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A portfolio submitted in partial fulfilment of the requirements for the degree of Professional Doctorate in Health Psychology

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Acknowledgements

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Abstract

Chloe Mitchell, Professional Doctorate in Health Psychology, 2024

This portfolio showcases the work I have completed whilst undertaking the Professional Doctorate in Health Psychology at Staffordshire University. It is divided into five chapters which represent the five core competencies of Health Psychology:

1. Professional Competence in Health Psychology
2. Advanced Research Methods
3. Psychological Interventions
4. Consultancy in Health Psychology
5. Teaching and Training in Health Psychology

My proficiency in each of these competencies is demonstrated through the presentation of research manuscripts, case studies and reflective reports, documenting not only the work undertaken but also my development and learnings along the way. Much of the work was completed through my employment at the Royal National Orthopaedic Hospital and a UK university. However, for some of the competencies, opportunities were sourced outside of my employment. Further details about the content of each chapter can be found within the introduction.

Introduction

In this portfolio I present the work I have completed whilst enrolled on the Professional Doctorate in Health Psychology between September 2020 and 2024. During this time, I have worked within two roles, the first of which was an NHS bursary Trainee Health Psychologist placement set up by Staffordshire University and the Royal National Orthopaedic Hospital. Within this role I worked within a multi-disciplinary pain management team to support patients with chronic pain and musculoskeletal conditions, delivering support to both patients on the pain management programme and psychology outpatients. My second role was at a medical school within a UK university working as a research assistant. Here I was based within a research group that focussed on employee and student wellbeing, working on a variety of research projects across different workplace sectors.

Professional competence

Chapter one consists of a reflexive report which explores my development as a health psychologist during my time on the doctorate. The first section summaries how I met each of the five core competencies, whilst the second section reflects on my development of the core skills required to practise as an applied health psychologist. The reflexive report is supported by excerpts from my reflexive diary which I kept throughout the four years of my training.

Advanced Research Methods

Three research projects are presented in chapter 2. These are: 1) a qualitative study exploring the weight management experiences of individuals living with fibromyalgia; 2) a quantitative study looking to determine predictors of wellbeing in English apprentices, and finally 3), a systematic review identifying outcome reporting trends in workplace wellbeing interventions for construction workers. Each research manuscript is accompanied by a reflective commentary, offering insights into my decision making and experiences of undertaking the research.

Psychological Interventions

Chapter 3 presents two different case studies of psychological interventions, outlining the processes involved in assessment, formulation, delivery, and evaluation. The first case study is a face-to-face intervention designed to support a patient presenting with illness related shame and a lack of self-compassion which was perpetuating her pain through behavioural mechanisms. It was an integrative intervention incorporating aspects of Compassion Focussed Therapy and assertiveness training. The second is a remotely delivered Acceptance and Commitment Therapy intervention designed to support a patient presenting with low mood and stress in the context of her chronic pain and shoulder injury. Each case study is accompanied by a reflective commentary offering insights into my thoughts, decision making and learnings whilst delivering the interventions.

Consultancy in Health Psychology

Chapter four contains my consultancy case study, which involved the delivery of a teaching session to a UK based university. Within the case study I discuss how I assessed the request, negotiated, and planned, developed and maintained client relationships, delivered and monitored the work and evaluated the consultancy project. In addition to the case study, a contract for the work conducted is presented within this chapter.

Teaching in Health Psychology

The fifth and final chapter describes five different teaching sessions that I developed and delivered. All the sessions fell under the broad theme of applied health psychology, with three of the sessions covering the role of health psychology in pain management and two sessions broaching the topic of stage 2 training in health psychology via the professional doctorate route. The learner groups for each session varied and comprised of undergraduate students, masters' students, and health care professionals. Within the case study I outline how I went about identifying training needs, translated training needs into learner outcomes, developed the sessions and assessed learner outcomes. This is accompanied by a reflective commentary which is structured around the five key steps in the teaching evaluation cycle; clarifying motives and context, refining focus and timing, identifying sources of feedback, analysing, and interpreting feedback and generating an action plan based on feedback.

Chapter 1: Professional Competence in Health Psychology

1.1 Professional Competence Reflexive Report

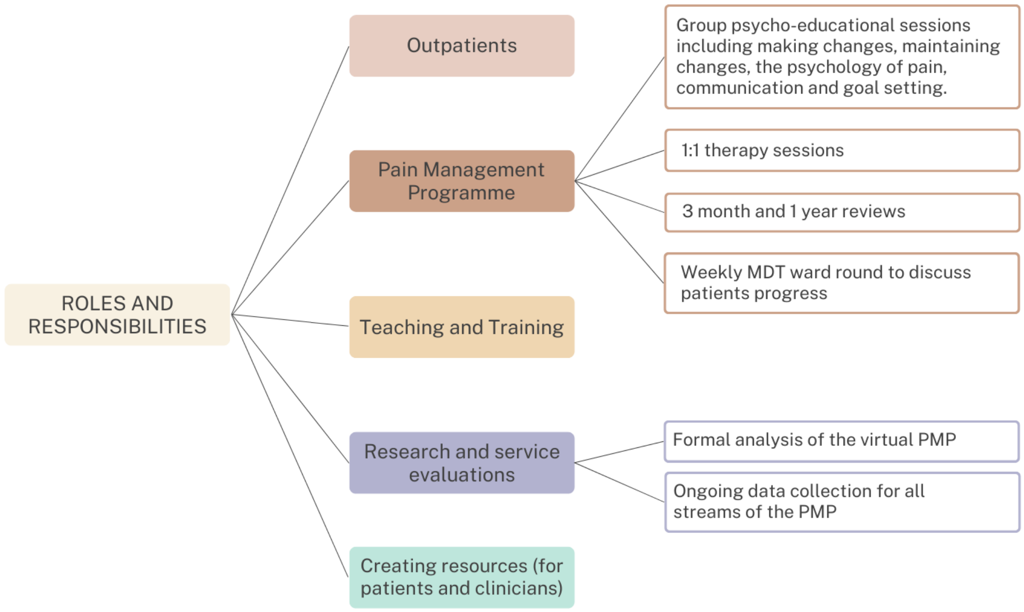
This reflexive report explores my journey as a Trainee Health Psychologist, outlining how I completed the professional doctorate competencies and my development of the knowledge and skills required to practice as an applied Health Psychologist.

Placements

Throughout my training I have worked in two roles at two different organisations. For the first two years of the doctorate, I worked as a Trainee health Psychologist within a pain management team at the Royal National Orthopaedic Hospital (RNOH). This was an NHS bursary placement set up by Staffordshire University and was the first of its kind within the NHS. I was based within a Clinical Heath Psychology department with the lead Consultant Health Psychologist as my workplace contact.

My role involved providing psychological support for patients with long term health conditions and chronic pain. I helped patients to make behavioural changes to facilitate self-management of their conditions and supported them with emotional management in the context of their health and pain. This included supporting patients attending the multi-disciplinary pain management programme (PMP), both in 1:1 sessions and via the delivery of group psychoeducational sessions, as well as completing 3-month and 1-year reviews. As I gained experience, I also began supporting outpatients who typically presented with more complex challenges and required intervention over a longer-term basis. In addition to my clinical role, I collected and processed data for all streams of the PMPs and contributed to several service evaluations of the PMPs. Other roles included delivering training to members of the multidisciplinary team (MDT) and creating resources to support patients and colleagues. Figure 1 summarises my main responsibilities at RNOH.

Figure 1. Roles and Responsibilities at RNOH



Once my contract with RNOH was completed, I was keen to develop my research skills and successfully applied for a research role at a UK university. During my 15 months working at the university, I have worked on eight research projects, with a range of stakeholders. All these projects had a common thread of targeting and improving employee or student wellbeing. Within this placement I gained experience in research design, implementation, and dissemination.

