being missed due to them withdrawing from the service. Best practice recommendations were discussed suggesting a shared resource or a tool, a questionnaire, or a prompt sheet that practitioners could use to assist them in finding

out more information about what is going on. Having psychologists involved as part of the main assessment was also suggested. A few participants reported this could prevent patients from being “missed out” or being “prescribed physical treatment” instead of “listening to their story” and/or referring on for further guidance or therapeutic support.

5.3 Practitioner Awareness Model

In this study the relationship between *the complexity of chronic pain and the subjectivity of trauma* was revealed by all participants. Attention was drawn to the human body as being multifaceted, with consideration to the subjective reaction a traumatic exposure or event can have on individuals (Anda et al., 2006; Felitti et al., 1998). The relationship between adverse life experiences and adult comorbidities, such as chronic pain conditions, were acknowledged. Participants spoke about the outcomes of abuse and neglect in early childhood. As is established in the literature, whether a single occurrence, habitual events, or multigenerational incidents, unresolved trauma can cause lifelong physical, social, psychological, and emotional distress that can have lasting adverse effects on adult health and wellbeing (Anda et al., 2006; Felitti et al., 1998; Hughes et al., 2017; Sachs-Ericsson et al., 2017).

Participants reported they had observed a relationship exists between unresolved trauma and chronic pain within their own clinical practices. They also claimed that they were worried about this, as chronic pain can sometimes be triggered (Cohen et al., 2002) or become worsened by a specific traumatic experience (Turk et al., 1993). In this study, both unresolved trauma and poor chronic pain management have been reported as key factors leading to further distress, yet both phenomena are not always explored collectively by practitioners during the assessment process.

Patients are often searching for an explanation for their pain and may feel that the severity of their symptoms has not been taken seriously (Osborn & Smith, 1998). It is important to introduce patients to self-management philosophy relatively early in their clinical journey, rather than to wait for treatment failure first (Gauntlett-Gilbert & Brook, 2018). More helpful suggestions involved the practitioner carrying out principled investigations combined with an explanation of why chronic pain can be present without overt pathology; explaining that thoughts and feelings do not cause pain, but that psychological management may be central to living well with it and introducing the idea of self-management carefully with clear examples of how it can be done, was considered as supportive. Inconsistently, the findings in this study highlighted in cases where the patient was '*searching for a fix*', some of the practitioners were less likely to explain or educate the patient about the body and chronic pain. Instead, they were focused on engaging the patient first by offering a physical treatment (procedure) or strategies (exercises).

In this study, participants identified earlier traumatic events as one factor that can increase the likelihood of chronic pain in later life. Similarly, research by Siqveland et al., (2017) reported that exposure to trauma is linked to chronic pain, therefore suggesting it be helpful for practitioners to explore their patient's trauma history and PTSD presentation in pain services. Likewise, Kunze (2019), found that people referred to chronic pain clinics are likely to have been exposed to four or more adverse childhood experiences. These studies support the findings of this research study, highlighting that practitioners share an awareness of the complexity of chronic pain and the subjectivity of trauma.

The assessment pathway for chronic pain services (NHS England, 2019) stipulates the importance of utilising a biopsychosocial model of pain when service users attend pain services. **Practitioners** participating in this study were knowledgeable and demonstrated **understanding** of how experiences of pain and trauma can affect the body on a neurological,

muscular, hormonal, and cellular level. Many participants described feeling it was *their responsibility* to explain to their patients how trauma can holistically impact the human body and how this can lead to chronic pain symptoms becoming exacerbated. Explaining this phenomenon to patients was not, however, considered an easy task for practitioners due to the complexity of symptoms presented. Participants shared this depended on the patients' understanding and willingness to be open to the concept that the chronicity of pain symptoms can be prolonged. Especially, when a person is anxious, caught-up within a cycle of tension, or when a patient is searching for a 'physical' cure to their problem, such as an injection or a procedure.

Findings from this study indicated that the biopsychosocial model of pain (Engel, 1977) is utilised in practice, with an understanding that pathological findings should not be used as a diagnostic crutch (Garner & Tatta, 2022). This is further supported by the glucocorticoid cascade hypothesis (Finsterwald & Alberini, 2014) suggesting that biochemical changes are likely to occur due to the adrenal cortex producing cortisol, resulting in degenerative loss in the brain (Scholz, 2014). Participants in this study shared their experiences of utilising the biopsychosocial model of pain and noticing evidence of biomedical changes with the patients due to central sensitisation and excess production of cortisol. However, they noticed they did not always explore the history of trauma during the assessment process. These findings support Carr and Bradshaw's (2014) claim that when the biopsychosocial model is applied, there is a tendency for practitioners to lean towards the biological aspects of pain. Similarly, this was supported by the hermeneutic review by Kusananto et al. (2018) reporting that practitioners state they use the biopsychosocial approach to increase the awareness of the interaction between biological, psychological and social factors. Despite this, they reported the biopsychosocial model is not necessarily followed or practiced by practitioners in primary care services.

This highlights a disconnect between the understanding of the physicality of chronic pain, the management of this and a lack of exploring the emotional and psychological aspects of unresolved trauma for individuals who present with these symptoms. This offers counselling psychology and pain management services further insight and opportunity into how both the emotional/psychological and the physical/biological aspects could be applied and explored appropriately during the assessment process. As recommended by Spijker et al. (2018) that screening and management for “comorbid presentations could improve care and outcomes for survivors” (p. 293). This could aid individuals being assessed for history of trauma earlier, preventing any history of their trauma being missed (Turk & Okifuji, 2011), disengaging from services or being prescribed physical exercises, which in some cases can worsen symptoms of chronic pain as reported by the participants in this study.

In line with the study by Gauntlett-Gilbert and Brook (2018), clinical strategies and messages around chronic pain are not always helpful. Repeated investigations, escalating analgesia or focusing on short-term pain relief is not the answer. Equally, persuading distressed patients that their pain may be caused by emotions or advising patients that they need to ‘learn to live with their problem’ is not helpful either. One has to acknowledge the analgesic culture of pain, that is to avoid pain and distress (Eccleston, 2011). If pain is not short-term and continues to persist longer than expected, the unpleasant signal of danger can prevent an individual from enjoying activities they value (Linton & Shaw, 2011). In an article by Abramson (2022), Counselling Psychologist Aaron Weiner was quoted as saying that “Opioids are alluring because they act both physiologically and psychologically, basically numbing away the pain” (p. 54). This increases the risk of addiction and over-dose, due to opioid dependency for chronic pain relief.

Participants in this study highlighted the psychological complexities of chronic pain and suggested practitioners carry out principled investigations combined with an explanation

of why chronic pain can be present without overt pathology. Explaining that thoughts and feelings do not cause pain, but that psychological management may be central to living well with it. Introducing the idea of self-management carefully with clear examples of how it can be done, was considered as supportive. Inconsistently, the findings in this study highlighted in cases where the patient was ‘searching for a fix’, some of the practitioners were less likely to explain or educate the patient about the psychological impact chronic pain can have on the body. Instead, they were focused on engaging the patient first by offering a physical or analgesic treatment and procedures.

Educating patients about chronic pain and trauma category emerged from the data analysis as participants anticipated how they determine their patient’s readiness for engaging with self-management techniques. Participants reported that learning to live with and manage chronic pain relies heavily on the patient’s understanding of the underlying causes for having the pain symptoms. Research carried out by Burger et al. (2016) demonstrates how psychological interventions can assist in the improvement of symptoms and management of emotional dysregulation when chronic pain is presented as the primary issue. In cases where individuals attend assessment in ‘*search for a fix*’ of their pain and discomfort, participants state this expectation can further complicate matters. The practitioner is then less likely to explore any underlying emotional or unresolved trauma history and “*stick to what they know*”, which often results in individuals being prescribed physical exercises or procedures. Unfortunately, this approach or ‘action’ on behalf of the practitioner reinforces a reliance on procedures that are only effective in the short-term and contribute to the beliefs that chronic pain can be ‘fixed’ by physical procedures alone.

The findings from a study by Ansari-Moghaddam et al (2016) indicate a level of sensitivity is required by practitioners when examining and trying to work out ways of reducing the physical pain their patient is presenting with. Consequently, there is a need for

practitioners to have some awareness of the psychological symptoms that a client may be presenting with during the assessment process. Three participants in this study reported that they do explore the psychological concepts with their patients and found this often-assisted individuals with a readiness to engage. Educating patients about chronic pain and trauma can support patients with their pain management journey, depending on how comfortable practitioners feel about stepping out of their comfort zone.

This coincides with the NICE guidelines (2021), that stipulate individuals presenting with any comorbid presentations are to be screened and assessed according to the biopsychosocial approach, specifically in chronic pain services. Perhaps having some understanding or knowledge about the existing approaches, specifically the Power Threat Meaning Framework (PTMF) (Johnstone & Boyle, 2018), CBT, or a Mindfulness approach (Otis et al, 2010) may be a starting point for educating patients about pain and trauma. Teaching patients about what can contribute to improving symptoms in relation to their pain, can help to emphasise the link that exists between trauma and pain. CBT is one of the psychological therapies recommended by NICE (2021), however, referrals to psychology are likely to be made if this need is firstly understood and identified by the assessors in the first place. The IASP encourages practitioners that it is their responsibility to ask the patient and educate them about their journey about chronic pain; this involves exploring other factors that could be prolonging the chronicity of pain. Unfortunately, exploring the latter was not considered a common practice for all participants within this study.

All participants shared *the value in exploring the physical and psychological factors*. They described it was necessary to explore the physical aspects of chronic pain with their clients to assess and identify if any structural abnormality could account for the pain. As discussed, in the literature review, physical exploration of symptoms alone can often drive the attention to become biomedically focused instead of biopsychosocial (Jamison et al.,

2016; Kristiansson et al., 2011; Varsi et al., 2021). Even though the literature supports that pain is a subjective experience, practitioners may be uncomfortable with associating a subjective experience to the objective measures of pain (Jaini & Lee, 2015). Numerous studies have shown an ambiguous, counter-intuitive disconnect between symptoms and problems plainly visible on scans (Butler & Moseley, 2013). Individuals who have been diagnosed with rheumatoid arthritis often suffer more pain than expected from the inflammatory erosion of their joints (Younes et al., 2009) in which case, central sensitisation is often given the explanation for the ‘spread’ of pain beyond their joints (Meeus et al., 2012).

In this study, participants who stated they did not examine the psychosocial elements of chronic pain with their clients during the assessment, conveyed they asked these questions in later sessions. However, this depended on patients being booked in with the same practitioner for the follow-up appointment assuming they had not disengaged from the service already. Participants acknowledged in some cases, this resulted in patients being prescribed physical interventions before psychosocial factors were considered. Lehman et al. (2017) argue that pain is more about sensitivity than about injury or damage (Lehman et al., 2017), driven by the protective responses within the body. It has been argued that “Care for chronic pain of all kinds needs to soothe and normalise the nervous system - not challenge it with vigorous manipulations” (Ingraham, 2020, Making a Bad Situation Worse section). If patients are being advised to carry out physical interventions without assessing for psychosocial aspects, this contradicts the guidance provided by NICE (2019, 2021).

Resolving underlying trauma can not only help ease the physical threat system response within individuals but can also prompt the process of managing or preventing chronic pain (Perez-Aranda et al., 2017). In this study, a quarter of the participants revealed their own discoveries and learnings into why they felt it was necessary to explore the history of emotional aspects with their patients during the assessment phase. They expressed it was

not conducive for a patient to benefit from pain management *if he/she was still very 'present' with their emotional trauma*. This brings attention to the body of literature that indicates a link between chronic pain and PTSD (Fishbain et al., 2017; Moeller-betram et al., 2011; Shaffer et al., 2017). Taking into consideration the study by Fishbain et al. (2017), that reports ten to fifty percent of people receiving treatment for chronic pain were found to have a PTSD diagnosis. This is further supported by Siqueland et al. (2017) who found the severity of pain is strongly linked to intentional trauma, therefore advocating the need for pain practitioners to be attentive of their patient's trauma history.

The category *value in exploring the physical and psychological factors* revealed that participants felt this offered space for patients, to question how their psychological experiences were associated with their chronic pain. They shared this would allow practitioners to explain the differences between the two phenomena. Further exploring both factors could assist their clients learning about the “dysregulation of the hypothalamic-pituitary-adrenal stress response” (Brennstuhl, 2015; Lauterbach, 2005; Lumley, 2015), the human body, and central sensitisation (Mense, 2008). Subsequently, participants stated this knowledge would drive patients to access the relevant psychological support if needed or learn ways to self-manage their current symptoms.

Access to psychological therapy before pain management emerged from the analysis process as participants highlighted factors that can contribute to pain not being managed. Participants drew attention to the prospect that individuals can still feel an emotional response to an extremely negative (disturbing) event, such as exposure to actual or threatened death, serious injury or sexual violation (APA, 2013; Breslau, 2002; Johnstone and Boyle, 2018; McNally, 2003; Weathers & Keane, 2007). One participant described this as *'the patient may still be anxious'*. Hyperarousal is a specific cluster of symptoms associated with experiences of trauma, concerning the abnormally heightened state of anxiety that can occur

when one thinks about the traumatic event (O'Connor et al., 2000; Smith & Vale, 2006). Even though the threat may no longer be present, the body responds as if it were.

Participants shared that hyperarousal could persist long after the trauma has passed, leaving the person feeling hyper-responsive to anything that reminds them about the event (Papadopoulos, 2007). Participants in this study often referred to this phenomenon as the 'stress response system' when they shared their experiences of assessing patients with chronic pain. Hyperarousal is believed to be caused when the neurological pathways to the hypothalamus-pituitary-adrenal (HPA) axis which regulates the stress response, become overly sensitised (O'Connor et al., 2000; Smith & Vale, 2006). When confronted with certain sensory stimuli, the HPA axis can overreact, triggering the secretion of excessive amounts of epinephrine which, in turn, stimulate the fear centres of the brain (Herman et al., 2016). Participants shared an awareness of this stress response, indicating that for those individuals who receive treatment for their hyper-responsive state, they are more likely to engage with pain management strategies.

Psychological interventions can assist in the improvement of symptoms and management of emotional dysregulation when chronic pain is presented as the primary issue (Burger et al., 2016). Identifying and managing these symptoms seemed key in helping patients to engage with pain management. In some cases, participants revealed that patients struggled to take on board the pain management strategies of which they were being advised. This was due to '*them still being very much present with their trauma*' having not had the opportunity to resolve this, because the practitioner had not '*picked up on this issue earlier*', or because '*the patient had been referred to a pain management program instead of psychology support first*'.

Access to psychological therapy before pain management is considered to improve outcomes for pain management. Previous clinical research (Clark et al., 2010; Gironna et al.,

2006) determines in what way symptoms associated to a history of trauma and chronic pain can overlap. Likewise, Spijker et al. (2018) recommends that screening and management for co-morbid presentations can improve care and outcomes for survivors of trauma. In this study, participants said they had observed more psychological mindedness in patients who had previously accessed psychological therapy. For this reason, they were more responsive to self-management strategies for chronic pain.

As discussed earlier (Section 2.8) UK NHS policy (2017, 2019) stipulates psychological therapy services must be incorporated into physical health directives. This is further supported by the IASP criteria for all level-2 pain clinics (IASP, 2021) suggesting that all pain services must include a multi-disciplinary team approach. The Department of Health endorses an MDT approach as being vital for the delivery of optimally coordinated care for individuals living with chronic pain and presenting with increasingly complex conditions (Raine et al., 2014b). This would allow practitioners from a physical, medical, and psychological background to work within their specialist fields to support chronic pain individuals. All participants reported that they worked in an MDT which included a psychology provision. However, there was no psychiatric provision available, similar to the findings from Kailainathan et al.'s (2018) study. Respectively the idea of pain clinics involving psychiatric provision to improve patient care has been long supported (Wallace & Panch, 2001).

All participants who were interviewed in this study were all actively involved in completing new patient assessments within pain management services. They all either currently worked in or had experience of working within an MDT setting. During the process of recruitment for this study, there appeared to be a disconnect between endorsement and practice. Participants who were actively completing new assessments were mainly from a physical/medical health background comprising physiotherapists, nurses, and occupational

therapists. All participants reported that a referral is directed to the psychology team, after the new patient assessment had been completed. This was highlighted as an issue by participants, as they reported this often resulted in some patients being ‘missed’ or being prescribed physical exercises which inevitably made the pain worse. Psychologists who had volunteered to participate in this study were excluded from this study as they were not actively involved in completing new patient assessments. For this reason, they did not meet the inclusion criteria. Contrary to this, participants in this study reported that having psychologists more involved with front line assessment would improve better outcomes, good practice and more joint working.