Professional Competencies

Psychological interventions

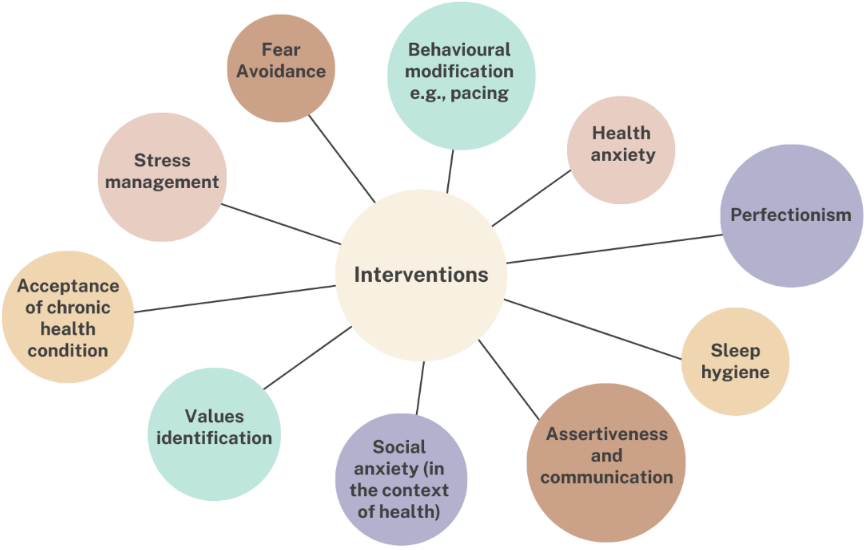
Throughout my time at RNOH, I worked with over 215 patients, totalling 290 patient contact hours (not including observations). Due to the pandemic, I initially saw patients virtually, but as social distancing restrictions lifted my case load of face-to-face patients steadily increased. This allowed me to develop my skills in delivering group and 1:1 interventions across multiple modalities (online, telephone and face-to-face).

Table 1. Breakdown of clinical contact hours

Type of activity	No of patients	No of hours
Group psychoeducational sessions	4-10 patients per session	35
Friday clinics (3 month and 1 year follow up appointments with patients attending the PMP)	14	14
PMP 1-1s	46	138
Outpatient 1-1s	15	103
TOTALS	**215+**	**290**

Although, I worked with all my patients from a pain psychology perspective, the target of interventions varied greatly (see Figure 2). Learning to tailor interventions to patient priorities was a key part of my development as an independent practitioner.

Figure 2. Intervention targets



I was fortunate that RNOH provided ample opportunities and support to facilitate my development within this competency. I attended formal training on Cognitive Behavioural Therapy (CBT) and Acceptance and Commitment Therapy (ACT), but I also engaged in many hours of informal training via supervision, webinars, reading and accessing online resources regarding several other approaches such as Compassion Focussed Therapy (CFT) and Motivational Interviewing (MI). Although the aforementioned training provided a good foundation for my knowledge of psychological approaches, it was not until I began to implement such approaches and techniques with patients that my true development in relation to intervention delivery occurred. I quickly realised that many patients did not fit the 'textbook' examples provided within training. In particular, I noted how rational and understandable their distress and anxieties were. Many of the patients' lives had been significantly impacted by their chronic pain and health conditions, with little hope for a cure or a return to their prior normality. Understandably many were having difficulties in adjusting to this realisation. This meant that I often felt uncomfortable utilising the thought reframing approach of CBT, as I felt at times it came across as undermining patients' very real concerns about their pain and health, thus negatively impacting rapport.

Learning about the ACT approach felt like somewhat of a 'lightbulb moment' for me.. Rather than trying to reframe patients' thoughts, I found the ACT approach of helping patients to change their relationships with their thoughts alongside helping them to identify and do the things that matter in their life in the presence of troubling thoughts and feelings (Feliu-Soler et al., 2018), was an effective approach when working with chronic pain patients. Nevertheless, this did not mean that I dismissed CBT entirely as I learned to adopt an integrative approach, incorporating elements of multiple psychological approaches dependant on the patients and their presenting problems. This was a skill I developed over time, and as I gained in confidence and competence, I was able to reflect in action (Schön, 2017) and adapt to the demands of the patient, rather than follow a prescriptive approach.

A key skill I feel I developed during my time at RNOH was building rapport with patients. Implementing MI principles such as reflective listening (Rosengren, 2017) was influential in this. Through experience, I have realised that for many patients, having a safe place to feel heard and understood is the foundation for any intervention work and indeed, any attempts to integrate interventions before this has been achieved may be futile. This has been affirmed by positive feedback I have received from patients with regards to establishing strong therapeutic relationships and helping them to disclose and seek appropriate help for traumatic events that have occurred within their lives (see reflection 1).

For the doctorate requirements I completed my remote psychological intervention with an outpatient referred to the department with low mood and stress in the context of her chronic pain and shoulder injury. I utilised an ACT based approach to design an intervention focussed on reconnecting her with her values, encouraging her to develop a more flexible approach to her conceptualised self, past and future, and to help her understand that trying too hard to control situations, thoughts and feelings can lead to further suffering. For my face-to-face intervention I worked with a patient who was experiencing illness-related shame. I drew from aspects of CFT and assertiveness training to design an integrative intervention to reduce the patient's illness-related shame and improve her self-compassion and assertiveness skills. These interventions alongside my specific reflections are detailed later in my portfolio.

Advanced Research Methods

I have actively taken up opportunities to engage in research throughout my placements above and beyond the requirements of the doctorate. The research I have been involved in has been primarily focussed within the field of pain management, weight management and workplace/ school wellbeing (see figure 3). Whilst being enrolled on the doctorate I have had three paper publications (Booth et al., 2022; Fletcher et al., 2024; Williams et al., 2022), have submitted a further paper and am currently working on submitting a two more papers for publication (all of which I am a first author on).

Qualitative research

My qualitative research for the doctorate focussed on the weight management experiences of individuals with fibromyalgia. This research allowed me to explore an issue I first observed in clinical practice, and it was rewarding to give voice to my participants who shared similar experiences to patients I had previously worked with. Although I conduct research at the medical school, the projects I work on are often pre-determined prior to my involvement. The qualitative study was my first opportunity to design a research project from inception. This required me to carefully consider the gap within the literature and design of the study, including study materials. I was particularly glad I had included PPI involvement within this process as it highlighted a potential issue with my poster that I was able to rectify before advertising the study (see reflection 2) During the interviews I drew from my clinical experience to help build rapport with the participants. However, my prior practice experience of working therapeutically with this population made it challenging to transition to a researcher role. At times this felt like a moral dilemma between remaining impartial as a researcher and helping the participants with the resources and knowledge that I had (see reflection 3) and emphasised the importance of reflexivity in qualitative research (Braun & Clarke, 2021).

During my time on the doctorate, I have contributed towards multiple other qualitative studies utilising a range of qualitative analytic approaches and data collection methods. My experience of using Reflexive Thematic Analysis (RTA) for my doctorate research later benefitted me when conducting research at the medical school. For example, I led a project investigating construction supervisors' perspectives of the barriers and facilitators to engagement with wellbeing initiatives using an RTA approach. I have been able to advise colleagues regarding Braun and Clarkes latest recommendations for conducting RTA (Braun & Clarke, 2019, 2021) and address misconceptions such as the utilisation of positivist approaches (e.g., inter-rater reliability) when using RTA. Furthermore, I have also had the opportunity to gain experience using Template Analysis to evaluate the implementation of a mental health charity's workplace wellbeing initiative, noting the benefits of this approach for collaborative working.

I collected data for the aforementioned projects using interviews, but I have also gained experience in conducting focus groups. This has included conducting focus groups with three stakeholder groups within a school setting (pupils, parents and teachers), to gather their insights on the feasibility of delivering CBT-T for body image concerns within secondary schools. This required me to adapt my communication style to cater to the needs of each group. I have also visited construction sites across the UK to conduct focus groups with construction workers to explore their opinions on how Tier 1 construction companies could better support their wellbeing. Thus I have been able to develop skills in managing group dynamics with diverse groups of participants (see reflection 4).

Finally, I have gained experience conducting research in an NHS setting. For example, whilst at RNOH I worked on two qualitative research projects regarding the design and evaluation of a virtual PMP in response to the pandemic and resultant social distancing measures. Both studies were published in the British Journal of Pain (Booth et al., 2022; Williams et al., 2022) and I presented the findings from the second study at the RNOH Annual Therapies Conference. Working on these projects gave me essential experience in relation to completing research projects with an MDT (including physiotherapists, occupational therapists, psychologists and medical consultants) and the processes involved in conducting an NHS service evaluation (e.g., ethical considerations).

Quantitative research

This was the element of the research competency that I was most worried about due to my relative inexperience with quantitative research. At the medical school I took over the delivery and analysis of a cross-sectional survey-based study regarding apprentice wellbeing. I decided to utilise the survey to explore predictors of apprentices' wellbeing using a multiple regression analysis. Through this study I learnt about some of the issues with quantitative data collection, particularly when incentives are involved. For example, the survey was infiltrated by suspected bots, and I had to strategise an approach for removing these responses, noting the importance of being transparent regarding my approach in the write up. Through this project I also realised that deciding on quantitative analytic approaches is not as clear cut as I had anticipated. It took some time to decide on the best approach for analysis, and I had to carefully consider criticisms of certain approaches (e.g., stepwise regression). Having completed this research, I have increased my confidence in quantitative data analysis particularly around multiple regression analyses.

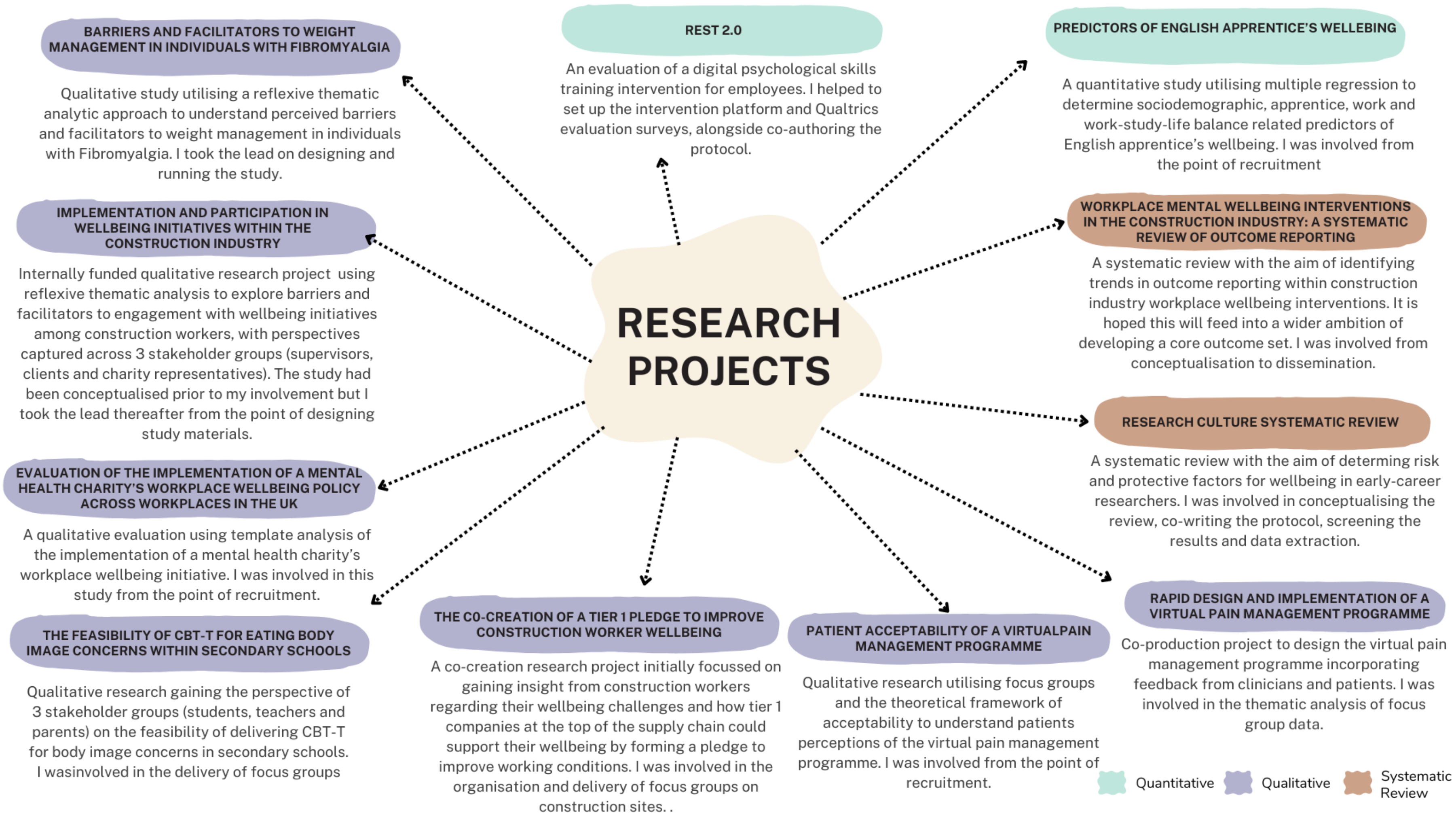
In addition to my doctorate research, I have also been involved in the set-up of a randomised controlled trial for a digital psychological skills training intervention for employees. I assisted with the development of the online platform for the digital intervention and setting up the Qualtrics evaluation surveys. I was joint-first author on the protocol for this study which has been published in Mental Health and Prevention.

Systematic review

The systematic review that I submitted for my doctorate portfolio was completed through my work placement at the medical school. The aim of the review was to identify trends in outcome reporting for workplace wellbeing interventions within the construction industry. This was a challenging review to complete due to its niche methodological focus, which meant there was limited guidance on how it should be completed. Consequently, I worked closely with team members with expertise around core outcome set development, following their advice closely. The novel nature of this review again emphasised the importance of transparency when writing up the manuscript so that readers can easily follow the processes involved. It is rewarding to know that this review will feed into the bigger picture of developing a core outcome set for mental wellbeing interventions for construction workers, who have disproportionately high levels of poor mental wellbeing (Rees-Evans, 2020).

Most recently, I have been involved in the initial stages of a systematic review for a research culture project focussed on identifying predictors and risk factors of early career researchers' wellbeing. During this project I was working alongside two research assistants who had not completed a systematic review before. I was able to advise on each step of the review and it was rewarding to reflect on my learning and development as an independent researcher.

Figure 3. Overview of research projects worked on during the doctorate.



RESEARCH PROJECTS

BARRIERS AND FACILITATORS TO WEIGHT MANAGEMENT IN INDIVIDUALS WITH FIBROMYALGIA

Qualitative study utilising a reflexive thematic analytic approach to understand perceived barriers and facilitators to weight management in individuals with Fibromyalgia. I took the lead on designing and running the study.