Key differences are noted within individual professions. Occupational therapists aim to support individuals with the focus being on occupation, to overcome any barriers that prevent people to achieve those valued activities (Royal College of Occupational Therapists, 2019). Attention is placed on self-care, working towards to goals with consideration to work-related issues and returning to employment. Physiotherapists on the other hand are concerned with maximising human potential, physical movement and promoting rehabilitation (The World Confederation for Physical Therapy [WCPT], 2019). Physiotherapy is used to treat a range of pain conditions affecting the bones, joints, and soft tissue (The Chartered Society of Physiotherapy, 2023). Pain Nurse specialist’s role involves supporting individuals with physical interventions and medication advice when required (British Pain Society, 2016). Although each profession has its own distinct approach, similarities were observed amongst all participants in relation to pain assessment. These included an *awareness* of how a history of trauma can affect chronic pain symptoms however, in *action*, the majority of practitioners regardless of their professional background remained primarily biomedically focused.

The researcher deliberated upon her own assumptions based on the different clinical roles. These beliefs were based upon on her own experiences of working alongside

physiotherapists, occupational therapist's and nurses in various MDT settings (outside of pain management services). The researcher was mindful to bring her own reflections and assumptions to the forefront, prior to interviewing each candidate. The researcher's expectation that an occupational therapist focuses upon a client's values highlighted her assumptions that they would be more open to examine the psychosocial aspects during pain assessments. Core reflections on 'how' a participant's professional role would impact their need to explore a history of trauma allowed the researcher to return to the interview questions, to ensure that questions were not misleading or influencing the process or findings. Theoretical sensitivity, returning to the participants with the constructed themes found from the data analysis helped to validate an accurate reflection of what had been shared at interview (Charmaz, 2006).

5.4 Practitioner Action Model

Practitioners highlight *the need to remain in line with their professional remit*. NICE (2018) pathways recommend a biological, psychological, and social assessment be completed when individuals present with chronic pain. For those participants who were involved in running pain management programmes (PMP), a feeling of frustration was described when they observed patients who presented with symptoms relating to an earlier traumatic event. They reported patients were less likely to engage with the PMP and were often searching for a biomedical cure or procedure to help in reducing the symptoms of pain. It was reported that for some of these patients, they did not attend the rest of the sessions in the programme or disengaged from the service altogether. Dansie and Turk (2013) support this claim as they highlight the underlying pathology experienced by a patient may not always reflect the expected pain experience, therefore "the first step in successful pain management is a comprehensive biopsychosocial assessment" (Dansie & Turk, 2013 p2).

Two participants communicated the importance of '*picking up*' on clients that present with a history of trauma, before they are referred to a PMP. They shared by providing psychological education sessions and explaining the biopsychosocial elements of chronic pain would help patients to engage with the programme, so they were not '*missed*' or '*disengaged*' from the service. They revealed, in these cases, patients had not been asked the '*right*' questions by the practitioner and this was due to the practitioner's lack of experience in the pain field. This resulted in patients being further excluded and not being offered the relevant support for their '*trauma*' experience or the appropriate referral (i.e., to psychology services).

The process of constant comparison, theoretical sensitivity and saturation allowed the researcher to explore in further detail and ask questions like '*What did the participants mean when they said they had not asked the right questions?*', '*How was this relevant to the action they did or did not choose to take during the assessment process?*', '*What did they mean when they stated it was due to a lack of experience in the pain field?*' The researcher later questioned if these findings were comparable to the Kailainathan et al. (2018) study, where a lack of awareness of the pain role has been reported.

Returning to the research objectives of this study: How do practitioners examine individuals with chronic pain and a history of trauma? How does this impact clinical practice, what can one learn from this data? The constructivist grounded theory (Charmaz, 2006) method facilitated the researcher to be led by the emerging data, with an attempt to explore what influenced practitioners' decisions to take action or not. Turk and Meichenbaum (1984) suggest three central questions can guide assessment of people who report pain: (i) what is the extent of the patient's disease or injury? (ii) what is the magnitude of the illness (extent of suffering, disability, inability to enjoy usual activities)? (iii) does the individual's behaviour seem appropriate to the disease or injury or is there evidence of symptom amplification for

any of a variety of psychological or social reasons (e.g., benefits such as positive attention, mood altering medication, financial compensation). These questions are aimed to assist pain clinicians to obtain sufficient information about their patients in combination with a clinical interview, and through standardised assessment instruments. Practitioners are required to seek any cause(s) of pain through physical examination and diagnostic tests while concomitantly assessing the patient's mood, fears, expectancies, coping efforts, resources, responses of significant others, and the impact of pain on the patient's lives (Turk & Melzack, 2011).

The data analysis uncovered some practitioner uncertainty prevents about the pain role and who is responsible for asking trauma related questions during the assessment. Theoretical sampling (Charmaz, 2008) assisted the researcher to question who is responsible for bringing to light, to question, or to report sensitive information about any pre-existing trauma: the practitioner, or the patient? Does the responsibility for reporting a history of trauma rest with the patient who attends a pain management service in search for some relief or does the duty rest with the practitioner to question and then educate the patient about the complexities that can evolve from history of trauma? Participants observed and described how pivotal it is that any history of trauma be resolved before an individual could benefit from engaging with pain management strategies, yet the uncertainty of 'who is responsible' appeared to either inhibit some practitioners in exploring this phenomenon, or at times avoiding the subject of trauma all altogether. In effect, 50% of the participants in this study conveyed that they did not feel it was part of their professional remit to explore any pre-existing trauma with their patients. Instead, the focus lay on examining the biophysical examinations based upon the practitioner's background or training.

The category *practitioner uncertainty prevents exploration of trauma* emerged during the data analysis as participants questioned whether they ought to or not be asking

patient questions about trauma? NICE (2018; 2021) guidance emphasises that trauma is an important factor to consider in pain management, but the practice does not necessarily reflect this evidence. Practitioners voiced their concerns surrounding the subject of trauma and the impact of this upon the patient. This coincided with a fear of ‘opening a can of worms’ and ‘non-containment’ during the assessment appointment. On the contrary, the other participants in this study reported that in their experience, the ‘*lack of experience in other practitioners*’ was preventing those practitioners to ask the questions about trauma. Muller-Schwefe et al. (2011) argue the need for professionals to be aware of how their own behaviour and the clinical environment can impact on reinforcement of unhelpful responses. This emphasises the need for psychologists to be further involved with front line assessments, perhaps considering this as one key benefit of MDT working in pain services. Further psychology involvement may support colleagues to overcome any uncertainty or fears of non-containment reported.

Time determines the focus of assessment category emerged as participants questioned if more time would allow them to explore, offer space in relation to a history of trauma. It can be argued that some practitioners expressed they were unable to examine both chronic pain and history of trauma due to the allocated time designated for them to carry out assessments. An element of *self-pressure* and as *sense of hesitancy* was identified as participants questioned what the key priorities of assessment are. A reliance of the patient’s willingness to share any history of trauma during assessment was noted.

This brings attention to the role psychologists currently play in chronic pain services and how their involvement can further be incorporated in line with the pain management role. Working from a counselling psychology perspective, the relationship between chronic pain and trauma may be explored as part of the assessment process. Exploring this concept is readily integrated and conceptualised within counselling psychology, as any physical,

emotional or psychological distress, presenting issues, history, and any current coping strategies inform part of the formulation (Division of Counselling Psychology, 2017). Counselling psychologists can support pain practitioners to identify service users (pain patients) who may benefit from accessing psychology support prior to pain management programs or physical interventions.

Jones and Williams (2020) argue that a practitioner's training often affects treatment decisions in pain services. For this reason, it can be argued that having psychology involvement for front line assessment could be favourable. Practitioner Psychologists working in pain services can support their pain colleagues by educating them on how to assess for chronic pain and trauma presentation. Ultimately, MDT working involves practitioners educating and learning from one another (NICE, 2019, 2021). It is argued that the findings in this study highlight the push and pull dynamic (Storyline Model) that can motivate change going forward. Barriers such as *uncertainty* and *professional remit* can prevent pain practitioners from asking the right questions. Further, this indicates the need for joint professional working that is required in pain services. Similar inconsistencies were noted in the research by Kailainathan et al. (2018) as a lack of awareness of the pain clinic role was observed and how this was preventing professionals from working collaboratively. This study aims to identify best practice recommendations that can contribute to raising awareness of how a history of trauma and chronic pain can be further examined during the assessment process.

Having deliberated on the model's practitioner *awareness* and the *action* taken, in relation to assessment of trauma and chronic pain, **best practice recommendations** were shared by participants. Participants considered how *experience in the pain field*, or the lack of it, determined if pain practitioners explored the concept of trauma with their pain patients. Three participants reported their own confidence to ask questions about trauma had increased

over time and, therefore they reported feeling more comfortable exploring sensitive matters involving trauma or abuse with their pain patients. Changes in practitioner confidence increasing over time is evident within the literature (Connick et al., 2009; Owens & Keller, 2018; Williams et al., 2018). This is drawn together with developing positive relationships, increasing communication, identifying needs and goals, and facilitating changes. Participants reported that having additional experience in the field of pain had helped them to become more confident, allowing a sense of '*practitioner intuition*' to develop over time. This experience and intuition combined, helped them to feel more relaxed about asking questions and alternatively encouraging their patients to speak out and share.

Participants described that *further training* and *awareness* in assessing symptoms for trauma was required for professionals working within chronic pain services. As demonstrated in this study, '*awareness*' did not necessarily mean more '*exploring*'. Even when practitioners were 'aware' of the relationship between the reactions of trauma, and how this can prolong chronic pain symptoms, this did not result in them assessing for this. The researcher deliberated whether training really is the answer to influencing *practitioner action* or whether this is more about building practitioner confidence and reducing the '*uncertainty*' that often gets in the way of asking the 'right' questions. In other words, having a tool or questionnaire as part of the assessment process for non-psychological practitioners may be helpful, further discussed in Sections 5.5 and 5.6 (Strength, Limitation & Future research Section 5.5; Contribution, Implications and Recommendation Section 5.6).

Practitioners confidently constructed (Williams et al., 2018) an association between the biophysical and the psychosocial elements and presented these as the 'nervous system' and 'central sensitisation'. Central sensitisation is a disease of over-reaction to threats to the organism, a hyperactive warning system (Woolf, 2011). There is an expectation for any practitioner working in chronic pain services to have good working knowledge and

understanding about the psychological basis involved. Unfortunately, having this knowledge did not necessarily increase the likelihood for a practitioner to question or educate their patient about trauma. Instead, acknowledging the overlap that can occur in the biopsychosocial approach (Stilwell & Harman, 2019), a further need for specific psychology support in pain services was considered helpful. Having psychology more integrated into completing front-line assessments was suggested by participants, to promote holistic practice and screening.

The theoretical model, Practitioner Awareness highlights the vast knowledge pain practitioners currently have in relation to pain and trauma. The model highlights the benefits in asking relevant questions early on in assessment, and how this can improve outcomes for service users in pain management. Alternatively, the Practitioner Action model brings attention to the ‘why’ a practitioner may not ask questions about pain and trauma. The best practice section concludes by considering ‘how’ a practitioner can improve their clinical practices, via completing collaborative assessments with psychology and trauma informed training.

The pain specialists that participated in this study reported having experience of working in a multi-disciplinary team, meaning they worked with professionals from different backgrounds, including psychology. The participants acknowledged further assistance from their colleagues for assessment of trauma would be helpful. This highlights the need for more collaborative working between physical health and psychology peers or vice versa. Participants were worried about clouding their professional boundaries: an air of caution and safety was voiced about staying ‘within professional remits’. Perhaps this indicates a need for interdisciplinary working instead of multidisciplinary working? An interdisciplinary team approach can allow members of the team to build on each other’s experiences to achieve common shared goals (Ferguson, 2023). Moving forward this approach can support pain

practitioners to build on their confidence and supporting knowledge for completing psychological and physiological assessments for pain management.

5.5 Strengths, Limitation and Future Research

Counselling psychology is a distinct profession within the field of psychology whose focus is the application of psychological and psychotherapeutic theory and research to clinical practice (BPS, 2019). One of the key aims is to understand, develop and apply psychological inquiry for the creation of new knowledge, which is appropriate to the multi-dimensional nature of relationships between people. Counselling psychology aims to interpret and negotiate between perceptions and world views but not assume the automatic superiority of any one way of experiencing (Division of Counselling Psychology, 2019). This study is not intent on endorsing a single truth and, therefore, it should be acknowledged that the outcomes for this study were based upon eight practitioners' stories. Counselling psychology seeks to develop theory and analysis in professional values and research, whilst being respectful not to discriminate but 'empower' and reflect the pluralism of society. These principles were rooted within this research, with intention to critique and challenge current assessment practices within pain management services.

Although many advantages for using grounded theory have been discussed in the method chapter (Chapter Three), there is room for further discussion in relation to this methodology. One of the aims of grounded theory is to develop a detailed understanding of the underlying social or psychological processes within a certain context (Charmaz, 2006). Research is often governed by practicalities, resources, and time. In this study, most participants were from the Midlands area within the UK. This may not be considered as generalisable to a wider population. It is, therefore, possible to consider that a wider geographical location may have yielded different responses from the participants based on

the area they work. This may have offered a broader picture on how practitioners' practices may vary depending on the CCG budgets, differences in policy, training available etc. The overall recruitment for this study was difficult, resulting in fewer participants than anticipated. Several participants who were willing to participate initially were unable to due to time limitations. Time restriction was reflected as an issue by the participants in this study, as they consistently reported they felt pressed for time.

The researcher does not claim the findings in this study are the ultimate truth (Moon & Blackman, 2017; Speziale et al., 2011). The method of triangulation can support validity. A counselling psychologist and two peers from the Professional Doctorate course were approached to look at the anonymised transcripts to identify what codes and themes emerged from the data. Discussions were held, identifying similar codes, that later developed into concepts such as 'uncertainty' was identified as '*unsure/ not sure/ fear*'. Triangulation refers to the use of multiple methods or data sources in qualitative research to develop a comprehensive understanding of the phenomena (Patton, 1999). This encouraged transparency. Triangulation of multiple data sources was considered such as, relevant evidence-based literature, national policies and guidelines relating to pain management services in the UK. The researcher hopes that by carrying out the constructivist process of grounded theory, the readers can determine if enough information has been provided and the same conclusions can be reached (Lincoln & Guba, 1985).

Furthermore, the sample of participants in this study was comprised of a mixed-race group of eight participants: one white British-born, one Black British-born, one white North American, one Chinese British, one British-born Indian and three Indian-born British. Although this may have influenced a broad spectrum of subjectivity, the diverse cultural differences may have potentially contributed to a variation to the results presented. Differences were acknowledged during data collection/analysis as some participants shared

the vast range of services they had previously worked in, and how this differed in comparison to where they were working now (i.e., working in pain services outside of the UK). They reported how the assessment process had evolved in pain management services over the years. There was more acceptance and openness to the relationship between chronic pain and emotional wellbeing, and how one can exacerbate the other. Variations such as, the working environment, whether they were community or hospital based, previous experiences, and length of time in pain services, all contributed to differences in the results. It is important to note the different professional positions the participants held.

Due to the methodology used, this research offers a multidimensional view of the phenomenon as it is embedded in the process of assessment and management for pain practitioners. Furthermore, the theory of practitioner 'awareness' and 'action' presented in this project defines unique qualities that practitioners share and their understanding of how this phenomenon emerges and can prolong the chronicity of pain. Thus, their stories provide a comprehensive concept that is easily applicable to clinical practice and is grounded within the latter.

In line with the constructivist approach, the researcher was mindful to maintain transparency and trustworthiness throughout the research process regarding the two models that were developed. It is possible that the author's version of data analysis may differ from another researcher. Therefore, it was paramount that a peer review was carried out and some willing participants were invited to read the analysis to review the data as discussed in the method chapter. Charmaz (1990) acknowledges the "weaknesses in *using* the method have become equated with weaknesses inherent in the method" (p. 1164). Holding this in mind, the researcher was cautious in not wanting to deviate from the methodological approach to ensure that transparency was being maintained. The researcher questioned how one may determine if or when theoretical saturation had been reached. The investigator was aware,

that new concepts could be found, or a re-examination of current data may introduce a new conceptual perspective. Glaser (1998) argues that grounded theory has its own basis for assessing the rigour or quality of the study. By constant comparison, the researcher continued to question the fit and relevance of the codes and categories that were revealed from the data. This was carried out in line with the workability and modifiability of the integration of the concepts, to ensure a modifiable theory can be altered when new relevant data was compared to existing data.