IMPLEMENTATION AND PARTICIPATION IN WELLBEING INITIATIVES WITHIN THE CONSTRUCTION INDUSTRY

Internally funded qualitative research project using reflexive thematic analysis to explore barriers and facilitators to engagement with wellbeing initiatives among construction workers, with perspectives captured across 3 stakeholder groups (supervisors, clients and charity representatives). The study had been conceptualised prior to my involvement but I took the lead thereafter from the point of designing study materials.

EVALUATION OF THE IMPLEMENTATION OF A MENTAL HEALTH CHARITY'S WORKPLACE WELLBEING POLICY ACROSS WORKPLACES IN THE UK

A qualitative evaluation using template analysis of the implementation of a mental health charity's workplace wellbeing initiative. I was involved in this study from the point of recruitment.

THE FEASIBILITY OF CBT-T FOR EATING BODY IMAGE CONCERNS WITHIN SECONDARY SCHOOLS

Qualitative research gaining the perspective of 3 stakeholder groups (students, teachers and parents) on the feasibility of delivering CBT-T for body image concerns in secondary schools. I wasinvolved in the delivery of focus groups

REST 2.0

An evaluation of a digital psychological skills training intervention for employees. I helped to set up the intervention platform and Qualtrics evaluation surveys, alongside co-authoring the protocol.

THE CO-CREATION OF A TIER 1 PLEDGE TO IMPROVE CONSTRUCTION WORKER WELLBEING

A co-creation research project initially focussed on gaining insight from construction workers regarding their wellbeing challenges and how tier 1 companies at the top of the supply chain could support their wellbeing by forming a pledge to improve working conditions. I was involved in the organisation and delivery of focus groups on construction sites. .

PATIENT ACCEPTABILITY OF A VIRTUALPAIN MANAGEMENT PROGRAMME

Qualitative research utilising focus groups and the theoretical framework of acceptability to understand patients perceptions of the virtual pain management programme. I was involved from the point of recruitment.

PREDICTORS OF ENGLISH APPRENTICE'S WELLEBING

A quantitative study utilising multiple regression to determine sociodemographic, apprentice, work and work-study-life balance related predictors of English apprentice's wellbeing. I was involved from the point of recruitment

WORKPLACE MENTAL WELLBEING INTERVENTIONS IN THE CONSTRUCTION INDUSTRY: A SYSTEMATIC REVIEW OF OUTCOME REPORTING

A systematic review with the aim of identifying trends in outcome reporting within construction industry workplace wellbeing interventions. It is hoped this will feed into a wider ambition of developing a core outcome set. I was involved from conceptualisation to dissemination.

RESEARCH CULTURE SYSTEMATIC REVIEW

A systematic review with the aim of determing risk and protective factors for wellbeing in early-career researchers. I was involved in conceptualising the review, co-writing the protocol, screening the results and data extraction.

RAPID DESIGN AND IMPLEMENTATION OF A VIRTUAL PAIN MANAGEMENT PROGRAMME

Co-production project to design the virtual pain management programme incorporating feedback from clinicians and patients. I was involved in the thematic analysis of focus group data.

🟩 Quantitative 🟪 Qualitative 🟫 Systematic Review

Teaching

I delivered a series of five training sessions to a range of learner groups including BSc and MSc students and health care professionals (HCPs) which I wrote up for the Teaching competence. Several of the teaching sessions that I delivered for the doctorate lead onto further opportunities. For example, De Montfort University has invited me back each year to deliver a session to their MSc students. This allowed me to gain experience of in-person teaching as it aligned with the lifting of Covid-19 social distancing restrictions. Furthermore, following a conversation with an MSc health psychology student from a UK university, I was invited by the student's supervisor to deliver a session on health psychology careers and stage 2 training. This was a paid opportunity that I was able to use towards my consultancy competency and I have repeated this session on several occasions. I have also contributed teaching sessions to a peer support network. This included sessions on ACT case conceptualisations and a co-delivered session regarding the PMP at RNOH.

I find talking in front of large groups quite daunting and I had to push myself out of my comfort zone to complete this competency. I was particularly nervous to deliver my first few teaching sessions and found myself engaging in safety behaviours such as overloading my slides, cramming a lot of content into the sessions and over-rehearsing. This was to accommodate my fear of forgetting important information and running out of things to say. However, upon reflection this made my sessions come across as scripted and reduced engagement. As my confidence has grown with my experience, I have noted that I have become less reliant on detailed notes and slides, and better at making my sessions more interactive rather than didactic. This has required me to drop perfectionist tendencies, accepting that it is okay to make mistakes, and indeed, that I will likely come across as more relatable for doing so (see reflection 5).

Consultancy

Prior to starting the doctorate, I had no experience of consultancy. However, I soon realised that I had utilised key consultancy skills (e.g., assessing client requests and needs, clarifying feasibility of requests, planning and managing the project and establishing and maintaining professional relationships) before without realising. For my consultancy project, I was contracted by a UK university to design and deliver a session on health psychology careers and stage 2 training. This was a task I had previously completed for other universities on a voluntary basis without a formal consultancy agreement. However, treating this request as formal consultancy work made me more mindful of the negotiation process, specifically, identifying my own needs in addition to the clients (Cope, 2003). This was a point of self-development as historically for other projects my focus has just been on pleasing the 'client', which can result in unnecessary added stress and pressure.

Professional skills

In addition to completing the competencies, I have also developed various professional skills which are essential to the role of a Health Psychologist. Reflective practice and supervision have particularly facilitated the development of these skills. Throughout the doctorate, I kept a diary which reflected upon key experiences and skills development. Within this I noted what went well and what could be improved for the future, alongside how my own potential internal biases or experiences may have impacted my decision making or interactions with patients and participants. This was aided through clinical supervision sessions which I valued for providing a safe place to discuss my thoughts, feelings and emotions not only in relation to my work with patients, but also with regards to my development within the other doctorate competencies. In the subsequent sections, I reflect in detail on my development of the professional skills required to practise as an independent Health Psychologist.

Team working and leadership

Health psychologists are often situated within MDTs (Lunn et al., 2017) and this way of working is particularly advocated within a pain management context (Danilov et al., 2020). Accordingly, at RNOH I worked within a multidisciplinary pain management team consisting of health psychologists, physiotherapists, occupational therapists, pain consultants/ rheumatologists and nurses. An early observation I made within this placement was regarding the importance of MDT working to inform a holistic pain management approach. I viewed MDT working within this context as a jigsaw puzzle, whereby a missing piece prevented patients from taking a holistic self-management approach towards their pain (e.g., occupational therapy input on pacing may be redundant if patients experience psychological barriers such as a lack of self-compassion or poor acceptance of the chronic nature of their pain). When working with outpatients, who were seldom receiving simultaneous support from the other therapies, I noticed there were ‘gaps’ in relation to their care and often found myself covering content that physiotherapists or occupational therapists would typically cover within the PMP (e.g., education on pacing). When I felt the support patients required was beyond my remit, I made referrals to other professions within the team or where appropriate, I completed joint psychology and physiotherapy sessions.

To facilitate effective collaboration, I worked closely with all team members, attending daily meetings (huddles) and weekly ward rounds. Daily huddles were crucial due to the fast-paced nature of the PMP, meaning that any issues that had occurred on the ward could be dealt with swiftly. At ward rounds, informed by my formulations, I offered expertise from a health psychology perspective to guide discussions of patients presenting difficulties and factors that may be hindering their progress on the programme. I was initially worried about presenting my work in a group setting due to a fear of judgement, but over time I noted several benefits of this process. This included gaining insights from other professions that I was able to integrate into my formulations and ensuring that my approach aligned with the advice given by other professions.