Earlier on in the recruitment process, the researcher anticipated that psychologists may be employed as participants. Once the recruitment process started, it became evident that first line assessments were not carried out by psychologists within the pain management services that volunteered to participate. Instead, patients attending assessment for their chronic pain were only referred on for psychological support if the professional carrying out the initial assessment decided this was necessary. It could be hypothesised that psychologists who did receive referrals for patients were often referred to them after they had struggled to engage with the PMP, or the physical exercises advised at the assessment. Reflecting on the current research, this could have been due to the patients reporting an increase of symptoms, therefore presenting as 'complex' to practitioners. It is possible that interviewing psychologists working in pain management services may have offered more examples of when practitioners do not examine or assess for any history of trauma at the initial assessment. This remains an area for further exploration.

One of the outcomes for this study identified that some practitioners felt it was not in their remit to explore a history of trauma when attending pain management assessment. Future research is needed to examine the perceptions that pain practitioners have of psychological therapy services assessing for history of trauma in pain management settings. This area of study will enhance the conclusions from this study, which explored how

practitioners examine chronic pain and history of trauma. It is essential to gain insight from individuals who access the pain management services as to how they perceive psychological therapy, as their perceptions may determine whether they access or engage with pain services. Noble et al. (2001) suggests that the researcher must consider both a client's expectations and preferences to gather a comprehensive understanding of the client's perceptions of services.

One of the strengths of this research is that it provides an insight into the complexities of the phenomenon of chronic pain and unresolved history of trauma. Participants were forthcoming in reporting how they had observed a relationship between the two phenomena in their clients, and how this impacted their approach in managing or exploring this further. Future research may involve creating a scale or screening tool to support practitioners to assess for history of trauma when chronic pain is presented as the main concern. This area of study will expand on the findings of this research, which explored how practitioners currently assess for history of trauma.

Incorporating the two models into a screening prompt sheet, or a tool for practitioners to refer to, could assist practitioners to utilise this to explore a history of trauma with their patients. Alternatively, it may allow practitioners the opportunity to reflect upon their own practice. For example, categories within the Practitioner Awareness Model may expand upon existing knowledge that illuminates the 'relationship between chronic pain and history of trauma', 'practitioner understanding', the 'value of exploration' and how 'therapy before self-management' can aid practitioners to assess for history of trauma. Equally, the Practitioner Action model may support professionals to access further training, reflect on their own practice and prevent clients from disengaging or being missed/excluded. Earlier identification of the core issues (history of trauma) may speed up the process for clients to access support

sooner. Therefore, allowing clients to use the strategies (i.e., Mindfulness/CBT/ACT) to help reduce the symptoms of their chronic pain and help them to manage long-term.

5.6 Contribution, Implications and Recommendations

5.6.1 Raising Practitioner Awareness

This study expanded on the current knowledge base of examining history of trauma when chronic pain is presented as the main issue, by offering a new perspective grounded in practitioner experience. It offered an original standpoint raising awareness for those working within a pain management role. The participants interviewed for this study shared the significant impact they felt it had on their current assessment practice. They reported this allowed them to think about the ways they currently carry out pain assessment with their patients. Exploring practitioners narratives with them assisted them to reflect and consider what change they wanted for their patients. Two participants shared they had not thought of the trauma history as an issue until they had seen the recruitment letter for this piece of research, with one participant sharing that she had not explored the issue due to her own feelings of discomfort when exploring this with her patients.

Raising awareness of the experience would be helpful in normalising some of the processes that practitioners might experience. This could help reduce some of the feelings of judgement (both from self and perceived from others) as a professional, consequently reducing feelings of professional isolation, and encourage practitioners to seek further training and support from their psychology colleagues. This brings concepts such as ethics, authority, and professional duty to the forefront, highlighting how awareness of one's own practice can impact how practitioners perceive their professional role. This may encourage further development of their role as a 'pain clinician', further normalising that other

professionals or colleagues may also be experiencing similar conflicts of what they believe is or is not within their professional remit or role.

5.6.2. Improving the Assessment Process

While seeking feedback and sharing the two models derived from the data analysis, four practitioners shared that not only did they experience some level of relief from learning that other professionals experienced similar feelings, but they also shared that they had sought further help after the interviews which had led them to improve their own practice during assessment. This study illustrates the importance for practitioners to examine any history of trauma when chronic pain is presented as the main concern. Incorporating scales or simply asking the questions such as '*what has happened to you*' instead of '*what is wrong with you*' (Johnstone & Boyle, 2018) can aid practitioners to explore any history of trauma in a helpful way.

One participant reported this study had prompted further discussions with their team members and colleagues to help address the sensitive issues surrounding history of trauma and chronic pain. Thus, they engaged and deliberated with colleagues from a psychology background to consider psychological screening tools that could be used during the initial assessment stage. Another practitioner stated that we should be educating our patients more about the links between general wellbeing, distress, and the intensity of pain (Figure 1; Section 4.3.3). The findings suggest that interventions and approaches to manage or reduce symptoms of chronic pain might need to be tailored according to an assessment concerning a client's history of trauma.

Findings in this study suggest that Practitioner Awareness is only helpful if knowledge and skills are followed up by Practitioner Action. A particular advantage of this method in relation to this study is that it is not aimed at 'fixing' or finding a 'cure' for the

chronic pain, but, instead, at facilitating practitioners to assess for history of trauma confidently. One participant reported that, since being interviewed, they had discussed this issue within their team meeting. As an outcome, they had decided to incorporate CORE measurement tools within their assessment process to assess for the level of distress and/or symptom severity. Encouraging further discussion about how the patient has been coping mentally and emotionally could offer further opportunity to the practitioner to explain how distress can impact the body (nervous system) and increase chronic pain symptomology. This could prevent some patients from being ‘missed’ or ‘excluded’ for further assessment for their trauma, being prescribed physical strategies at the appropriate time, and avoid patients from disengaging from pain management services.

5.6.3. Best Practice Recommendations

National Institute for Health and Care Excellence (NICE, 2019, 2021) guidelines remind us that the focus should be improving quality of life, and non-pharmacological options, as well as analgesia, must be explored. Management for chronic pain can be a challenge. A biomedical, psychological, and social assessment must be carried out during assessment (Smith et al., 2014). Self-management should be encouraged from an early stage of a pain condition as part of a long-term management strategy. The aim of pain management services is to involve realistic goals of treatment, not only aimed at pain relief but changing pain behaviour and improving function. Health professionals should be aware of the possibility that their own behaviour, and the clinical environment, can impact on reinforcement of unhelpful responses (Muller-Schwefe et al., 2011).

This study highlights that pain practitioners would value an interdisciplinary approach for pain assessment, so patients with a history of trauma are assessed appropriately, in line with the NICE (2019, 2021) guidance. Participants in this study have since invited the

researcher back to their services to share the findings of this study, to bring forward the conversations surrounding chronic pain and trauma assessment. Best practice recommendations have highlighted the importance of talking and sharing knowledge on ways that pain assessment can be improved to include questions regarding a history of trauma. Practitioners have requested a tool, or a prompt sheet would allow them to steer conversations to examine all the biological, psychological and social questions that align to the pain care pathway (NHS England, 2019). This would ensure that patients are referred to the necessary professional services (i.e., psychology/ physiotherapy) to support their pain management. Future research in this area could consider a quantitative survey examining practitioner confidence in engaging clients during assessment to include questions relating to trauma in chronic pain services.

5.6.4 Evaluating the Theory

This study shows that individuals who attend pain management services are not regularly assessed as to whether they have or have not experienced any history of trauma. The concept of pain practitioners not taking any action in examining this phenomenon during assessment even though they have the awareness has been discovered. The criteria for grounded theory (Thomas & Magilvy, 2011), (i.e., originality, credibility, resonance, and usefulness as specified by Charmaz (2006) and discussed in the method chapter) will now be reviewed to evaluate the approach that has been employed during the analytical process of this study.

The data analysis demonstrates originality as no other study explores practitioners working in pain management services and the processes involved when assessing individuals for history of trauma. The practitioner's perspective offers new insights into what determines their exploration for history of trauma. Equally, it provides a voice to what can prevent

practitioners from asking further questions during assessment. The diverse categories and concepts offer a comprehensive understanding about the interactions between the professional and patient, exposing how the process of exploring history of trauma can lead to patients accessing the appropriate support. A detailed and systematic coding methodology was employed to reassure credibility through-out the data analysis progression. The researcher's engagement during the analysis process is evidenced in the results chapter and supporting appendices, corroborating a transparent trail in what way the concepts have emerged through the process of comparative analysis.

The Practitioner Action model holds significant resonance for this study as it implies an ethos of not assessing or addressing what is present. The abundance of categories that have been constructed are grounded in the participant's own voice, providing an extensive understanding of the phenomenon under investigation. The findings offer contribution to knowledge and practice, applicable to other pain management services where the issues of history of trauma may not be revealed during the assessment or screening process.

The findings in this study may attribute to other clinical settings or services relating to psychological and/or physical health matters. Practitioners working in services where sensitive issues involving history of trauma may not simply emerge or be discovered during the assessment phase, for example, general practice settings, eating disorder services, sexual health, addictions, or drug/alcohol dependency services. The Practitioner Action model created in this study may be applied and highlight what prevents practitioners in exploring history of trauma within other populations or settings, that may be exacerbating or prolonging an individual's symptoms or behaviour in relation to physical health.

Chapter Six. Critical Appraisal and Reflections on the Research Process

This chapter critically appraises and offers an overview of the researcher's personal position as a researcher. The processes and outcomes of the study are reported based upon a research diary that was kept throughout the course of this study, to help the researcher explore and reflect upon her own experiences of the research process itself and how this might have impacted the development and progression of the data analysis. Due to the content in this chapter being personal to the researcher, all reflective writing has been written in first person.

6.1 My Position as a Researcher

My interest in counselling psychology and working with individuals with physical healthcare needs transpired very early on in my life. Personal experiences have encouraged me to go deep within and find courage to learn from my own experiences and pain. As a trainee counselling psychologist, this journey has challenged me to face the things I initially avoided. Recognising how chronic pain and trauma impacted me personally was not only a revelation but hard work as I realised this was the dark shadow I often chose not to own or see. Through the process of personal therapy, completing this research, working with clients, and supervision, I started to learn how to hold my vulnerabilities in a non-critical way with self-compassion. As I continue to develop as a practitioner, academic, and researcher, I continue the process of self-discovery. I am excited to see where this journey takes me. The work with my clients has been rewarding, complex and at times challenging, especially when they have come with an expectation to be fixed, treated and freed from their agony or pain. At times, I have struggled, whilst observing my tendency in wanting to please others or rescue. Clinical supervision and personal therapy have provided space for me to take a step back from the person I thought I should be, to really see myself without any mask or a

pleasing disguise. Learning to sit with my authentic self was not easy at first. However, it enabled me to truly own what is mine and let go of what is not. Learning more about myself as a practitioner has offered me space to think about the client's therapeutic processes and more importantly their needs and wants from me as their therapist and the wider service.

On reflection, I was naïve to the biomedical position that was being dominantly echoed in chronic pain services I worked in. In hindsight, I assumed that every practitioner utilises a biopsychosocial approach to assess individuals with chronic pain. Conversations with colleagues in the MDT, pain specialists and clinical supervisors made me realise this was my flawed perception. I assumed that any individual who presented with physical pain would be questioned about their emotional distress and management. This led me to question: 'What do individuals with chronic pain expect from a pain service?', 'What do clients report as being helpful when it comes to understanding their pain condition?' and 'What has helped them to reduce their physical symptoms or alternatively improve their wellbeing?' Speaking to my clients, it became apparent that certain questions were not asked during their initial assessment, especially those in relation to a history of trauma, or the psychosocial aspects of their coping. This prompted me to have further conversations with the MDT to determine how we as a service could better align to the care pathway (NHS England, 2019, 2021). This initiated the start of this study, as I became curious about how practitioners in other pain services examined individuals who present with chronic pain and a history of trauma.

As a trainee counselling psychologist this research has impacted me in several ways. I struggled to navigate between two professional hats; one as a clinician who worked closely with chronic pain clients, and the other as a researcher who was investigating how practitioners examine individuals with chronic pain and trauma. I noticed how grounded I felt whilst working with my clients. I knew my role as a clinician, I felt competent to work with my clients in a relational and ethically safe manner. However, as a researcher, I felt

challenged by the process of recruiting participants, and applying the grounded theory methodology into practice. I noticed my apprehension and feelings like I was an imposter. Who was I to question the experts about how they carry out assessment? I often had to remind myself the purpose of this study was to share knowledge and increase understanding in order to better the quality of care provided. This was not personal to any person, as practitioners I trust we all do the best we can to our knowledge. There were moments where I noticed my eagerness to be a 'good researcher'. This resulted in an increased state of anxiety and fear of 'getting it wrong'. Consequently, I spent long hours in revisiting the data to ensure I had not missed anything.

Discussions with my clinical and research supervisors allowed me to appreciate the different perspectives at play. Personal therapy provided space for me to work through and address these issues accordingly. During this time, I discovered that I too can 'sit with' and begin to own my feelings no matter how uncomfortable they feel. I sensed the self-critical frustration followed by sadness. I notice my patterns of 'trying too hard' as I continue this journey, in developing as a clinician, academic, and researcher, whilst learning to be self-compassionate.

I consider myself as an integrative psychological therapist, governed by the belief that our ways of coping are determined by our life experiences and by our learning to deal with our suffering or pain. My philosophical grounding rests within the existential school of thought, appreciating individuality (Heidegger, 1962), the freedom of will (Kierkegaard, 1849, 1992) surrounded within our worldly experiences and by the decisions, we choose to make (Sartre, 1943, 1958). Pain and suffering have physical, psychological, and socio-cultural aspects, explained in the process resulting from the somatosensory perception which is present in the brain as a mental image followed by an unpleasant emotion that includes changes in the body (Damasio, 2006). However, such a process cannot be described in these

neurological terms. Suffering is defined as anguish or an unpleasant experience affecting a person in a psychophysical and an existential level (Boeyink, 1974). In cases where suffering is not caused by biological or observable conditions (such as pain due to tissue damage), it is an individualised experience which we cannot but sense in our hearts, in the tightness of our bodies, in the clenching of our stomachs, and in the sweat of our hands. Suffering is a personal experience. However, learning to cope with pain (be it physical or emotional) is subjective.

Utilising an approach (i.e., person centred approach, self-compassion therapy, mindfulness, cognitive behavioural therapy, psychoeducation) one can support individuals to gain better insight and understanding about their condition. Exploring what it means to be living with a chronic pain condition or diagnosis can assist clients in their recovery and/or assist them to identify new ways of coping. To adhere to the grounded theory process, I was mindful to appreciate and be aware of my own thoughts and assumptions about this subject matter. At the pain management service, I noted my sadness and frustration when I met clients who had not been assessed for any psychosocial factors during their initial assessment. Often, instead of being referred to psychology first, these clients had been enrolled on to pain management programmes or physical interventions/treatments and were struggling to manage their pain. At times, the physical interventions contributed to an increase of pain, and resulted in clients disengaging with the service. Part of my role in the team involved facilitating pain management groups, to run workshops on psychoeducation and one-to-one therapy sessions with clients. An integrative approach (Person Centred Therapy, CBT, Mindfulness) was mainly used for the one-to-one sessions based on the individual's assessment and formulation. The aim was to explore client's views about pain and psychology, and what it meant for clients to be referred to psychology for a physical pain. It was helpful to consider the assumptions that clients had about attending psychology appointments, such as 'does this

mean my pain is not real’, ‘I won’t be taken seriously’, ‘there is something wrong with me’; especially if there was no evidence of tissue damage. Individuals were informed that pain is subjective and there are alternative ways to manage (Jaini & Lee, 2015). Garna and Tatta (2022) argue that pathological findings should not be used as a diagnostic crutch and, more importantly, that the interpersonal relationship between a primary care practitioner (physical therapist) and patient can influence treatment success. It was therefore important that client’s subjective experiences were validated for being real for them, not based on the findings from x-rays or scans.

My experience of working in pain services contributed to assumptions that clients were not being assessed for psychosocial elements due to practitioners’ professional knowledge and expertise. NICE guidelines (2018, 2021) stipulate that pain practitioners carry out a biopsychosocial assessment in pain services. Therefore, I was interested what contributed to a biopsychosocial assessment. My initial interest for this study came about from looking at how individuals cope to live with their long-term pain condition. I studied many avenues of suffering such as the combination of anxiety, depression, and chronic pain to help me understand the level of suffering and how this can impact an individual’s ability to cope. In one-to-one clinical work, I found that many people with chronic pain also present with other co-morbid factors such as experiencing trauma during their lifespan (Yavne et al., 2018). I also discovered that a vast amount of people who live with chronic pain can sometimes present with a trauma history that is often missed during the screening process (Siqueland et al., 2017). This can result in people disengaging themselves from the service (Friedman & Schnurr, 1995), or not dealing with the root cause of their anxiety or depression due to their initial traumatic experiences. Individuals presenting with both co-morbidities can present with many complications depending on how they have responded to their trauma experience (Sachs-Ericsson et al., 2017).