Within my placements, I am fortunate to have been based within supportive teams that have made me feel respected and valued. Reflecting on the ‘successes’ of these teams, I believe that it was the leader’s ability to promote psychological safety which facilitated my development and encouraged me to put forward ideas and suggestions without fear of judgement or repercussion. This was particularly important in a clinical supervision context. I have noted that many of the principles regarding establishing rapport within a therapeutic setting also apply to developing good supervisory and managerial relationships. Specifically, managers taking the time to make me feel heard and valued, allowing space for me to reflect on mistakes and collaboratively formulating an action plan of what to do differently next time, alongside celebrating mine and the teams’ successes. When I have had the opportunity to take the lead within smaller research teams (e.g., systematic reviews and qualitative studies) or when supervising volunteers at RNOH, I have tried to emulate these positive qualities modelled by my managers. One of my strengths when working in leadership roles is that I do not take an autocratic top-down approach, but rather I consider the ideas and perspectives of all team members.

Communication in different contexts

Throughout my training, communication is a skill I have worked on developing. Accordingly, I have completed training in communication styles such as MI and have received coaching through clinical supervision on my communication style and the management of group dynamics. My clinical role at RNOH particularly facilitated the development of my verbal communication skills. Daily I was required to communicate with patients with a range of communication needs. Through experience I compiled a ‘toolbox’ of strategies to improve my communication with patients, particularly when explaining abstract and complex psychological concepts. For example, by utilising visual formulations, metaphors and practical exercises. Based on my formulations and in action reflections (Schön, 2017) I made decisions regarding how to best cater and individualise which tools I used. Before delivering group sessions, I also checked the patients’ notes to identify if there were any patients with visual or hearing impairments so that I could cater accordingly and reduce any potential barriers to effective communication.

I was also required to present my formulations and progress with patients to members of the MDT at weekly ward rounds. This required me to be concise whilst also capturing all the key information of relevance to attendees. This sometimes included communicating on behalf of my patients (e.g., if they were unhappy with an aspect of their care). Initially I made lengthy notes prior to attending ward rounds, but as my confidence grew, I became less reliant on these and could present with a more conversational tone, which facilitated collaborative feedback from other members of the team. This ability to adapt a more informal tone has also benefitted me in a teaching and research setting. For example, when delivering teaching sessions, or conducting interviews and focus groups it enhanced rapport with learners/participants, encouraging them to speak more openly. This was particularly beneficial when conducting focus groups with high school children, who were initially quite hesitant to talk to researchers.

Furthermore, during my time on the doctorate, I have honed my ability to tailor my written communication style to an array of audiences. In addition to writing academic journal articles, I have written research lay summaries for participants, funders and industry research partners. I have also received training on and, contributed to the development of a research dissemination website. Additionally, I have had ample experience of developing participant facing research materials. In a clinical setting, I worked alongside the media team at RNOH to produce patient support resources (e.g., leaflets and workbooks) explaining psychological principles in an accessible manner. These have been printed and are regularly used to support patients within the service. Part of my role at RNOH also involved writing discharge reports and letters and I was particularly conscious of writing these in a way that would benefit the multiple recipients they were aimed at (GP, referring consultant and the patient). A key learning point in relation to my writing skills has been that for certain audiences, sometimes 'less is more', in relation to the complexity of language and sentence structure. Through feedback and supervision, I have benefitted from making my writing both more concise and accessible.

Development and Maintenance of Legal, Ethical and Professional Standards

At the start of my training, I ensured that I was familiar with the British Psychological Society's (BPS) Code of Human Research Ethics (Oates et al., 2021) and Practice Guidelines (British Psychological Society, 2017), alongside the HCPC's standards of proficiency for practitioner psychologists (HCPC, 2023). All my work and decisions have been guided by the BPS's Code of Ethics and Conduct four overarching primary ethical principles of respect, competence, responsibility and integrity (British Psychological Society, 2021).

Within my clinical role, there were several scenarios in which I had to consider safeguarding issues. In line with the research outlining a high prevalence of trauma in chronic pain populations (Afari et al., 2014; Maccarrone et al., 2021), it was not uncommon for patients to disclose traumatic events including abuse (historical and recent) to me. In line with the BPS practise guidelines, I sought advice from my clinical supervisor and colleagues within safeguarding services to ensure the safety of the patient and other potential victims. In one case, I needed to consider whether it was an appropriate time for the patient to engage in the PMP as they were not in the best headspace to get the most out of the programme. In collaboration with colleagues, I concluded that being on the residential programme was safer for them than being at home (see reflection 6).

I was often the first healthcare professional (HCP) that patients had disclosed such events to, and as such, I had to be mindful of my remit. Trauma focussed therapy was beyond my training and skillset and I had to ensure that I made patients aware of this, and that accordingly, I would need to refer them onto more appropriate services if they would like further support in relation to their trauma. I often felt a lot of guilt about this as I felt that it had taken the patients a lot to disclose such events to me, and then I was unfortunately not the right person to support them which meant they had to go through the process of opening up to another person. I often worried that this would be a barrier to them getting the help they needed (see reflection 7). Nevertheless, I respect the importance of working within my remit.

I have also upheld ethical standards within a research context complying with the BPS code of Human Research Ethics (Oates et al., 2021). A specific example relating to informed consent happened when I was conducting focus groups with construction workers. Two participants were struggling to read the information sheet and consent form due to limited English language. Their colleagues were telling them to just tick all the boxes without explaining to them what each box said. This would have rendered their consent as invalid as they were not adequately informed (Oates et al., 2021). I prioritised taking the time to sit with the participants, reading the information aloud whilst checking understanding before proceeding.

Organisational and systemic issues

During my time on the doctorate, I have worked within two large and complex organisations; the NHS and a university. Each faced their own organisational challenges. When I started my role at RNOH it was during the midst of the pandemic. Consequently, the waiting list for patients to access support was exceptionally long, which was exacerbated by the on and off closure off the PMP when core team members were redeployed to other areas of the hospital. It often felt like the service was in ‘firefighting mode’, struggling to keep up with the demand of waiting lists and targets.

This resulted in little time for non-essential activities (e.g., research) and impacted on the stress levels of staff.

The service that I worked within was specifically a pain psychology service. However, something that I regularly took to supervision was my difficulty in defining what fell within the remit of pain psychology. Due to the bidirectional relationship between chronic pain and mental health (Bondesson et al., 2018), it was difficult to determine whether a patient was an appropriate fit for the service. Turning patients away that did not fit the remit of our service (e.g., their mental health was not within the context of their pain) often felt like a moral dilemma, particularly when felt I had the tools to help them.

In a research setting I have noted systemic issues in relation to unrealistic funding and timelines for completion of projects. This meant that towards the end of my time as a research assistant I was working on multiple projects simultaneously as the funding for earlier projects had finished and I was required to move onto the next project, whilst continuing to work on existing projects. I noted the stress and strain this put on colleagues and myself. I also felt that this impacted on the quality of my work, pushing me to prioritise quantity over quality (see reflection 8).

Service user and carer involvement

My training has incorporated ample service user involvement. At RNOH I took the lead on collecting and collating patient feedback on the PMPs via feedback forms. This included the dissemination of feedback to the wider team and ensuring it was implemented to improve care provided. Likewise, when designing patient resources, I sought feedback from a group of patients regarding accessibility of language and understandability. This was helpful to ensure that the guidance was relevant and easy to follow.