A considerable amount of time was taken to explore and fine-tune ‘what’ I was trying to discover from my research. This involved questioning and revisiting my initial ideas to determine from whose perspective was I driven by: the individuals living with chronic pain and/or history of trauma (patients), or those who have spent years studying and working in a professional capacity to support individuals to help them cope and manage (practitioners). I learned there is a wealth of literature specifically focused on trauma and chronic pain as two separate mechanisms. However, there is still very little understanding of how these two phenomena correlate with one another (Brennstuhl et al., 2015). I also found that it is not necessarily easy or obvious to identify an individual who has survived trauma without screening (Speck et al., 2017). Moreover, some clients may deny that they have encountered trauma and its effects even after being screened (Friedman & Schnurr, 1995) or when they have been asked direct questions aimed at identifying the occurrence of the traumatic event (Gatchel et al., 2014).

This directed me to explore how one can help an individual draw out previous experiences of trauma that may be prolonging their physical pain or may hinder the management of their long-term pain. Resolving past trauma can not only help alleviate the physical threat system response within individuals but can also assist in helping reduce the intensity of pain experienced. If the individual’s trauma history was identified at an earlier stage, then consequently they would be referred to therapy sooner, further speeding the process of also managing their pain (Perez-Aranda et al., 2017). For this reason, I came to question how practitioners approach the subject of trauma and reaction to this, especially if their clients may not link this to their current physical pain.

As discussed, this study did not begin with a predetermined specific research question. It was predicated upon a broad content domain: the relationship between long-term pain and history of trauma and how is this currently explored by practitioners. Various

research strategies could have been selected to investigate this area, including both quantitative and qualitative approaches. I was curious about how individuals are currently examined as having both chronic pain and history of trauma within pain services, and if and how this is identified by the practitioner. The existing scale measures were examined and reviewed to consider how trauma and/or chronic pain is currently detected within services. Counselling psychology adheres to the scientist-practitioner model of practice, demanding rigorous empirical enquiry with a firm value base grounded in the primacy of the therapeutic relationship (Corrie & Callahan, 2000). A study by Verling (2014) highlights how broadening the types of research counselling psychologists engage in may be a way of strengthening the profession's identity.

I was keen to explore by what means individuals presenting with a history of trauma were screened during the process of assessment. Several discussions were held with the supervision team to pinpoint exactly 'what' I was trying to investigate, to establish the gap I felt was needed to further study and the evidence behind this. I initially decided to adopt a psychometric stance within the study, which would be focused upon creating a screening tool for practitioners. However, after reviewing the background literature I could not find any evidence to suggest that a new tool was required. Due to there not being any evidence that a screening tool to identify chronic pain and history of trauma was required, I deemed it was imperative to explore how the assessments were currently being completed within pain services across the UK.

I felt conflicted to grasp the positivist perspective regardless of my efforts to understand or attempts to comprehend the psychometric strategies. After much deliberation and reflection, I had come to appreciate my epistemological grounding not only as a trainee counselling psychologist but also as a researcher. Subsequently, I recognised that I was interested in the practitioners' subjective experiences and, therefore, chose to eliminate

quantitative approaches. Other qualitative approaches such as interpretative phenomenological analysis and ethnography were also considered appropriate. However, the grounded theory felt more comfortable to me as I felt this was a better fit for the purpose of this study.

Discovering further knowledge and understanding from a product that is rich in the practitioners' voices appealed to me. My choice of employing the constructivist method for grounded theory was chosen, after considering the various versions of grounded theory as discussed in Chapter Three. I deliberated how practitioners from a non-psychological background would respond to me as a researcher investigating how they assess for chronic pain and trauma. Especially as I did not share the same professional background or training as them. I anticipated that I may not recruit as many participants, due to the differences in our professional roles. Fortunately, this did not affect the recruitment process and the participants were open to share their experiences and knowledge of pain assessment. During the recruitment and data collection phase, I reiterated my appreciation to all participants for their involvement in this study. Their experiences were validated, as they are the experts in carrying out assessments in pain services. I believe my own background as a psychological practitioner influenced this process as I was able to remain non-judgemental, empathic and authentic in my interviewing approach. I wanted to ensure that I remain respectful of their professional roles and the experiences they shared. I wondered if the differences between our professional background and roles influenced the answers provided. I was curious to how the participants felt about sharing their experiences with me and if they felt they would be judged or if they felt they could be truly open and honest. These questions were later answered by participants, as they shared how being involved in this study had opened them to ask more questions about pain assessment and the role that they played in making the relevant changes. I was fortunate to be invited by three of the participants, to attend their pain services to share

the findings of this study in relation to chronic pain, trauma and if we are asking the right questions.

6.2 Research Process

Returning to the research objectives of this study; How do practitioners examine individuals with chronic pain and a history of trauma? How does this impact clinical practice, what can one learn from this data? I recognised the importance and the value in ‘bracketing’ my own reflections to one side, not allowing them to influence the data analysis. In line with constructivist theory, I wanted to be able to justify and defend the categories and themes that emerged from the data. At the beginning I felt conflicted by my own experiences and knowledge about the subject matter, and I found myself revising and researching Charmaz’s literature and media links to familiarise myself and maintain some healthy distance from the data.

The grounded theory method influenced how the data was analysed, bringing attention to not assume participant contribution. Instead, it was helpful to ask questions from the data, (what does this mean empirically?), in day-to-day clinical work and practice. At the time of interviewing my participants during the second year of my research, I found the process of transcribing, line-by-line coding and at times just listening to my participants’ narratives helped me to stop and take time out. I found it helpful to return to the data to ensure I had not missed anything; this enabled me to approach the data objectively and listen in from different angles. Returning to the data this way helped me to identify that some participants were reporting different experiences to one another. Although they had the same clinical role, their individual approach to assessment echoed a unique stance. This was useful in that it initiated a critical process of exploring and asking questions from the data analysis.

At one stage I felt very overwhelmed by the number of themes that were being derived from the data, which led me to further question the analysis to see if there were codes that could be grouped under similar categories. Two categories that really stood out to me were 'trauma heightens pain' and 'pain heightens trauma'. Every participant spoke about the impact of pain and the responses to a traumatic event on the human body; participants awareness of this did not necessarily mean they took any action. While my own experience of working with clients who have a chronic pain condition was similar, I felt their perspective on being aware of this but not taking any action felt uncomfortable for me.

Although I felt able to understand and respect the reasons why participants had chosen not to take action or ask questions about trauma during the assessment process, I found that employing the bracketing strategy was helpful for me to maintain that researcher distance and remain within the ethical boundaries of my role as a researcher (BPS, 2019). I was able to reflect and recognise my own narratives as a trainee psychologist that came into play and keep these in check whilst interviewing my clients. This allowed me to stay focused upon my participants experiences and remain present with them during the interview process.

I found it helpful to return to the humanistic philosophical teachings (Rogers, 1963), that underpin my position as a trainee counselling psychologist. I was drawn to utilise my skills (active listening, silence, paraphrasing, summarising) as a clinician, to engage the participants during the interviews. This allowed me to maintain an interviewee-led stance, whilst keeping in check with the interview guide and purpose of the interview. Meanwhile, remaining attentive to working in an ethical manner (BPS, 2019), I did not want to mislead, influence the interview answers or contaminate the answers with my own unconscious biases or assumptions. Utilising the constructivist method (Charmaz, 2006) reinforced my role as a pragmatic researcher, as I felt able to hold a relativist lens (Moon & Blackman, 2017), whilst maintaining a critical qualitative enquiry.

Researcher-practitioners can utilise their therapeutic values and skills by actively listening to participants, whilst simultaneously reflecting on their own thoughts and processes. Charlés (2007) identified nine interactional communication strategies, which were acknowledged by systems family therapists. These strategies were later modified as the therapeutic interview process by Nelson et al. (2013). Nelson et al. report how the counsellor researcher can facilitate interviews, whilst keeping check of the interactions and its content between them and the participant. This involves establishing a relationship, understanding the context of the interviewee's experiences, using their language and maintaining flexibility.

I acknowledged the participants subjectivity, attending to the processes of the interview, their use of language, perceptions, and interpretations as they shared their version of reality through their own experiencing. Participants shared their experiences and later reported how being asked questions about a history of trauma and chronic pain had influenced them. They reported that participating in this study had supported their journey as a 'pain practitioner', aiding them to reflect and ask further questions about pain assessment and their role in this. This resulted in them returning back to their pain management teams to review how assessment is carried out, holding a biopsychosocial approach in mind. This has influenced my clinical practice because, as an observer, I could see the gaps in assessment procedure that were preventing clients from being assessed appropriately. For this reason, I will continue to work with interdisciplinary teams to ensure that knowledge of best practice is shared and adhered to.

Constant comparison, theoretical sampling, being analytical and developing theory allowed me to return to the data, checking categories against new data to ensure the abstraction of concepts were clearly verified and grounded in the research itself (Kenny & Fourie, 2014). Memo writing, journaling and speaking with the supervision team, helped me to maintain a critical realist standpoint (O'Mahoney & Vincent, 2014). Saturation was a

cyclical process, as a researcher I began to understand what the properties of the concepts were, in other words, this was not about finding the same stories when asking the same questions. Instead, it was about holding each participants' experience as their individual version of reality in relation to the clinical processes involved during pain assessment.

6.3 Conclusion

The purpose of this study was to examine how practitioners examine history of trauma and chronic pain in the context of pain management services. The research findings have illuminated the complexities involved for practitioners working within the pain clinic role. The delicate processes of communication and engagement during the assessment is revealed as practitioners explain the importance of the relationship between chronic pain and a history of unresolved trauma. This study has provided a voice for both the practitioners who carry out assessments and the people using pain services, as it highlights how patients can be missed for being assessed for history of trauma and likely to disengage from the service. This research study will be disseminated in the appropriate journals to raise practitioner awareness and encourage best practices in pain management services.

The researcher has attempted to be authentic, clear, and open in undertaking the qualitative approach, by continuing to return to the transcripts to check the data has been accurately represented in the experience of the participants. It is hoped that this piece of research and the emerging two models can act as a baseline for future research, having highlighted not only the intricacies of the practitioner experience but also the prospective ways that people living with chronic pain can be assessed and further supported.

References

- Abramson, A. (2022). Patients turn to psychologists for new chronic pain strategies in the COVID-19 era. *Monitor on Psychology*, 53(6), 54.
<https://www.apa.org/monitor/2022/09/understanding-managing-pain>
- Ahmadi, A., Bazargan-Hejazi, S., Zadi, Z. H., Eusobhon, P., Ketumarn, P., Karbasfrushan, A., Amini-Saman, J., & Mohammadi, R. (2016). Pain management in trauma: a review study. *Journal of Injury and Violence Research*, 8(2), 89-98.
<https://doi.org/10.5249%2Fjivr.v8i2.707>
- Ahrens, J., & Rexford, L. (2002). Cognitive processing therapy for incarcerated adolescents with PTSD. *Journal of Aggression, Maltreatment & Trauma*, 6(1), 201-216.
https://doi.org/10.1300/J146v06n01_10
- Alvesson, M., & Sköldbberg, K. (2000). *Reflexive Methodology: New Vistas for Qualitative Research*. Sage.
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed). <https://doi.org/10.1176/appi.books.9780890425596>.
- Anda, R.F., Felitti, V.J., Bremner, J.D., Walker, J.D., Whitfield, C., Perry, B.D., & Giles, W.H. (2006). The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*. 256, 174 -186. <https://doi.org/10.1007/s00406-005-0624-4>

- Anda, R., Tietjen, G., Schulman, E., Felitti, V., & Croft, J. (2010). Adverse childhood experiences and frequent headaches in adults. *Headache: The Journal of Head and Face Pain*, 50(9), 1473-1481. <https://doi.10.1111/j.1526-4610.2010.01756.x>
- Ansari-Moghaddam, A., Khorram, A., Miri-Bonjar, M., Mohammadi, M., & Ansari, H. (2016). The prevalence and risk factors of gallstone among adults in South-East of Iran: A population-based study. *Global journal of health science*, 8(4), 60-67. [10.5539/gjhs.v8n4p60](https://doi.org/10.5539/gjhs.v8n4p60)
- Appleton, J.V., & King, L. (2002). Journeying from the philosophical contemplation of constructivism to the methodological pragmatics of health service research. *Journal of Advanced Nursing*, 40(6). <https://doi.org/10.1046/j.1365-2648.2002.02424.x>
- Arnberg, F. K., Hultman, C. M., Michel, P. O., & Lundin, T. (2012). Social support moderates posttraumatic stress and general distress after disaster. *Journal of traumatic stress*, 25(6), 721-727. <https://doi.org/10.1002/jts.21758>
- Astrid, L., Doering, S., Rumpold, G., Solder, E., Krismer, M., Kantner-Rumlmaier, W., Schubert, C., & Sollner, W. (2003). Chronic pain syndromes and their relation to childhood abuse and stressful life events. *Journal of Psychosomatic Research*, 54(4), 361-367. [https://doi.org/10.1016/S0022-3999\(02\)00399-9](https://doi.org/10.1016/S0022-3999(02)00399-9)
- Barker, C., Pistrang, N., & Elliot, R. (2002). *Research Methods in Clinical Psychology: An introduction for students and practitioners*. Wiley & Sons.

Barker, K. L., Heelas, L., & Toye, F. (2016). Introducing acceptance and commitment therapy to a physiotherapy-led pain rehabilitation programme: an action research study. *British Journal of Pain, 10*(1), 22-28.

<https://doi.org/10.1177/2049463715587117>.

Baronian, R., & Leggett, S. J. (2020). Brief cognitive analytic therapy for adults with chronic pain: A preliminary evaluation of treatment outcome. *British Journal of Pain, 14*(1), 57-67. <https://doi.org/10.1177/2049463719858119>.

Beard, D. J., & Aldington, D. (2012). Chronic pain after trauma. *Trauma, 14*(1), 57-66

Beecher, H. K. (1956). The subjective response and reaction to sensation: The reaction phase as the effective site for drug action. *The American Journal of Medicine, 20*(1), 107-113. [https://doi.org/10.1016/0002-9343\(56\)90178-4](https://doi.org/10.1016/0002-9343(56)90178-4)

Bellis, M. A., Hughes, K., Leckenby, N., Perkins, C., & Lowey, H. (2014). National household survey of adverse childhood experiences and their relationship with resilience to health-harming behaviours in England. *BMC medicine, 12*(1), 1-10. <https://doi.org/10.1186/1741-7015-12-72>

Bellis, M. A., Hughes, K., Leckenby, N., Hardcastle, K. A., Perkins, C., & Lowey, H. (2015). Measuring mortality and the burden of adult disease associated with adverse childhood experiences in England: a national survey. *Journal of public health, 37*(3), 445-454. <https://doi.org/10.1093/pubmed/fdu065>

- Benor, D. J. (2005). Self-healing interventions for clinical practice: Brief psychotherapy with WHEE—the wholistic hybrid of EMDR and EFT. *Complementary Therapies in Clinical Practice, 11*(4), 270-274.
- Benor, D., Rossiter-Thornton, J., & Toussaint, L. (2017). A randomized, controlled trial of wholistic hybrid derived from eye movement desensitization and reprocessing and emotional freedom technique (WHEE) for self-treatment of pain, depression, and anxiety in chronic pain patients. *Journal of evidence-based complementary & alternative medicine, 22*(2), 268-277. <https://doi.org/10.1177/2156587216659400>
- Bernstein, D. P., Fink, L., Handelsman, L., Foote, J., Lovejoy, M., Wenzel, K., ... & Ruggiero, J. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. *The American journal of psychiatry, 151*(8), 1132-1136.
- Bevers, K., Watts, L., Kishino, N. D., & Gatchel, R. J. (2016). The Biopsychosocial Model of the assessment, prevention, and treatment of chronic pain. *US Neurol, 12*(2), 98-104. <https://doi:10.17925/USN.2016.12.02.98>
- Boeyink, D.E. (1974). From Pain and Suffering. *Journal of Religious Ethics 2* (1):85 – 98.
- Bougea, A. M., Spandideas, N., Alexopoulos, E. C., Thomaidis, T., Chrousos, G. P., & Darviri, C. (2013). Effect of the emotional freedom technique on perceived stress, quality of life, and cortisol salivary levels in tension-type headache sufferers: a randomized controlled trial. *Explore, 9*(2), 91-99. <https://doi.org/10.1016/j.explore.2012.12.005>

- Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: a research note. *Qualitative research*, 8(1), 137-152. <https://doi.org/10.1177/1468794107085301>
- Brave Heart, M. Y. H. (1998). The return to the sacred path: Healing the historical trauma and historical unresolved grief response among the Lakota through a psychoeducational group intervention. *Smith College Studies in Social Work*, 68(3), 287-305. <https://doi.org/10.1080/00377319809517532>
- Brennstuhl, M. J., Tarquinio, C., & Montel, S. (2015). Chronic pain and PTSD: Evolving views on their comorbidity. *Perspectives in Psychiatric Care*, 51(4), 295–304. <https://doi:10.1111/ppc.12093>
- Brent, D. A., & Silverstein, M. (2013). Shedding light on the long shadow of childhood adversity. *JAMA: Journal of the American Medical Association*, 309(17). <https://doi:10.1001/jama.2013.4220>
- Breslau, N. (2002). Epidemiologic studies of trauma, posttraumatic stress disorder, and other psychiatric disorders. *Canadian Journal of Psychiatry*, 47(10), 923–929. <https://doi:10.1177/070674370204701003>
- Briere, J., Agee, E., & Dietrich, A. (2016). Cumulative trauma and current posttraumatic stress disorder status in general population and inmate samples. *Psychological Trauma: Theory, Research, Practice, and Policy*, 8, 439–446. <https://doi:10.1037/tra0000107>

British Pain Society. (2016). *The Silent Epidemic – Chronic Pain in the UK. Prevalence of chronic pain in the UK.* <https://www.britishpainsociety.org/mediacentre/news/the-silent-epidemic-chronic-pain-in-the-uk/>

British Psychological Society. (2018). *BPS Code of Human Research Ethics.*
<https://www.bps.org.uk/news-and-policy/bps-code-human-research-ethics-2010>.