I have also incorporated service user involvement in a research context. Many of my research endeavours stemmed from a desire to allow patients to have their voice heard. For example, my qualitative project derived from interactions with patients regarding their frustration that HCPs seldom understood the challenges they faced in relation to weight management. Likewise, the service evaluations that I was involved in at RNOH aimed to understand patients' perceived acceptability of the virtual PMP, with the aim of making improvements based on their findings. When designing research, I have also consulted service users. For example, I sought feedback from the chair of Fibromyalgia Action UK regarding the study materials for my qualitative study. His advice was invaluable in ensuring that my recruitment materials landed well with participants given the contentious nature of weight management. I also consulted an advisory group of industry experts regarding the design of a construction related research project. This was particularly crucial given my limited knowledge of the construction industry and they were able to advise regarding operational aspects of the industry and thus who and how to target recruitment. Finally, when helping to write a bid relating to designing a workforce intervention for health care workers, I co-interviewed a health care assistant regarding their thoughts on the challenges faced by health care assistants and their ideas of how this could be improved through intervention. This importantly ensured the proposed work would be relevant to them and thus worthwhile doing.

Giving Health Psychology Advice and Guidance to Others

Giving health psychology advice to others has been integral to many aspects of my training and roles. It has been demonstrated through my patient work, my discussions with MDT members and the delivery of in-service training and lectures. Something that I had to work on with my delivery of health psychology advice (particularly with patients) was in relation to the righting reflex. This refers to HCP's tendency to offer unsolicited solutions that they think will help the patient. However, this can paradoxically lead to the patient feeling unheard, disempowered and resistant to proposed changes (Gonzalez et al., 2022; Hall et al., 2020). I reflected that my initial struggles to refrain from doing this likely stemmed from my own insecurities and imposter syndrome (e.g., I wanted to offer patients something practical to take away from the session to feel of value). However, not only was this unhelpful for the patient, but it also fed into my own anxieties as I felt that I needed to know all the answers to the patients' problems immediately (see reflection 9). With experience, I grew skills in guiding patients towards making their own solutions by encouraging them to explore their own ambivalence and the discrepancies between their current and desired behaviours through the use of Socratic questioning.

Recognising the need for Continuing Professional Development

CPD is integral for ensuring that one's skills and knowledge are not only maintained but continue to develop throughout their career. This ensures continued use of evidence based practise and high quality patient care (HCPC, 2018; Rossouw & Hatty, 2013). Engagement in CPD is encouraged by the BPS and is a requirement of HCPC professional registration (BPS, 2017; HCPC, 2024). I have engaged in a wide variety of CPD activities including work-based learning (e.g., clinical/peer supervision and a reflective diary), professional activity (e.g., guest lecturing and presenting at conferences), formal education (e.g., attending courses and producing research papers) and self-directed learning (e.g., reading articles and books). In line with HCPC requirements, I have developed a system for recording my CPD activities and have collated evidence such as a reflective diary, meeting minutes from clinical supervision, materials I have produced, feedback I have received from others and course certificates.

I have particularly enjoyed attending courses on therapeutic approaches within a health psychology context (e.g., CBT for health psychologists and ACT for physical health conditions). I benefited from being able to implement and practise the clinical skills and techniques immediately in my practice with patients and it was rewarding to see the positive impact they made to patients' lives. Likewise, I enjoyed being a member of a Pain Peer Support Network, which was a networking group set up by my clinical supervisor for psychologists and academics working within a pain management setting in the UK. I found this to be a supportive environment to learn and connect with people with a common interest and will endeavour to join a peer support group related to any future roles.

With regards to future CPD, I would like to develop my skills in relation to the design and implementation of group interventions. Although I learnt a lot about managing group dynamics through regularly delivering group psychoeducational sessions whilst at RNOH, the programme of sessions was pre-designed, and therefore did not allow me the opportunity to experience group formulation and intervention development. Therefore, I will seek opportunities to grow in this area.

Personal development as a professional health psychologist

I have engaged in a continuous cycle of learning and growth throughout the doctorate, and I can see how my journey maps onto the four stages of competence proposed by Noel Burch. This includes the sequential navigation through; unconscious incompetence, conscious incompetence, conscious competence and unconscious competence (Adams, 2024) (see reflection 10). I started the doctorate with little clinical experience and recall that at the start of my journey I experienced worries in relation to 'not being good enough' or not possessing the necessary skills to provide patients with a service comparable to other more experienced psychologists (conscious incompetence). Within supervision, I explored how imposter syndrome could be impacting my work (e.g., perfectionist tendencies or overloading sessions with intervention techniques and consciously worked to reframe my thoughts and safety behaviours). Throughout my training I gained confidence, particularly through putting the skills and knowledge I had learned into practice and progressed through the stages of conscious and unconscious competence, until eventually it seemed like second nature to complete things that I found very daunting at the start of my training (e.g., delivering interventions or lectures).

To summarise my development, I am fortunate to of held two diverse work placements which have allowed me to develop professional skills across all the health psychology competencies. As I have progressed throughout each of my placements, my responsibility has increased. By the end of my time at RNOH I had my own caseload of inpatients and outpatients, for whom I made independent decisions regarding their treatment. Guided by supervision I have also developed autonomy in making decisions in relation to systems for legal, ethical, and professional standards in health psychology; for example, deciding on the appropriateness and fit of patients for a pain psychology service, as well as my own remit as a Trainee Health Psychologist. Likewise, by the end of my research post I was taking the lead on projects, liaising with ethics committees, and making autonomous decisions about design and analytic procedures. Moving forward, I am excited to continue utilising and developing my portfolio of experience and skills so that I can make a positive contribution to the health psychology field and the lives of patients.

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Chapter 2: Advanced Research Methods

2.1 Qualitative research manuscript

“They were thinking that I'm just being lazy”: A qualitative exploration of the weight management experiences of individuals living with fibromyalgia

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The data that support the findings are not publicly available due to containing information that could compromise the privacy of research participants.

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Author contributions
Chloe Mitchell: Conceptualisation, methodology, investigation, formal analysis, project administration, writing- original draft preparation, writing- review and editing.
Dr Karen Rodham: Conceptualisation, methodology, formal analysis, writing- review and editing.
Dr Jenifer Taylor: Conceptualisation, methodology, formal analysis, writing review and editing.
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“They were thinking that I'm just being lazy”: A Qualitative Exploration of The Weight Management Experiences of Individuals Living with Fibromyalgia.

Abstract

Objective: Fibromyalgia and obesity are frequently comorbid. Research proposes a reduction in BMI can improve fibromyalgia symptoms. Thus, weight management has been highlighted as an important component of fibromyalgia management. However, there is a dearth of research investigating barriers and facilitators to engaging in weight management related behaviours from this population’s perspective. Therefore, this study aimed to explore the weight management experiences of individuals living with fibromyalgia.

Methods: Thirteen participants with fibromyalgia were interviewed regarding their experiences of weight management.

Results: Three themes were constructed through inductive Reflexive Thematic Analysis: 1) An invisible balancing act, 2) Misunderstood and stigmatised and 3) Weight management – A neglected aspect of fibromyalgia care. Taken together, the themes demonstrate that those with fibromyalgia feel unfairly judged regarding their weight and unsure how to progress with their weight management goals as there is a lack of support that successfully integrates both their weight and fibromyalgia management needs.

Conclusions: We propose the need for individualised, problem focussed care that is delivered with empathy and aims to develop the self-compassion levels of patients, to combat internalised weight stigma and support positive weight-related behavioural changes.