British Psychological Society. (2021). *BPS Code of Human Research Ethics* (2nd ed.).
<https://www.bps.org.uk/news-and-policy/bps-code-human-research-ethics-2nd-edition-2014>.

British Psychological Society. (2021). *BPS Code of Ethics and Conduct.*
<https://www.bps.org.uk/guideline/code-ethics-and-conduct>

Bruce, J., Russell, E. M., Mollison, J., & Krukowski, Z. H. (2001). The quality of measurement of surgical wound infection as the basis for monitoring: a systematic review. *Journal of Hospital Infection*, 49(2), 99-108. <https://doi.org/10.1053/jhin.2001.1045>

Burger, A. J., Lumley, M. A., Carty, J. N., Latsch, D. V., Thakur, E. R., Hyde-Nolan, M. E., & Schubiner, H. (2016). The effects of a novel psychological attribution and emotional awareness and expression therapy for chronic musculoskeletal pain: A preliminary, uncontrolled trial. *Journal of psychosomatic research*, 81, 1-8.
<https://doi.org/10.1016/j.jpsychores.2015.12.003>

Butler, D. S., & Moseley, G. L. (2013). *Explain Pain 2nd Edition.* Noigroup publications

Bryant, A., & Charmaz, K. (2007). *The SAGE Handbook of Grounded Theory*. Sage.

Carr, D. B., & Bradshaw, Y. S. (2014). Time to flip the pain curriculum?

Anaesthesiology, *120*(1), 12-14.

Casey, C. Y., Greenberg, M. A., Nicassio, P. M., Harpin, R. E., & Hubbard, D. (2008).

Transition from acute to chronic pain and disability: a model including cognitive, affective, and trauma factors. *Pain*, *134*(1-2), 69-79.

<https://doi.org/10.1016/j.pain.2007.03.032>

Center for Substance Abuse Treatment (US). (2014). *Trauma-Informed Care in*

Behavioural Health Services. Rockville (MD): Substance Abuse and Mental Health

Services Administration (US); (Treatment Improvement Protocol (TIP) Series, No. 57.)

Chapter 4, Screening and Assessment. Available from:

<https://www.ncbi.nlm.nih.gov/books/NBK207188/>

Chamberlain, K., Murray, M., Willig, C., & Rogers, W. S. (2008). *The Sage handbook of*

qualitative research in psychology. *Health psychology*, 390-406.

Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F.

(2004). Adverse childhood experiences and the risk of depressive disorders in

adulthood. *Journal of affective disorders*, *82*(2), 217-225.

Chard, K. M. (2005). An evaluation of cognitive processing therapy for the treatment of post-traumatic stress disorder related to childhood sexual abuse. *J Consult Clin Psychol* 2005; 73:965–71.

Charlés, L. L. (2007). Disarming people with words: Strategies of interactional communication that crisis (hostage) negotiators share with systemic clinicians. *Journal of Marital and Family Therapy*, 33(1), 51-68. <https://doi.org/10.1111/j.1752-0606.2007.00006.x>

Charmaz, K. (1990). Discovering' chronic illness: Using grounded theory. *Social Science & Medicine*, 30(11), 1161-1172. [https://doi.org/10.1016/0277-9536\(90\)90256-R](https://doi.org/10.1016/0277-9536(90)90256-R).

Charmaz, K. (1995). Grounded theory. In J.A. Smith, R. Harré., L. & Van Langenhove (eds.) *Rethinking Methods in Psychology* (pp. 27-49). London: Sage.

Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In Norman K. Denzin & Yvonna S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp.509-535). Thousand Oaks, CA: Sage.

Charmaz, K. (2003). Grounded theory: Objectivist and constructivist methods. In Norman K. Denzin & Yvonna S. Lincoln (Eds.), *Strategies of qualitative inquiry* (2nd ed., pp.249-291). Thousand Oaks, CA: Sage.

Charmaz, C. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. London: Sage.

- Charmaz, K. (2008a). Grounded theory as an emergent method. In S. N. Hesse-Biber & P. Leavy (Eds.). *Handbook of emergent methods*. (p. 155–170).
- Charmaz, K. (2008b). *Reconstructing grounded theory*. The Sage handbook of social research methods, 461-478.
- Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage.
- Charmaz, K. (2016). The power of stories, the potential of theorizing for social justice studies. In Denzin, N., Giardina, M. (Eds.), *Qualitative inquiry through a critical lens* (pp. 41-56). New York, NY: Routledge.
- Charmaz, K. (2017). The Power of Constructivist Grounded Theory for Critical Inquiry. Sage Journals. <https://doi.org/10.1177/1077800416657105>
- Charmaz, K., & Belgrave, L. L. (2007). The Blackwell encyclopaedia of sociology. *American Cancer Society*.
- Charmaz, K., & Henwood, K. (2008). *Grounded theory in psychology*. In C. Willig & W. Stainton-Rogers (eds.), *Handbook of Qualitative Research in Psychology* (pp. 240-259). London, UK: Sage.
- Charmaz, K., & Thornberg, R. (2021). The pursuit of quality in grounded theory. *Qualitative research in psychology*, 18(3), 305-327.

Chartered Society of Physiotherapy. (2023). <https://csp.org.uk>

Church, D., De Asis, M. A., & Brooks, A. J. (2012). Brief group intervention using emotional freedom techniques for depression in college students: a randomized controlled trial. *Depression research and treatment*, 2012. <https://doi.org/10.1155/2012/257172>

Church, D., Hawk, C., Brooks, A. J., Toukolehto, O., Wren, M., Dinter, I., & Stein, P. (2013). Psychological trauma symptom improvement in veterans using emotional freedom techniques: a randomized controlled trial. *The Journal of nervous and mental disease*, 201(2), 153-160. <https://DOI:10.1097/NMD.0b013e31827f6351>

Church, D., & Nelms, J. (2016). Pain, range of motion, and psychological symptoms in a population with frozen shoulder: A randomized controlled dismantling study of clinical EFT (emotional freedom techniques). *Archives of Scientific Psychology*, 4(1), 38. <https://doi.org/10.1037/arc0000028>

Cichowski, S. B., Rogers, R. G., Clark, E. A., Murata, E., Murata, A., & Murata, G. (2017). Military sexual trauma in female veterans is associated with chronic pain conditions. *Military medicine*, 182(9-10), e1895-e1899. <https://doi.org/10.7205/MILMED-D-16-00393>

Clark, D. B., Thatcher, D. L., & Martin, C. S. (2010). Child abuse and other traumatic experiences, alcohol use disorders, and health problems in adolescence and young adulthood. *Journal of paediatric psychology*, 35(5), 499–510. <https://doi.org/10.1093/jpepsy/jsp117>

- Clauw, D. J., Arnold, L. M., & McCarberg, B. H. (2011, September). The science of fibromyalgia. In *Mayo Clinic Proceedings* (Vol. 86, No. 9, pp. 907-911). Elsevier. <https://doi.org/10.4065/mcp.2011.0206>
- Cohen, H., Neumann, L., Haiman, Y., Matar, M. A., Press, J., & Buskila, D. (2002). Prevalence of post-traumatic stress disorder in fibromyalgia patients: Overlapping syndromes or post-traumatic fibromyalgia syndrome? *Seminars in Arthritis and Rheumatism*, 32(1), 38–50. <https://doi:10.1053/sarh.2002.33719>
- Collier, R. (2018). A short history of pain management. *Des Connaissances medicales d'envergure*. <https://doi:10.1503/cmaj.109-5523>
- Connick, R. M., Connick, P., Klotsas, A. E., Tsagkaraki, P. A., & Gkrania-Klotsas, E. (2009). Procedural confidence in hospital-based practitioners: implications for the training and practice of doctors at all grades. *BMC medical education*, 9(1), 1-8. <http://www.biomedcentral.com/1472-6920/9/2>
- Cooney, A. (2011). Rigour and grounded theory. *Nurse Researcher (through 2013)*, 18(4), 17-22. <https://www.proquest.com/scholarly-journals/rigour-grounded-theory/docview/879092716/se-2>
- Copeland, W. E., Shanahan, L., Hinesley, J., Chan, R. F., Aberg, K. A., Fairbank, J. A., Van den Oord, E.J.C.G., & Costello, E. J. (2018). Association of childhood trauma exposure with adult psychiatric disorders and functional outcomes. *JAMA network open*, 1(7), e184493-e184493. <http://www.doi:10.1001/jamanetworkopen.2018.4493>

- Corbin, J. (2021). Strauss's grounded theory. *JM Morse et al., Developing grounded theory: The second generation revisited*, 25-44.
- Corrie, S., & Callahan, M. M. (2000). A review of the scientist--practitioner model: reflections on its potential contribution to counselling psychology within the context of current health care trends. *Psychology and Psychotherapy*, 73, 413.
- Costigan, M., Scholz, J., & Woolf, C. J. (2009). Neuropathic pain: a maladaptive response of the nervous system to damage. *Annual review of neuroscience*, 32, 1-32.
- Craig, G., & Fowlie, A. (1995). Emotional freedom techniques. *Self-published manual. The Sea Ranch*. <https://doi.org/10.1146/annurev.neuro.051508.135531>
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into practice*, 39(3), 124-130. https://doi.org/10.1207/s15430421tip3903_2
- Crooks, D. L. (2001). The importance of symbolic interaction in grounded theory research on women's health. *Health Care for Women International*, 22(1-2), 11–27. <https://doi.org/10.1080/073993301300003054>
- Crotty, M. J. (1998). The foundations of social research: Meaning and perspective in the research process. *The foundations of social research*, 1-256. Sage Publication.
- Damasio, A. R. (2006). *Descartes' error*. Random House.

- Dansie, E. J., Turk, D. C. (2013). Assessment of patients with chronic pain. *British Journal of Anaesthesia*, 111(1), 19-25. <https://doi.org/10.1093/bja/aet124>
- Daoust, R., Paquet, J., Moore, L., Émond, M., Gosselin, S., Lavigne, G., ... & Chauny, J. M. (2018). Recent opioid use and fall-related injury among older patients with trauma. *Cmaj*, 190(16), E500-E506. <https://doi.org/10.1503/cmaj.171286>
- Davis, D., Luecken, L., Zautra, A. (2005). Are Reports of Childhood Abuse Related to the Experience of Chronic Pain in Adulthood? A Meta-analytic Review of the Literature. *The Clinical Journal of Pain*. 21(5) 398-405. doi:10. 1097/01. ajp.0000149795 .08746.31.
- Dearnley, C. (2005). A reflection on the use of semi-structured interviews. *Nurse researcher*, 13(1). doi: 10.7748/nr2005.07.13.1.19.c5997
- De Bellis, M. D., & Zisk, A. (2014). The biological effects of childhood trauma. *Child and Adolescent Psychiatric Clinics of North America*, 23(2), 185–222. <https://doi.org/10.1016/j.chc.2014.01.002>
- Dey, I. (1999). *Grounding Grounded Theory: Guidelines for Qualitative Inquiry*. London: Academic Press.
- Division of Counselling Psychology. (2017). *Practice guidelines*. <https://doi.org/10.53841/bpsrep.2017.infl15>

- Division of Counselling Psychology. (2019). Regulations and syllabus for the diploma in Counselling Psychology. Leicester. UK.
- Dong, M., Anda, R. F., Dube, S. R., Giles, W. H., & Felitti, V. J. (2003). The relationship of exposure to childhood sexual abuse to other forms of abuse, neglect, and household dysfunction during childhood. *Child abuse & neglect*, 27(6), 625-639. [https://doi.org/10.1016/S0145-2134\(03\)00105-4](https://doi.org/10.1016/S0145-2134(03)00105-4)
- Dorahy, M., & van der Hart, O. (2007). Relationship between trauma and dissociation. *Traumatic dissociation. Neurobiology and treatment*, 3-30.
- Dubin, A. E., & Patapoutian, A. (2010). Nociceptors: the sensors of the pain pathway. *The Journal of clinical investigation*, 120(11), 3760-3772. <https://doi.org/10.1172/JCI42843>
- Eccleston, C. (2011). A normal psychology of pain. *Pain Management*, 1(5), 399-403. <https://doi.org/10.2217/pmt.11.41>
- Edwards, R. R., Dworkin, R. H., Sullivan, M. D., Turk, D. C., & Wasan, A. D. (2016). The role of psychosocial processes in the development and maintenance of chronic pain. *The Journal of Pain*, 17(9), T70-T92. <https://doi.org/10.1016/j.jpain.2016.01.001>
- Ehrenreich, J. H. (2003). Understanding PTSD: forgetting “trauma”. *Analyses of Social Issues and Public Policy*, 3(1), 15-28.

- Engel, G. L. (1977). The need for a new medical model: a challenge for biomedicine. *Science*, 196(4286), 129-136. <https://doi.org/10.1126/science.847460>
- Erlandson, D. A. (1993). *Doing naturalistic inquiry: A guide to methods*. Sage.
- Fassinger, R. E. (2005). Paradigms, praxis, problems, and promise: Grounded theory in counselling psychology research. *Journal of counselling psychology*, 52(2), 56–166. <https://doi.org/10.1037/0022-0167.52.2.156>
- Fayaz, A., Croft, P., Langford, R., Donaldson, L. & Jones, G. (2016). Prevalence of chronic pain in the UK: a systematic review and meta-analysis of population studies. *British Medical Journal Open*, 6(6), p.e010364. <https://bmjopen.bmj.com/content/6/6/e010364?cpetoc>
- Feinstein, D. (2012). Acupoint stimulation in treating psychological disorders: Evidence of efficacy. *Review of General Psychology*, 16(4), 364-380.
- Felitti, V., Anda, R., Nordenberg, D., Williamson, D., Spitz, A., Edwards, V., Koss, M., & Marks, J. (1998). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. *American Journal of Preventive Medicine*, 14(4), pp.245-258.
- Ferri, F. (2020). *Ferri's Clinical Advisor 2021 E-Book: 5 Books in 1*. Elsevier Health Sciences.

Fink, E. L. (2015). Symbolic interactionism. *The International Encyclopaedia of Interpersonal Communication*, 1-13.

Finsterwald, C., & Alberini, C. M. (2014). Stress and glucocorticoid receptor-dependent mechanisms in long-term memory: from adaptive responses to psychopathologies. *Neurobiology of learning and memory*, 112, 17-29.
<https://doi.org/10.1016/j.nlm.2013.09.017>

Fishbain, D., Pulikal, A, Lewis, J, E., & Gao, J. (2017). Chronic Pain Types Differ in Their Reported Prevalence of Post-Traumatic Stress Disorder (PTSD) and There is Consistent Evidence That Chronic Pain Is Associated with PTSD: An Evidence-Based Structured Systemic Review. *Pain Medicine*, 18(4), 711-735. <https://doi:10.1093/pm/pnw065>.

Flehr, A., Coles, J., Dixon, J. B., Gibson, S. J., Brilleman, S. L., Harris, M. L., & Loxton, D. (2021). Epidemiology of trauma history and body pain: a retrospective study of community-based Australian women. *Pain medicine*, 22(9), 1916-1929.
<https://doi.org/10.1093/pm/pnaa455>

Flint, G. A., Lammers, W., & Mitnick, D. G. (2006). Emotional Freedom Techniques: A safe treatment intervention for many trauma-based issues. *Journal of aggression, maltreatment & trauma*, 12(1-2), 125-150.