Keywords: Fibromyalgia, Weight Management, Obesity, Pain, Pain Management, Qualitative

Introduction

Individuals living with long-term chronic health conditions, particularly those that limit mobility and are associated with chronic pain, are at an elevated risk of being overweight or obese (1). One such condition is fibromyalgia which is a complex chronic health condition with proposed prevalence rates of 1.78% in the general population and 3.98% in women (2). The condition is polysymptomatic and is primarily characterised by widespread chronic pain, sleep disturbances, cognitive dysfunction, and fatigue (3,4). For some it can also be associated with gastrointestinal issues, endocrine diseases, rheumatic diseases, neurological conditions and a variety of mental health conditions including anxiety, depression, bipolar disorder and post-traumatic stress disorder, thus adding to the complexity of the fibromyalgia presentation (5,6)

Obesity has a high epidemiological association with fibromyalgia, with a recent systematic review reporting the overall prevalence of fibromyalgia in obesity as 35.7% (7), which is remarkedly higher than the rate of fibromyalgia within the general population (2). Longitudinal studies have evidenced that those who are overweight or obese are at increased risk of developing fibromyalgia (8). The co-occurrence of fibromyalgia and obesity has been associated with perpetuations in disease activity, symptom severity (e.g., increased pain, stiffness, poor sleep), functional disability, depression, anxiety, and increased medication use in patients (9–15). However, findings suggest that weight loss can improve fibromyalgia-related pain outcomes, depression, sleep quality and quality of life in individuals with fibromyalgia (16,17).

The mechanisms underlying the two conditions are unclear. Several theories have been proposed, with perhaps the most prominent being mechanical overload on weight-bearing joints in obese patients (18). There is also discussion regarding similarities in alterations in endocrine function, opioid systems and inflammatory markers in both fibromyalgia and obesity, which could potentially result in increased hyperalgesia in individuals who have comorbid obesity and fibromyalgia (7). Behavioural explanations have also been offered with the suggestion that pain may result in fear-avoidance behaviours causing a reduction of exercise and physical activity, subsequently leading to an increase in BMI (11,19). The aforementioned factors can accumulate in a vicious cycle, as both high BMI and fibromyalgia have been associated with inflammation which can increase pain sensitivity, making exercise more difficult and hedonistic eating more likely (20). In sum, the reciprocal relationship between fibromyalgia and obesity is likely to be impacted by a complex interplay of biological, bio-mechanical, psychological, and behavioural factors (11).

The inclusion of a weight management component in fibromyalgia treatment is increasingly being recommended (7,17,21,22). A combination of increased physical activity and encouragement of dietary habits that reduce the risk of excess energy intake has been recommended by NICE for both the maintenance of healthy weight and the management of obesity (23,24). However, given the physical and psychological symptoms associated with fibromyalgia (e.g., widespread pain, fatigue, cognitive dysfunction, anxiety and depression (4), it is likely that individuals with fibromyalgia will face unique challenges in engaging in these behaviours. Therefore, to develop a successful weight management intervention for fibromyalgia patients, an understanding of the determinants of current and desired behaviours concerning weight management is necessary.

A recent systematic review of quantitative studies concluded that co-morbid depression and higher pain intensity were the most consistent barriers to engagement in physical activity for individuals with fibromyalgia, whilst higher self-efficacy and endurance were the most consistent enablers (25). With regard to eating behaviours, research indicates that individuals with fibromyalgia tend to demonstrate higher levels of emotional eating and reduced satiety, supporting the notion that the relationship between fibromyalgia and obesity may be mediated by a hedonistic pathway (26). However, beyond the mechanisms of hedonistic eating there is a dearth of research investigating the barriers and facilitators regarding healthy eating for individuals with fibromyalgia.

Whilst prior quantitative research provides insights into the underlying mechanisms and predictors of engagement in weight management behaviours for those with fibromyalgia, there is a paucity of research investigating barriers and facilitators to engaging in weight management related behaviours informed by the individual's perspective. A qualitative approach would enable researchers to gain insight into what individuals with fibromyalgia perceive to interfere with, hinder or aid their weight management efforts. Only then are intervention design efforts likely to address the specific needs and challenges that individuals with fibromyalgia have in relation to engaging in weight loss related behaviours.

To the authors' knowledge, there is only one prior published qualitative study investigating this, which was a focus group study based in America (27). This study highlighted that the complex medical and psychosocial difficulties faced by individuals with fibromyalgia complicate their weight management experience (27). For example, engagement in exercise and the preparation of meals was made more difficult due to symptoms of fatigue and pain, with participants highlighting a need for a specialised weight management programme for women with fibromyalgia. Given that Craft et al., (27) conducted their study over eight years ago and it was based within an American context which has unique health care and food systems, there is a need for more qualitative research to explore the weight management experiences of individuals living within other countries. Furthermore, an individual interview approach to data collection may facilitate a more in-depth discussion from participants (28), especially given the emotionally laden aspect of weight management.

This study aims to build on the existing research by exploring the weight management experiences of individuals living with fibromyalgia, including the challenges they may experience when it comes to eating healthily and engaging in exercise, and their perceived support needs in relation to weight management. Accordingly, this research aims to address the question: what are the weight management experiences of individuals living with fibromyalgia?

Methodology

Study Design

A qualitative design utilising in-depth semi-structured interviews was employed. Individual semi-structured interviews were chosen to enable us to explore each participant's experiences in detail, facilitating the collection of rich data which is beneficial when investigating under-explored topics (29).

To ensure their appropriateness, the recruitment materials and interview schedule were shared with a member of Fibromyalgia Action UK and feedback was incorporated accordingly.

Participants

Participants were predominately recruited via the charity Fibromyalgia Action UK who advertised the study through their social media channels. The study was also advertised on the lead researcher's Twitter account and by request the post was shared by relevant organisations, academics and members of the public. The advertisements included a summary of the study alongside the recruitment poster and a link to access the online participant information sheet. To participate, participants must have had a diagnosis of fibromyalgia for at least a year; were actively trying to lose weight or had tried to lose weight in the past, were over the age of 18, able to speak and read English, and were not following a restrictive dietary regime due to another comorbid medical condition. Given the potential sensitivity of the topic, participants who had either a current or previous eating disorder diagnosis were asked to not take part.

Thirteen participants were recruited; 12 identified as female and 1 preferred not to say. This gender split was anticipated in line with the higher prevalence of fibromyalgia in women (2). Participants ranged in age from 27-70 years (M= 45). Nine (69.23%) stated their ethnicity as British and the remaining four were African, Indian, Caribbean, and New Zealand European respectively. The mean BMI of participants was 35.5 and according to NICE (23) guidelines 30.77% were obesity class 3, 38.46% obesity class 2, 7.69% overweight and 23.08% were a healthy weight. Eleven out of the 13 participants reported having comorbid health conditions (see table 1 for more information).

Table 1. Participant demographic information

Pseudonym	Age	Gender	Ethnicity	BMI	Comorbid medical conditions
Emma	40	Female	New Zealand European	19.3 Healthy weight	Recurrent patellar dislocation Attention deficit hyperactivity disorder (ADHD)

Mia	39	Female	Caribbean	38.5 Obesity class 2	Joint hyper mobility Inflammatory arthritis Sinus tachycardia Irritable bowel syndrome (IBS) Asthma
Kendra	42	Female	African	45.4 Obesity class 3	Spinal lumbar stenosis
Ash	39	Prefer not to say	Indian	36 Obesity class 2	Long covid IBS
Layla	27	Female		37.2 Obesity class 2	Polycystic ovarian syndrome Mixed anxiety-depressive disorder Pyelonephritis Rotator cuff syndrome Sciatica Sacroiliac joint pain.
Tessa	54	Female	British	27.9 Overweight	Gallstone
Delilah	31	Female	British	35.7 Obesity class 2	Dysthymia
Maria	32	Female	British	24.3 Healthy weight	None disclosed
Julia	56	Female	British	42.5 Obesity class 3	Lower back pain
Mandy	70	Female	British	45.9 Obesity class 3	Asthma Mixed connective tissue disease Arthritis
Florence	54	Female	British	35.2 Obesity class 2	Depression Pernicious anaemia High blood pressure Diverticular disease IBS
Rose	43	Female	British	21.7	None disclosed

				Healthy weight	
Michelle	58	Female	British	41.1 Obesity class 3	Osteopenia Osteoarthritis

Procedure

After reading the online information sheet, participants were directed to an online consent form. Once consent was obtained, participants were asked to complete a short online demographics questionnaire (including questions regarding their age, gender, height, weight, and comorbidities) and asked to leave their contact details so an interview date could be arranged. The lead researcher conducted the interviews via Microsoft Teams following the semi-structured interview schedule (see table 2) flexibly, incorporating unplanned follow-up questions. Interviews lasted between 28 and 72 minutes *M*=44 minutes. The interviews were recorded on Microsoft Teams and later transcribed verbatim with all identifying information removed. After completion of the interview participants were provided with debriefing information and the opportunity to ask any questions.