Foley, G., Timonen, V., Conlon, C., & O'Dare, C. E. (2021). Interviewing as a vehicle for theoretical sampling in grounded theory. *International Journal of Qualitative Methods*, 20. <https://doi.org/10.1177/1609406920980957>

- Friedman, D., Linnemann, R. W., Altstein, L. L., Islam, S., Bach, K. T., Lamb, C., & Moskowitz, S. M. (2018). The CF-CARES primary palliative care model: a CF-specific structured assessment of symptoms, distress, and coping. *Journal of Cystic Fibrosis, 17*(1), 71-77.
- Friedman, M. J., & Schnurr, P. P. (1995). The relationship between trauma, post-traumatic stress disorder, and physical health. In M. J. Friedman, D. S. Charney, & A. Y. Deutch (Eds.), *Neurobiological and clinical consequences of stress: From normal adaptation to post-traumatic stress disorder* (p.507–524). Lippincott Williams & Wilkins Publishers.
- Garner, G., & Tatta, J. (2022). *Integrative and Lifestyle Medicine in Physical Therapy. A guide for primary care, health promotion, and disease prevention*. Orthopaedic, Physical Therapy Products.
- Gatchel, R.J. (2004). Comorbidity of chronic pain and mental health disorder: the biopsychosocial perspective. *American Psychologist, 59*(8):795.
<https://psycnet.apa.org/doi/10.1037/0003-066X.59.8.795>
- Gatchel, R. J., McGeary, D. D., McGeary, C. A., & Lippe, B. (2014). Interdisciplinary chronic pain management: Past, present, and future. *American Psychologist, 69*(2), 119–130. <https://doi:10.1037/a0035514>

- Gauntlett-Gilbert, J., & Brook, P. (2018). Living well with chronic pain: the role of pain-management programmes. *British Journal of Anaesthesia Education*, *18*(1), 3-7.
<https://doi.org/10.1016/j.bjae.2017.09.001>
- Gausche-Hill, M., Brown, K. M., Oliver, Z. J., Sasson, C., Dayan, P. S., Eschmann, N. M., & Lang, E. S. (2014). An evidence-based guideline for prehospital analgesia in trauma. *Prehospital Emergency Care*, *18* (1), 25-34.
<https://doi.org/10.3109/10903127.2013.844873>
- GDPR Guidelines (2018). General data protection regulation (GDPR). *Intersoft Consulting*, Accessed in October, 24(1).
- Gelinas, D. J. (2003). Integrating EMDR into phase-oriented treatment for trauma. *Journal of Trauma & Dissociation*, *4*(3), 91-135. https://doi.org/10.1300/J229v04n03_06
- Geronilla, L., Minewiser, L., Mollon, P., McWilliams, M., & Clond, M. (2016). Emotional Freedom Techniques Remediate PTSD and Psychological Symptoms in Veterans: A Randomized Controlled Replication Trial. *Energy Psychology*, *8*(2) 29-41.
- Gilbert, L. K., Breiding, M. J., Merrick, M. T., Thompson, W. W., Ford, D. C., Dhingra, S. S., & Parks, S. E. (2015). Childhood adversity and adult chronic disease: an update from ten states and the District of Columbia, 2010. *American journal of preventive medicine*, *48*(3), 345-349. <https://doi.org/10.1016/j.amepre.2014.09.006>

- Giles, T., King, L., & De Lacey, S. (2013). The timing of the literature review in grounded theory research: an open mind versus an empty head. *Advances in nursing science*, 36(2), E29-E40. <https://doi:10.1097/ANS.0b013e3182902035>
- Gironda, R. J., Clark, M. E., Massengale, J. P., & Walker, R. L. (2006). Pain among veterans of operations enduring freedom and Iraqi freedom. *Pain Medicine*, 7(4), 339-343. <https://doi.org/10.1111/j.1526-4637.2006.00146.x>
- Glaser, B.G. (1992). *Emergence vs Forcing: Basics of Grounded Theory Analysis*. Mill Valley, CA: *The Sociology Press*.
- Glaser, B. (1998). *Doing Grounded Theory: Issues and Discussion*. Sociology Press, Mill Valley, CA. cited in; Charmaz, K. (2017). The power of constructivist grounded theory for critical inquiry. *Qualitative Inquiry*, 23(1), 34-45. <https://doi.org/10.1177%2F1077800416657105>
- Glaser, B. G., & Holton, J. (2004). Remodelling grounded theory. In *Forum Qualitative sozialforschung/forum: Qualitative social research*. Vol. 5. Issue No. 2). <https://doi.org/10.17169/fqs-5.2.607>
- Glaser, B., Strauss, A., (1967). *The Discovery of Grounded Theory*. Aldine Publishing Company, Hawthorne, NY. Cited in: Charmaz, K., & Belgrave, L. L. (2007). *Grounded Theory*. *The Blackwell encyclopaedia of sociology*.

Goodman, H. (2013). Relational therapy: Constructivist principles to guide diversity practice.

In Relational Social Work Practice with Diverse Populations: A Relational Approach (pp. 31-53). New York, NY: Springer New York.

Goulding, C. (1998). Grounded theory: the missing methodology on the interpretivist

agenda. *Qualitative Market Research: an international journal*, 1(1), 50-57.

<https://doi.org/10.1108/13522759810197587>

Grant, M., & Threlfo, C. (2002). EMDR in the treatment of chronic pain. *Journal of clinical*

psychology, 58(12), 1505-1520.

Grimmer, A., & Tribe, R. (2001). Counselling psychologists' perceptions of the impact of

mandatory personal therapy on professional development--an exploratory study. *Counselling Psychology Quarterly*, 14(4), 287-301.

<https://doi.org/10.1080/09515070110101469>

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook*

of qualitative research, 2(163-194), 105.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment

with data saturation and variability. *Field methods*, 18(1), 59-82.

<https://doi.org/10.1177%2F1525822X05279903>

Guha, M. (2010). The Encyclopaedia of Trauma and Traumatic Stress Disorders. *Reference*

Reviews, 24(7), 37-39. <https://doi.org/10.1108/09504121011077327>

- Hallberg, L. R. (2006). The “core category” of grounded theory: Making constant comparisons. *International journal of qualitative studies on health and well-being*, 1(3), 141-148. <https://doi.org/10.1080/17482620600858399>
- Hannes, K., Noyes, J., Booth, A., Harden, A., Harris, J., Lewin, S., & Lockwood, C. (2011). Critical appraisal of qualitative research.
- Harris, H. R., Wieser, F., Vitonis, A. F., Rich-Edwards, J., Boynton-Jarrett, R., Bertone-Johnson, E. R., & Missmer, S. A. (2018). Early life abuse and risk of endometriosis. *Human Reproduction*, 33(9), 1657-1668. <https://doi.org/10.1093/humrep/dey248>
- Havelin, J., Imbert, I., Cormier, J., Allen, J., Porreca, F., & King, T. (2016). Central sensitization and neuropathic features of ongoing pain in a rat model of advanced osteoarthritis. *The Journal of Pain*, 17(3), 374-382. <https://doi.org/10.1016/j.jpain.2015.12.001>
- Hearn, J. H., & Cross, A. (2020). Mindfulness for pain, depression, anxiety, and quality of life in people with spinal cord injury: a systematic review. *BMC neurology*, 20(1), 1-11.
- Hearn, J. H., & Finlay, K. A. (2018). Internet-delivered mindfulness for people with depression and chronic pain following spinal cord injury: a randomized, controlled feasibility trial. *Spinal Cord*, 56(8) 750-761. <https://doi.org/10.1038/s41393-018-0090-2>

- Heidegger, M. (1962). *Being and Time*: Translated by Macquarrie, J., Robinson, E. Oxford Basil Blackwell Publishers.
- Henriques, G. (2015). The Biopsychosocial model and its limitations. *Psychology Today*.
- Herman, J. P., McKlveen, J. M., Ghosal, S., Kopp, B., Wulsin, A., Makinson, R., Scheimann, J., & Myers, B. (2016). Regulation of the Hypothalamic-Pituitary-Adrenocortical Stress Response. *Comprehensive Physiology*, 6(2), 603–621. <https://doi.org/10.1002/cphy.c150015>
- Hildyard, K. L., & Wolfe, D. A. (2002). Child neglect: developmental issues and outcomes☆. *Child abuse & neglect*, 26(6-7), 679-695. [https://doi.org/10.1016/S0145-2134\(02\)00341-1](https://doi.org/10.1016/S0145-2134(02)00341-1)
- Hoare, K. J., Mills, J., & Francis, K. (2012). Sifting, sorting and saturating data in a grounded theory study of information use by practice nurses: A worked example. *International journal of nursing practice*, 18(6), 582-588. <https://doi.org/10.1111/ijn.12007>
- Holton, J. A. (2010). The coding process and its challenges. *The Grounded Theory Review*, 9(1).
- Horowitz, M. J. (1989). American Psychiatric Association Task Force on Treatments of Psychiatric Disorders, editor. Treatments of psychiatric disorders: A task force report of the American Psychiatric Association. *Posttraumatic Stress Disorder*, 2065–2082.

- Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet Public Health*, 2(8), e356-e366. [https://doi.org/10.1016/S2468-2667\(17\)30118-4](https://doi.org/10.1016/S2468-2667(17)30118-4)
- Imbierowicz, K., & Egle, U. T. (2003). Childhood adversities in patients with fibromyalgia and somatoform pain disorder. *European Journal of Pain*, 7(2), 113-119. [https://doi.org/10.1016/S1090-3801\(02\)00072-1](https://doi.org/10.1016/S1090-3801(02)00072-1)
- Ingraham, P. (2020). *Sensitization in Chronic Pain: Pain itself can change how pain works, resulting in more pain with less provocation*. Pain Science.com. Nov 27.2020. <https://www.painscience.com/articles/sensitization.php>
- International Association for the Study of Pain. (2012). Classification of Chronic Pain, Second Edition (Revised). <https://www.iasppain.org/PublicationsNews/Content.aspx?ItemNumber=1673>
- Isobel, S., & Edwards, C. (2017). Using trauma informed care as a nursing model of care in an acute inpatient mental health unit: A practice development process. *International Journal of Mental Health Nursing*, 26(1), 88-94. doi-10.1111/inm.12236
- Jaini, P. A., & Lee, J. S. H. (2015). A review of 21st century utility of a biopsychosocial model in United States medical school education. *Journal of Lifestyle Medicine*, 5(2), 49. <https://doi.org/10.15280%2Fjlm.2015.5.2.49>

- Jamison, R. N., Scanlan, E., Matthews, M. L., Jurcik, D. C., & Ross, E. L. (2016). Attitudes of primary care practitioners in managing chronic pain patients prescribed opioids for pain: a prospective longitudinal controlled trial. *Pain Medicine*, *17*(1), 99-113. <https://doi.org/10.1111/pme.12871>
- Johnstone, L., & Boyle, M. (2018). The power threat meaning framework: An alternative nondiagnostic conceptual system. *Journal of Humanistic Psychology*, <https://doi.org/10.1177%2F0022167818793289>
- Johnstone, L. & Boyle, M. with Cromby, J., Dillon, J., Harper, D. et al. (2018). *The Power Threat Meaning Framework: Overview*. Leicester: British Psychological Society.
- Johnstone, L., Boyle, M., Cromby, J., Dillon, J., Harper, D., Kinderman, P., Pilgrim, E., & Read, J. (2019, January). Reflections on responses to the Power Threat Meaning Framework one year on. In *Clinical Psychology Forum*, (2019)313, 47-54.
- Jones, M., & Alony, I. (2011). *Guiding the use of Grounded Theory in Doctoral studies—an example from the Australian film industry*. <https://ro.uow.edu.au/cgi/viewcontent.cgi?article=1842&context=commpapers>
- Jones, B., & Williams, A. C. (2020). Psychological therapists' judgments of pain and treatment decisions: The impact of 'medically unexplained symptoms. *Journal of psychosomatic research*, *131*. <https://doi.org/10.1016/j.jpsychores.2020.109937>

- Kailainathan, P., Humble, S., Dawson, H., Cameron, F., Gokani, S., & Lidder, G. (2018). A national survey of pain clinics within the United Kingdom and Ireland focusing on the multidisciplinary team and the incorporation of the extended nursing role. *British Journal of Pain*, 12(1), 47-57. <https://doi.org/10.1177/2049463717725015>
- Kasket, E. (2012). The counselling psychologist researcher. *Counselling Psychology Review*, 27(2), 64-73.
- Katz, J., Rosenbloom, B. N., & Fashler, S. (2015). Chronic Pain, Psychopathology, and DSM-5 Somatic Symptom Disorder. *Canadian journal of psychiatry. Revue Canadienne de psychiatrie*, 60(4), 160–167. <https://doi.org/10.1177/070674371506000402>
- Kaushik, V., & Walsh, C. A. (2019). Pragmatism as a research paradigm and its implications for social work research. *Social sciences*, 8(9), 255. <https://doi.org/10.3390/socsci8090255>
- Key, K. A., Clement, C. I., & Bandler, R. (2000). *The neuroanatomy of cardiac nociceptive pathways*. In the nervous system and the heart (pp. 303-342). Humana Press, Totowa, NJ.
- Kendall-Tackett, K. A. (2000). Physiological correlates of childhood abuse: chronic hyperarousal in PTSD, depression, and irritable bowel syndrome. *Child Abuse Neglect*, 24(6), 799-810. [https://doi.org/10.1016/S0145-2134\(00\)00136-8](https://doi.org/10.1016/S0145-2134(00)00136-8)

- Kenny, M., & Fourie, R. (2014). Tracing the history of grounded theory methodology: From formation to fragmentation. *Qualitative Report, 19*(52).
- Khouzam, H. R., & Donnelly, J. H. (2001). Posttraumatic stress disorder; Safe, effective management in the primary care setting. *Postgraduate Medicine, 110*(5), 60.
<https://www.proquest.com/scholarly-journals/posttraumatic-stress-disorder-safe-effective/docview/203968981/se-2>
- Kierkegaard, S. (1849). *The Sickness Unto Death*. (H. Hong & E. Hong, Eds. & Trans.). Princeton: Princeton University Press.
- Kierkegaard, P. (1992). A method for detection of circular arcs based on the Hough transform. *Machine Vision and Applications, 5*(4), 249-263. .
- Kind, S., & Otis, J. D. (2019). The interaction between chronic pain and PTSD. *Current pain and headache reports, (23)*, 1-7. <https://doi.org/10.1007/s11916-019-0828-3>
- Klinge, K., Chamberlain, D. J., Redden, M., & King, L. (2009). Psychological adjustments made by postburn injury patients: an integrative literature review. *Journal of Advanced Nursing, 65*(11), 2274-2292.
<https://doi.org/10.1111/j.1365-2648.2009.05138.x>
- Köke, A. J. A., Smeets, R. J. E. M., Schreurs, K. M., Van Baalen, B., De Haan, P., Remerie, S. C., Preuper, S., & Reneman, M. F. (2017). Dutch dataset pain rehabilitation in daily

practice: content, patient characteristics and reference data. *European Journal of Pain*, 21(3), 434-444. <https://doi.org/10.1002/ejp.937>

Kopec, J. A., & Sayre, E. C. (2005). Stressful experiences in childhood and chronic back pain in the general population. *The Clinical journal of pain*, 21(6), 478-483.

Kosinski, M., Bayliss, M., Bjorner, J., Ware, J. E., Garber, W. H., Batenhorst, A., Cady, R., Dahlof, C.G.H., Dowson, A., & Tepper, S. (2003). A six-item short-form survey for measuring headache impact: The HIT-6™. *Qual Life Res* 12, 963–974.
<https://doi.org/10.1023/A:1026119331193>

Kress, H. G., Aldington, D., Alon, E., Coaccioli, S., Collett, B., Coluzzi, F., ... & Sichere, P. (2015). A holistic approach to chronic pain management that involves all stakeholders: change is needed. *Current medical research and opinion*, 31(9), 1743-1754.
<https://doi.org/10.1185/03007995.2015.1072088>

Kristiansson, M. H., Brorsson, A., Wachtler, C., & Troein, M. (2011). Pain, power and patience-A narrative study of general practitioners' relations with chronic pain patients. *BMC family practice*, 12, 1-8. <https://doi.org/10.1186/1471-2296-12-31>

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of general internal medicine*, 16(9), 606-613.

- Kvale, S. (1996) *Interviews: An Introduction to Qualitative Research Interviewing*. Thousand Oaks, CA: Sage. Cited in; Dilley, P. (2004). Interviews and the philosophy of qualitative research. *The Journal of Higher Education*, 75(1), 127-132.
- Kunze, K. D. (2019). Effects of Adverse Childhood Experiences on Pain Interference and Anxiety in an Integrative Chronic Pain Clinic. Belmont Digital Repository.
https://repository.belmont.edu/cgi/viewcontent.cgi?article=1017&context=dnpscholarly_projects
- Kusnanto, H., Agustian, D., & Hilmanto, D. (2018). Biopsychosocial model of illnesses in primary care: A hermeneutic literature review. *Journal of family medicine and primary care*, 7(3), 497. https://doi.org/10.4103%2Fjfmpe.jfmpe_145_17
- Lampe, A., Doering, S., Rumpold, G., Sölder, E., Krismer, M., Kantner-Rumplmair, W., Schubert, C., & Söllner, W. (2003). Chronic pain syndromes and their relation to childhood abuse and stressful life events. *Journal of Psychosomatic Repository* 54(4), 361-7. [https://doi:10.1016/s0022-3999\(02\)00399-9](https://doi:10.1016/s0022-3999(02)00399-9)
- Latremoliere, A., & Woolf, C. J. (2009). Central sensitization: a generator of pain hypersensitivity by central neural plasticity. *The journal of pain*, 10(9), 895-926.
<https://doi.org/10.1016/j.jpain.2009.06.012>
- Lauterbach, D., Vora, R., & Rakow, M. (2005). The relationship between posttraumatic stress disorder and self-reported health problems. *Psychosomatic Medicine*, 67(6), 939–947.
<https://doi.org/10.1097/01.psy.0000188572.91553.a5>

- Lee, F. S. (2005). Grounded theory and heterodox economics. *Grounded Theory Review*, 4(2), 95-116.
- Lee, J., Gupta, S., Price, C., & Baranowski, A. P. (2013). Low back and radicular pain: a pathway for care developed by the British Pain Society. *British journal of anaesthesia*, 111(1), 112-120. <https://doi.org/10.1093/bja/aet172>
- Lehman, B. J., David, D. M., & Gruber, J. A. (2017). Rethinking the biopsychosocial model of health: Understanding health as a dynamic system. *Social and Personality Psychology Compass*, 11(8) <https://doi.org/10.1111/spc3.12328>
- Lempert, B. (2007) *Asking questions of the data: Memo writing in the grounded theory tradition*. Cited in Byrant, A., Charmaz, K. (2007). Eds the sage handbook of grounded theory. London. Sage.
- Leserman, J., Zolnoun, D., Meltzer-Brody, S., Lamvu, G., & Steege, J. F. (2006). Identification of diagnostic subtypes of chronic pelvic pain and how subtypes differ in health status and trauma history. *American journal of obstetrics and gynaecology*, 195(2), 554-560. <https://doi.org/10.1016/j.ajog.2006.03.071>
- Levers, M.J.D. (2013) *Philosophical Paradigms, Grounded Theory, and Perspectives on Emergence*. SAGE Publications. doi:10.1177/2158244013517243.
- Lincoln, Y. S., & Guba, E. G. (1985). Establishing trustworthiness. *Naturalistic inquiry*, 289(331), 289-327.

- Linton, S. J. (2002). A prospective study of the effects of sexual or physical abuse on back pain. *Pain*, *96*(3), 347-51. [https://doi.org/10.1016/S0304-3959\(01\)00480-8](https://doi.org/10.1016/S0304-3959(01)00480-8)
- Linton, S. J., & Shaw, W. S. (2011). Impact of psychological factors in the experience of pain. *Physical therapy*, *91*(5), 700-711. <https://doi:10.2522/ptj.20100330>.
- Loeser, J. D., & Melzack, R. (1999). Pain: an overview. *The lancet*, *353*(9164), 1607-1609.
- Lumley, M. A., Schubiner, H., Carty, J. N., & Ziadni, M. S. (2015). Beyond traumatic events and chronic low back pain: assessment and treatment implications of avoided emotional experiences. *Pain*, *156*(4), 565. <https://doi.org/10.1097%2Fj.pain.0000000000000098>
- Mack, N., Woodsong, C., Macqueen, K. M., Guest, G., & Namey, E. (2005). Qualitative Research Methods: A Data Collector Field Book. <https://www.fhi360.org/sites/default/files/media/documents/Qualitative%20Research%20Methods%20-%20A%20Data%20Collector's%20Field%20Guide.pdf>
- Madden, M., & Morley, R. (2016). Exploring the challenge of health research priority setting in partnership: reflections on the methodology used by the James Lind Alliance Pressure Ulcer Priority Setting Partnership. *Research involvement and engagement*, *2*(1), 1-20. <https://doi.org/10.1186/s40900-016-0026-y>
- Mason, M. (2010, August). Sample size and saturation in PhD studies using qualitative interviews. In *Forum qualitative Sozialforschung/Forum: qualitative social research* (Vol. 11, No. 3).

- Mathews, K., Kronen, P. W., Lascelles, D., Nolan, A., Robertson, S., Steagall, P. V., & Yamashita, K. (2014). Guidelines for recognition, assessment and treatment of pain: WSAVA Global Pain Council members and co-authors of this document. *Journal of Small Animal Practice*, 55(6), E10-E68. <https://doi.org/10.1111/jsap.12200>
- Matlack, L. G. (2010). *Intrapsychic and interpersonal sequelae of chronic psychological trauma: The relationship between dissociation and interpersonal problems* (Doctoral dissertation, Massachusetts School of Professional Psychology).
- Mazzola, A., Calcagno, M. L., Goicochea, M. T., Pueyrredòn, H., Leston, J., & Salvat, F. (2009). EMDR in the treatment of chronic pain. *Journal of EMDR Practice and Research*, 3(2), 66-79.
- McCallin, A., & BA, R. (2004). Pluralistic dialoguing: A theory of interdisciplinary teamworking. *The Grounded Theory Review*, 4(1), 25-42.
<https://groundedtheoryreview.com/wpcontent/uploads/2012/06/GTReviewVol4no1.pdf#page=30>
- McLeod, J. (2011). *Qualitative research in counselling and psychotherapy*. Sage.
- McIlpatrick, S., Sullivan, K., & McKenna, H. (2006). What about the carers? Exploring the experience of caregivers in a chemotherapy day hospital setting. *European Journal of Oncology Nursing*, 10(4), 294-303

- McNally, R. J. (2003). Progress and controversy in the study of posttraumatic stress disorder. *Annual Review of Psychology*, *54*, 229–252.
<https://doi/10.1146/annurev.psych.54.101601.145112>.
- Meeus, M., Vervisch, S., De Clerck, L. S., Moorkens, G., Hans, G., & Nijs, J. (2012). Central sensitization in patients with rheumatoid arthritis: a systematic literature review. *In Seminars in arthritis and rheumatism* *41*(4) 556-567.
<https://doi.org/10.1016/j.semarthrit.2011.08.001>
- Mehlum, L., & Weisæth, L. (2002). Predictors of posttraumatic stress reactions in Norwegian UN peacekeepers 7 years after service. *Journal of Traumatic Stress*, *15*, 17-26.
<https://doi.org/10.1023/A:1014375026332>
- Mense, S. (2008). Muscle Pain: mechanisms and clinical significance. *Deutsches Arzteblatt international*, *105*(12), 214. <https://doi.org/10.3238%2Fartzebl.2008.0214>
- Merskey, H. E. (1986). Classification of chronic pain: Descriptions of chronic pain syndromes and definitions of pain terms. *Pain*.
- Mersky, J. P., Lee, C. T. P., & Gilbert, R. M. (2019). Client and provider discomfort with an adverse childhood experiences survey. *American Journal of Preventive Medicine*, *57*(2), e51-e58. <https://doi.org/10.1016/j.amepre.2019.02.026>
- Mills, J., Bonner, A., & Francis, K. (2006). The Development of Constructivist Grounded Theory. *International Journal of Qualitative Methods*. Sage Journals.

<https://doi.org/10.1177%2F160940690600500103>

Moeller-betram, T., Keltner, J., & Strigo, I.A. (2011). Pain and Post Traumatic Stress disorder – review of clinical and experimental evidence. *Neuropharmacology*, 62(2), 586-97.

<https://doi.10.1016/j.neuropharm.2011.04.028>

Moon, K., Blackman, D. (2017). A guide to ontology, epistemology, and philosophical perspective for interdisciplinary researchers. *Integration and Implementation Insights*.

<https://i2insights.org/2017/05/02/philosophy-for-interdisciplinarity/>

Monson, C. M., Schnurr, P. P., Resick, P. A., Friedman, M. J., Young-Xu, Y., & Stevens, S. P. (2006). Cognitive processing therapy for veterans with military-related posttraumatic stress disorder. *Journal of Consulting and clinical Psychology*, 74(5), 898-907.

<https://psycnet.apa.org/doi/10.1037/0022-006X.74.5.898>

Müller-Schwefe, G., Jaksch, W., Morlion, B., Kalso, E., Schäfer, M., Coluzzi, F., & Varrassi, G. (2011). Make a CHANGE: optimising communication and pain management decisions. *Current Medical Research and Opinion*, 27(2), 481-488.

<https://doi.org/10.1185/03007995.2010.545377>

National Institute for Health and Care Excellence. (2016). Draft for consultation.

Persistent Pain: *assessment and management*. Updated August 2020.

<https://www.nice.org.uk/guidance/ng193/documents/draft-scope>

National Institute for Health and Care Excellence. (2018). Draft for consultation. Chronic pain: assessment and management. *Evidence reviews for communication between healthcare*

professionals and people with chronic pain. Updated August 2020.

<https://www.nice.org.uk/guidance/ng193/documents/evidence-review-2>

National Institute for Health and Care Excellence. (2019). Draft for consultation.

Chronic pain: assessment and management. *Evidence reviews for pain management programmes*. Updated August 2020.

<https://www.nice.org.uk/guidance/ng193/documents/evidence-review-3>

National Institute for Health and Care Excellence. (2021). Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain. Available at: <https://www.nice.org.uk/guidance/ng193>

National Health Service England. (2019). *Adult Highly Specialised Pain Management*

Services. <https://www.england.nhs.uk/wp-content/uploads/2019/08/Adult-Specialised-Pain-Service-Specification.pdf>

National Health Service England. (2021). *Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain*.

<https://www.nice.org.uk/guidance/ng193>

Nelson, J. A., Onwuegbuzie, A. J., Wines, L. A., & Frels, R. K. (2013). The Therapeutic Interview Process in Qualitative Research Studies. *The Qualitative Report*, 18(40), 1-17. <https://doi.org/10.46743/2160-3715/2013.1458>

Nelson, S. M., Cunningham, N. R., & Kashikar-Zuck, S. (2017). A conceptual framework for understanding the role of adverse childhood experiences in paediatric chronic pain. *The Clinical journal of pain, 33*(3), 264.

<https://doi.org/10.1097%2FAJP.0000000000000397>

Noble, L. M., Douglas, B. C., & Newman, S. P. (2001). What do patients expect of psychiatric services? A systematic and critical review of empirical studies. *Social science & medicine, 52*(7), 985-998. [https://doi.org/10.1016/S0277-9536\(00\)00210-0](https://doi.org/10.1016/S0277-9536(00)00210-0)

Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: a systematic review and meta-analysis. *PLoS med, 9*(11),

<https://doi.org/10.1371/journal.pmed.1001349>

Novy, D. M., Nelson, D. V., Francis, D. J., & Turk, D. C. (1995). Perspectives of chronic pain: An evaluative comparison of restrictive and comprehensive models. *Psychological Bulletin, 118*(2), 238. <https://psycnet.apa.org/doi/10.1037/0033-2909.118.2.238>

Nurius, P. S., Fleming, C. M., & Brindle, E. (2019). Life course pathways from adverse childhood experiences to adult physical health: A structural equation model. *Journal of Aging and Health, 31*(2), 211-230.

O'Connor, T. M., O'Halloran, D. J., & Shanahan, F. (2000). The stress response and the hypothalamic-pituitary-adrenal axis: from molecule to melancholia, *QJM: An*

International Journal of Medicine, 93(6), 323-333.

<https://doi.org/10.1093/qjmed/93.6.323>

O'Mahoney, J., & Vincent, S. (2014). Critical realism as an empirical project: A beginner's guide. *Studying organizations using critical realism: A practical guide*.

<http://ukcatalogue.oup.com/product/9780199665532.do>

Osborn, M., & Smith, J. A. (1998). The personal experience of chronic benign lower back pain: An interpretative phenomenological analysis. *British Journal of Health*

Psychology, 3(1), 65-83. <https://doi.org/10.1111/j.2044-8287.1998.tb00556.x>

Otis, J.D., Gregor, K., Hardway, C., Morrison, J., Scioli, E., & Sanderson, K. (2010). An examination of the co-morbidity between chronic pain and posttraumatic stress disorder on U.S. Veterans. *Psychological Services*, 7(3), 126–135 <https://doi/10.1037/a0020512>.

Owens, K. M., & Keller, S. (2018). Exploring workforce confidence and patient experiences: a quantitative analysis. *Patient Experience Journal*, 5(1), 97-105.

<https://doi/10.35680/2372-0247.1210>.

Outcalt, S. D., Kroenke, K., Krebs, E. E., Chumbler, N. R., Wu, J., Yu, Z., & Bair, M. J. (2015). Chronic pain and comorbid mental health conditions: independent associations of posttraumatic stress disorder and depression with pain, disability, and quality of life. *Journal of behavioral medicine*, 38, 535-543.

<https://doi.org/10.1007/s10865-015-9628-3>

Oxford English Dictionary Online. <https://www.oed.com/information/> Accessed July 2023.

Papadopoulos, R. K. (2007) Refugees, trauma and adversity-activated development. *European Journal of Psychotherapy and Counselling*, 9(3), 301-312.

<https://doi.org/10.1080/13642530701496930>

Papadopoulos, I., Lees, S., Lay, M., & Gebrehiwot, A. (2004). Ethiopian refugees in the UK: migration, adaptation and settlement experiences and their relevance to health. *Ethnicity & health*, 9(1), 55-73. <https://doi.org/10.1080/1355785042000202745>

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health services research*, 34(5 Pt.2), 1189.

Pérez-Aranda, A., Barceló-Soler, A., Andrés-Rodríguez, L., Peñarrubia-María, M. T., Tuccillo, R., Borraz-Estruch, G., & Luciano, J. V. (2017). Description and narrative review of well-established and promising psychological treatments for fibromyalgia. *Mindfulness & Compassion*, 2(2), 112-129. <https://doi.org/10.1016/j.mincom.2017.10.002>

Purkey, E., Patel, R., Beckett, T., & Mathieu, F. (2018). Primary care experiences of women with a history of childhood trauma and chronic disease: Trauma-informed care approach. *Canadian Family Physician*, 64(3), 204-211.

Raine, R., Wallace, I., Nic a'Bháird, C., Xanthopoulou, P., Lanceley, A., Clarke, A., & Barber, J. (2014a). Improving the effectiveness of multidisciplinary team meetings for patients

with chronic diseases: a prospective observational study. *Health services and delivery research*, 2(37), 1-172. <https://doi.org/10.3310/hsdr02370>

Raine, R., Xanthopoulou, P., Wallace, I., a'Bháird, C. N., Lanceley, A., Clarke, A., & Barber, J. (2014b). Determinants of treatment plan implementation in multidisciplinary team meetings for patients with chronic diseases: a mixed-methods study. *British Medical Journal quality & safety*, 23(10), 867-876. <http://dx.doi.org/10.1136/bmjqs-2014-002818>

Raja, S. N., Carr, D. B., Cohen, M., Finnerup, N. B., Flor, H., Gibson, S., Keefe, F. J., Mogil, J. S., Ringkamp, M., Sluka, K. A., Song, X., Stevens, B., Sullivan, M. D., Tutelman, P.R., Ushida, T., Vader, K. (2020). The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. *Pain*, 161(9), 1976-1982. <https://doi.org/10.1097%2Fj.pain.0000000000001939>

Raphael, K.G., & Widom, C, S. (2011). Post-traumatic stress disorder moderates the relation between documented childhood victimisation and pain 30 years later. *Pain*. 152(1), 163-9. <https://doi.org/10.1016/j.pain.2010.10.014>

Reichling, D. B., & Levine, J. D. (2009). Critical role of nociceptor plasticity in chronic pain. *Trends in neurosciences*, 32(12), 611-618. <https://doi.org/10.1016/j.tins.2009.07.007>

Renck, B., Weisaeth, L., & Skarbö, S. (2002). Stress reactions in police officers after a disaster rescue operation. *Nordic Journal of Psychiatry*, *56*(1), 7-14.

<https://doi.org/10.1080/08039480252803855>

Rich-Edwards, J. W., Mason, S., Rexrode, K., Spiegelman, D., Hibert, E., Kawachi, I., & Wright, R. J. (2012). Physical and sexual abuse in childhood as predictors of early-onset cardiovascular events in women. *Circulation*, *126*(8), 920-927.

<https://doi.org/10.1161/CIRCULATIONAHA.111.076877>

Roberts, A. L., Galea, S., Austin, S. B., Cerda, M., Wright, R. J., Rich-Edwards, J. W., & Koenen, K. C. (2012). Posttraumatic stress disorder across two generations: concordance and mechanisms in a population-based sample. *Biological psychiatry*, *72*(6), 505-511.

<https://doi.org/10.1016/j.biopsych.2012.03.020>

Rogers, C. R. (1963). The concept of the fully functioning person. *Psychotherapy: Theory, Research & Practice*, *1*(1), 17-26.

<https://psycnet.apa.org/doi/10.1037/h0088567>

Rothman, M.G., Ortendahl, M., Rosenbald, A., & Johansson, A.C. (2013). Improved quality of life, working ability, and patient satisfaction after a pre-treatment multimodal assessment method in patients with mixed chronic muscular pain: a randomised-controlled study, *Clinical Journal of Pain*, *29*, 195-204.

<https://doi/10.1097/AJP.0b013e318250e544>

- Roulston, K. (2020). *Generating and analysing individual interviews. Collecting, analysing and reporting data: An oxford handbook of qualitative research in American music education*, 2, 43.
- Royal College of Occupational Therapists. (2019). Royal college of occupational therapists and research and development strategy 2019-2024. <https://Rcot.co.uk>
- Sachs-Ericsson, N. J., Sheffler, J. L., Stanley, I. H., Piazza, J. R., & Preacher, K. J. (2017). When emotional pain becomes physical: adverse childhood experiences, pain, and the role of mood and anxiety disorders. *Journal of clinical psychology*, 73(10), 1403-1428. <https://doi.org/10.1002/jclp.22444>
- Sara, G., & Lappin, J. (2017). Childhood trauma: psychiatry's greatest public health challenge. *The Lancet Public Health*, 2(7), e300-e301. [https://doi.org/10.1016/S2468-2667\(17\)30104-4](https://doi.org/10.1016/S2468-2667(17)30104-4)
- Sartre, J. P. (1943). *Being and nothingness: A phenomenological essay on ontology*. Trans. Hazel E. Barnes. New York: Washington Square Press.
- Sartre, J. P. (1958). *No exit*. Concord Theatricals.
- Sbaraini, A., Carter, S. M., Evans, R. W., & Blinkhorn, A. (2011). How to do a grounded theory study: a worked example of a study of dental practices. *BMC medical research methodology*, 11, 1-10. <https://doi.org/10.1186/1471-2288-11-128>

- Schäfer, I., Pawils, S., Driessen, M., Härter, M., Hillemacher, T., Klein, M., Muehlhan, M., Ravens-Siebrer, U., Schafer, M., Scherbaum N., Schneider, B., Thomasius, R., Wiedemann, K., Wegscheider, K., & Barnow, S. (2017). Understanding the role of childhood abuse and neglect as a cause and consequence of substance abuse: the German CANSAS network. *European journal of psychotraumatology*, 8(1), 1304114. <https://doi.org/10.1080/20008198.2017.1304114>
- Schneider, J., Hofmann, A., Rost, C., & Shapiro, F. (2008). EMDR in the treatment of chronic phantom limb pain. *Pain Medicine*, 9(1), 76-82. <https://doi.org/10.1111/j.1526-4637.2007.00299>.
- Scholz, J. (2014). Mechanisms of chronic pain. *Molecular pain*, 10(1), O15.
- Schulz, P. M., Resick, P. A., Huber, L. C., & Griffin, M. G. (2006). The effectiveness of cognitive processing therapy for PTSD with refugees in a community setting. *Cognitive and Behavioral Practice*, 13(4), 322-331. <https://doi.org/10.1016/j.cbpra.2006.04.011>
- Schug, S. A., Lavand'homme, P., Barke, A., Korwisi, B., Rief, W., & Treede, R. D. (2019). The IASP classification of chronic pain for ICD-11: chronic postsurgical or posttraumatic pain. *Pain*, 160(1), 45-52. <https://doi.org/10.1097/j.pain.0000000000001413>
- Schwandt, D. R. (2005). When Managers Become Philosophers: Integrating Learning with Sensemaking. *Academy of Management Learning & Education*, 4(2), 172-192. <http://www.jstor.org/stable/40214286>

- Shapiro, F. (1989a). Eye movement desensitization: A new treatment for post-traumatic stress disorder. *Journal of behavior therapy and experimental psychiatry*, 20(3), 211-217.
- Shapiro, F. (1989b). Efficacy of the eye movement desensitization procedure in the treatment of traumatic memories. *Journal of traumatic stress*, 2(2), 199-223.
- Shapiro, F. (1996). Eye movement desensitization and reprocessing (EMDR): Evaluation of controlled PTSD research. *Journal of behavior therapy and experimental psychiatry*, 27(3), 209-218.
- Shapiro, F. (2001). *Eye movement desensitization and reprocessing (EMDR): Basic principles, protocols, and procedures*. Guilford Press.
- Shaw, R. J., Deblois, T., Ikuta, L., Ginzburg, K., Fleisher, B., & Koopman, C. (2006). Acute stress disorder among parents of infants in the neonatal intensive care nursery. *Psychosomatics*, 47(3), 206-212. <https://doi.org/10.1176/appi.psy.47.3.206>
- Sheinberg, R., Campbell, C., Kearson, A., Burton, E., & Letzen, J. (2019). (112) Childhood Adversity Linked to Heightened Pain Sensitivity in Adults. *The Journal of Pain*, 20(4), S4-S5. <https://doi.org/10.1016/j.jpain.2019.01.031>
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, 22(2), 63-75. <https://doi.org/10.3233/EFI-2004-22201>

- Sherin, J. E., & Nemeroff, C. B. (2022). Post-traumatic stress disorder: the neurobiological impact of psychological trauma. *Dialogues in clinical neuroscience*, 263-278, <https://doi.org/10.31887/DCNS.2011.13.2/jsherin>
- Shoiab, M., Sherlock, R., Ali, R. B., Suleman, A., & Arshad, M. (2016). A language specific and culturally adapted pain management programme. *Physiotherapy*, 102, 197-198. <https://doi/10.1016/j.physio.2016.10.240>
- Siqveland, J., Ruud, T., Hauff, E. (2017). Post-traumatic stress disorder moderates the relationship between trauma exposure and chronic pain. *European Journal of Psychotraumatology*, 8(1). Arthritis Care & Research. <https://doi/10.1080/20008198.2017.1375337>
- Speck, V., Schlereth, T., Birklein, F., & Maihöfner, C. (2017). Increased prevalence of posttraumatic stress disorder in CRPS. *European Journal of Pain*, 21(3), 466-473. <https://doi.org/10.1002/ejp.940>
- Smith, S. M., & Vale, W. W. (2006). The role of the hypothalamic-pituitary-adrenal axis in neuroendocrine responses to stress. *Dialogues in clinical neuroscience*, 8(4), 383–395. <https://doi/10.31887/DCNS.2006.8.4/ssmith>
- Smith, B. H., Hardman, J. D., Stein, A., & Colvin, L. (2014). Managing chronic pain in the non-specialist setting: a new SIGN guideline. *British Journal of General Practice*, 64(624), e462-e464. <https://doi.org/10.3399/bjgp14X680737>

- Solomon, R. M., & Shapiro, F. (2008). EMDR and the adaptive information processing model potential mechanisms of change. *Journal of EMDR practice and Research*, 2(4), 315-325. DOI: 10.1891/1933-3196.2.4.315
- Spijker, E. E., Jones, K., Duijff, J. W., Smith, A., & Christey, G. R. (2018). Psychiatric comorbidities in adult survivors of major trauma: findings from the Midland Trauma Registry. *Journal of Primary Health Care*, 10(4), 292-302.
<https://doi/10.1071/HC17091>
- Speziale, H. S., Streubert, H. J., & Carpenter, D. R. (2011). *Qualitative research in nursing: Advancing the humanistic imperative*. Lippincott Williams & Wilkins.
- Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*, 166(10), 1092-1097.
- Stevenson, A. (Ed.). (2010). *Oxford dictionary of English*. Oxford University Press, USA.
- Stilwell, P., & Harman, K. (2019). An enactive approach to pain: beyond the biopsychosocial model. *Phenomenology and the Cognitive Sciences*, 18(4), 637-665.
- Stinesen, B. B., Sneijder, P., Köke, A. J., & Smeets, R. J. (2019). Improving patient–practitioner interaction in chronic pain rehabilitation. *Scandinavian Journal of Pain*, 19(4), 843-853. <https://doi.org/10.1515/sjpain-2019-0034>

- Strauss, A. L. (1987). *Qualitative Analysis for Social Scientists*. Cambridge University Press.
- Strauss, A., Corbin, J. (1990). *Basics of qualitative research*. Sage publications.
- Strauss, A., Corbin, J. (1994). *Grounded theory methodology: An overview*.
- Strauss, A.L., Corbin, J. (1998). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, 2nd edition. London: Sage.
- Sturycz, C. A. (2014). Subjective Vs. Objective Physical Pain in Individuals Who Report a History of Non-suicidal Self-Injury: A Closer Look at What it Means to Experience Pain.
- Tesarz, J., Leisner, S., Gerhardt, A., Janke, S., Seidler, G. H., Eich, W., & Hartmann, M. (2014). Effects of eye movement desensitization and reprocessing (EMDR) treatment in chronic pain patients: a systematic review. *Pain Medicine*, 15(2), 247-263.
- The World Confederation for Physical Therapy. (2019). Description of physical therapy. <https://world.physio/sites/default/files/2020-07/PS-2019-Description-of-physical-therapy.pdf>
- Thomas, E., & Magilvy, J. K. (2011). Qualitative rigor or research validity in qualitative research. *Journal for specialists in paediatric nursing*. 16(2), 151–155.
<https://doi.org/10.1111/j.1744-6155.2011.00283.x>

Thomson, S. B. (2010). Sample size and grounded theory. *Thomson, SB (2010). Grounded Theory-Sample Size. Journal of Administration and Governance, 5(1), 45-52.*

Tietjen, G. E., Brandes, J. L., Peterlin, B. L., Eloff, A., Dafer, R. M., Stein, M. R., Drexler, E., Martin, V.T., Hutchinson, S., Aurora, S.K., Recober, A., Herial, N.A., Utley, C., White, L., Khuder, S. A. (2010). Childhood maltreatment and migraine (part I). Prevalence and adult revictimization: a multicentre headache clinic survey. *Headache: The Journal of Head and Face Pain, 50(1), 20-31.*
<https://doi.org/10.1111/j.1526-4610.2009.01557.x>

Timonen V., Foley G., Conlon C. (2018). Challenges when using grounded theory: A pragmatic introduction to doing GT research. *International Journal of Qualitative Methods, 17, 1–10.* <https://doi.org/10.1177/1609406918758086>

Tuckett, A. G. (2005). Part II. Rigour in qualitative research: complexities and solutions. *Nurse researcher, 13(1).* <https://doi/10.7748/nr2005.07.13.1.29.c5998>

Turk, D. C., Meichenbaum, D., & Genest, M. (1983). *Pain and behavioural medicine: A cognitive-behavioural perspective, (1).* Guilford Press.

Turk, D. C., Meichenbaum D, & Genest M. (1993). *Pain and Behaviour Medicine: A Cognitive-Behavioural Perspective.* New York, NY: Guilford Press.

- Turk, D. C., Okifuji, A. (2011). Psychological factors in chronic pain: Evolution and revolution. *Journal of Consulting and Clinical Psychology, 70*(3), 678–690.
<https://doi/10.1037//0022-006X.70.3.678>
- Turner, D., Wolf, A. J., Barra, S., Müller, M., Gregório Hertz, P., Huss, M., Tuscher, O., & Retz, W. (2021). The association between adverse childhood experiences and mental health problems in young offenders. *European child & adolescent psychiatry, 30*(8), 1195-1207. <https://doi.org/10.1007/s00787-020-01608-2>
- Varsi, C., Ledel Solem, I. K., Eide, H., Børø Sund, E., Kristjansdottir, O. B., Heldal, K., Waxenberg, L.B., Weiss, K, E., Schreurs, K.M.G., Morrison, E.J., Stubhaug, A., & Solberg Nes, L. (2021). Health care providers' experiences of pain management and attitudes towards digitally supported self-management interventions for chronic pain: a qualitative study. *BMC health services research, 21*, 1-16.
<https://doi.org/10.1186/s12913-021-06278-7>
- Van der Kolk, B. (2014). *The body keeps the score: Mind, brain, and body in the transformation of trauma*. Penguin UK.
- Verling, R. (2014). Exploring the Professional Identity of Counselling Psychologists: A mixed methods study. <https://wlv.openrepository.com/handle/2436/335796?show=full>
- Von Glaserfeld, E. (2013). *Radical constructivism* (Vol. 6). Routledge.

- Wallace, J., & Panch, G. (2001). Pain Clinics, a new role for psychiatrists. Results of a questionnaire survey of liaison psychiatrist involvement in pain clinics in the Greater London area. *Psychiatric Bull*, 25, 473-474. <http://doi.org/10.1192/pb.25.12.473>
- Walliman, N. (2006). Research strategies and design. *Social research methods. London*, 37-50.
- Walliman, N. (2021). *Research methods: The basics*. Routledge.
- Walters, E. T. (2021). Nociceptors and chronic pain. In *Oxford Research Encyclopaedia of Neuroscience*.
- Weathers, F. W., & Keane, T. M. (2007). The criterion A problem revisited: Controversies and challenges in defining and measuring psychological trauma. *Journal of Traumatic Stress*, 20(2), 107–121. doi:10.1002/jts.
- Wideman, T. H., Edwards, R. R., Walton, D. M., Martel, M. O., Hudon, A., & Seminowicz, D. A. (2019). The multimodal assessment model of pain: a novel framework for further integrating the subjective pain experience within research and practice. *The Clinical journal of pain*, 35(3), 212. <https://doi.org/10.1097%2FAJP.0000000000000670>
- Williams, E. N., & Morrow, S. L. (2009). Achieving trustworthiness in qualitative research: A pan-paradigmatic perspective. *Psychotherapy research*, 19(4-5), 576-582. <https://doi.org/10.1080/10503300802702113>
- Williams, A., Reed, H., Rees, G., Segrott, J. (2018). Improving relationship-based

practice, practitioner confidence and family engagement skills through restorative approach training. *Children and Youth Services Review*. 93, 170-177.

<https://doi.org/10.1080/10503300802702113>

Willig, C. (2001). *Qualitative research in psychology: A practical guide to theory and method*. Buckingham: OUP.

Woolf, C. J. (2011). Central sensitization: implications for the diagnosis and treatment of pain. *Pain*, 152(3), S2-S15. <https://doi/10.1016/j.pain.2010.09.030>

Woolfe, C.J. (2010). Central sensitisation: Implications for the diagnosis and treatment of pain. *Pain Science*. PubMed: 20961685. <https://doi.org/10.1016/j.pain.2010.09.030>

World Health Organization. (2019). *International statistical classification of diseases and related health problems* (11th ed.). <https://icd.who.int/>

Wright, A. R., & Gatchel, R. J. (2002). *Occupational musculoskeletal pain and disability*. In D. C. Turk & R. J. Gatchel (Eds.), *Psychological approaches to pain management: A practitioner's handbook* 349–364). The Guilford Press.

Yasko, J. R., Moss, I. L., & Mains, R. E. (2019). Transcriptional profiling of non-injured nociceptors after spinal cord injury reveals diverse molecular changes. *Frontiers in Molecular Neuroscience*, 12, 284

Yavne, Y., Amital, D., Watad, A., Tiosano, S., & Amital, H. (2018, August). A

systematic review of precipitating physical and psychological traumatic events in the development of fibromyalgia. *Seminars in arthritis and rheumatism*, 48(1), 121-133.

<https://doi.org/10.1016/j.semarthrit.2017.12.011>

You, DS, Albu, S., Lisenbardt, H., & Meagher, M.W. (2018). Cumulative childhood adversity as a risk factor for common chronic pain conditions in young adults. *Pain Med.*,20(3),

486-94. <https://doi.org/10.1093/pm/pny106>

Younes, M., Belghali, S., Kriâa, S., Zrour, S., Bejia, I., Touzi, M., & Bergaoui, N.

(2009). Compared imaging of the rheumatoid cervical spine: prevalence study and associated factors. *Joint Bone Spine*, 76(4), 361-368.

<https://doi/10.1016/j.jbspin.2008.10.010>

Yu, L., Inspector, Y., & McCracken, L. M. (2021). Preliminary investigation of the associations between psychological flexibility, symptoms, and daily functioning in people with chronic abdominal pain. *British Journal of Pain*, 15(2), 175-186.

<https://doi/10.1177/2049463720926559>

Zlotnick, C., Johnson, J., Kohn, R., Vicente, B., Rioseco, P., & Saldivia, S. (2008). Childhood trauma, trauma in adulthood, and psychiatric diagnoses: results from a community sample. *Comprehensive psychiatry*, 49(2), 163-169.

<https://doi.org/10.1016/j.comppsy.2007.08.0075>