Table 2. The semi-structured interview schedule

Question	Probes
1) Can you tell me a little bit about yourself and your fibromyalgia?	How long have you had fibromyalgia? What are your symptoms like?
2) Can you tell me about your relationship with your weight?	Happy/unhappy with weight? Why?
3) Have you tried to manage your weight in the past or currently? If so, how?	
4) How important do you think your weight is in relation to management of your fibromyalgia?	Why do you think this? Where have you got this information from? What impact (if any) do you think your weight has/ has had on your fibromyalgia?

5) Can you tell me about your experience of managing your weight alongside having fibromyalgia?	
6) What (if anything) has made it hard for you to manage your weight alongside fibromyalgia?	
7) What things (if anything) have helped you to manage your weight?	
8) What support if any have you had from others to help you manage your weight alongside fibromyalgia?	Can you describe what you think of this support?
9) What advice/ support have you received from health care professionals in relation to managing your weight alongside fibromyalgia?	Can you describe what you think of this support?
10) How could health care professionals support you better in helping you to manage your weight?	
11) What advice would you give to someone recently diagnosed with fibromyalgia about weight management?	
12) Is there anything that you would like to share that we haven't already discussed in relation to fibromyalgia and weight management?	
13) What is the most important thing you have told me today.	

Ethical Considerations

This study was granted full ethical approval from Staffordshire University Ethics Committee. All participants were allocated a pseudonym to protect their identity.

Analysis

Transcribed interviews were analysed using Reflexive Thematic Analysis (RTA) (30–32) to construct themes across the dataset. The ontological positioning of the study was informed by a critical realist perspective, recognising that the researchers access to 'reality is mediated and shaped by human practices (31) (e.g., the researchers' interpretations of the data provided by participants is seen through the lens of the researchers' prior experiences and knowledge). This study aims to reflect participants' accounts and perceptions of weight management, whilst also acknowledging that the researchers' own experiences and beliefs will influence their interpretations of the data. RTA positions researchers as active and reflexive, acknowledging their agency in the co-production of knowledge throughout the research process (33,34) accordingly, it is fitting with the aims and ontological underpinnings of the current study

Braun and Clarke's (31) six-stage approach to RTA was followed iteratively, with movement backwards and forwards between stages as necessary. Table three outlines the specific steps taken by the authors in line with this approach.

Table 3. Outline of Reflexive Thematic Analysis steps

Reflexive Thematic Analysis Stage	Implementation
Stage 1: Familiarisation	• Familiarisation included listening back to audio recordings, transcribing interviews, re-reading transcripts and making note of areas of potential interest.
Stage 2: Data Coding	• The data was coded inductively utilising NVivo software (release 1.7.1) to break down the data into smaller meaning units, which formed the building blocks of analysis (35). • Coding reflected explicitly expressed meaning at the surface level of participants' transcripts. • Example codes include: weight management advice conflicting with pacing advice, emotional eating, balancing life demands with weight loss, limited resource of energy.
Stage 3: Generating Initial Themes	• The codes were then clustered to generate tentative themes underpinned by a central organising concept (32). This was completed by printing out codes and physically grouping them

	together into piles to help visualise the data, alongside thematic diagrams to. These groupings were later transferred to NVivo. • Thematic diagrams were also created to show the interconnectedness between the themes and subthemes.
Stage 4: Reviewing and developing themes	• Once the initial themes were generated, they were defined and given a narrative description, ensuring that they clear boundaries and sufficient homogeneity within themes and heterogeneity among themes (36). • Themes were also reviewed against the quotes and the entire dataset to ensure they were a good 'fit'.
Stage 5: Refining, defining and naming themes	• Themes were discussed with members of the research team. This process enabled the team to explore multiple interpretations of the data, therefore ensuring that the richness of the data is captured (33). • Based on these discussions further refinements were made. This included the collapsing of two themes that were overlapping. • During a final revision, a further theme was collapsed.
Stage 6: Writing up	• Anonymised quotes were selected to illustrate aspects of each theme and subthemes. • The findings were contextualised in relation to existing literature and the research objectives.

Researcher characteristics and reflexivity

The research team consisted of a mix of academics and practitioners all within the field of Health Psychology. Although an inductive approach was adopted, several of the authors had experience of working clinically with patients with fibromyalgia and therefore acknowledged that their prior experiences will have inescapably informed the analysis. The lead author kept a reflexive diary and discussed select reflections during supervision sessions throughout the analytic process.

Results

Three themes were constructed through RTA of the data: 1) An invisible balancing act, 2) Misunderstood and stigmatised and 3) Weight management: a neglected aspect of fibromyalgia care.

Figure 1. Thematic map

Theme 1: An invisible balancing act

This theme portrays participants' accounts of engaging in a balancing act comprising of everyday life demands, weight management and the management of their fibromyalgia symptoms. This balancing act often felt unsustainable, and participants reported engaging in a constant cost-benefit analysis regarding engagement in weight management behaviours. Due to their fibromyalgia symptoms, participants presented weight management behaviours as a considerable opportunity cost, that impacted their fibromyalgia symptoms and thus their ability to complete other activities and life demands. The first sub-theme explores how participants made decisions regarding exercise and how to spend their limited reserve of energy, whilst the second sub-theme captures participants decision-making around eating behaviours.

1.1. The cost-benefit analysis of exercise - 'Is that then gonna put me out for the rest of the day?'

A significant barrier that participants experienced when it came to weight management was a limited tolerance to physical activity due to high levels of fatigue and an increased sensitivity to pain. Participants described starting from an already compromised position in comparison to those who did not have fibromyalgia: "*You get up from bed, you're tired so it's like you've never slept*" ***(Kendra).*** This made participants cautious regarding energy expenditure and engaging in activities that may trigger pain: "*I think the fibro has had an impact. It's had an impact on my willingness to put myself through painful experiences to lose weight*" ***(Mandy)***. Participants described their decision to engage in exercise as a calculated risk analysis that involved intricate planning and considering things that "*People who don't have a condition that* *makes them tired. They don't those things, they don't even acknowledge"* ***(Delilah)***. Delilah clarifies:

> *"It's like OK? Well. Where are we going to walk? What's the route? How long is it? Is that going to be manageable? How long is it gonna take me? Is that gonna then put me out for the rest of the day? Am I not gonna be able to do anything else? Well, what else have I gotta do today? Can I afford to be out for the rest of the day? And so you've got that whole thought process"* ***(Delilah).***

This quote highlights not only the physical burden of exercise but also the mental burden and decisional fatigue that participants faced. Julia similarly describes the analytic thinking that is required before deciding to do something that might exert too much energy:

> "*I think that might be a fibromyalgia thing where you have to sort of choose what your day is gonna be like"* ***(Julia)***.

The emphasis on 'choose' implies that there is always a sacrifice to be made or an opportunity cost incurred. When exercise had been prioritised, participants felt that they were then *'paying the price'* ***(Ash)*** afterwards as it resulted in a flare-up in pain and exhaustion which impacted them for several days. This is depicted by Emma:

> *"Sometimes I've pushed through. And just been like you'll be fine. Just get on with it (...) but then I'm out for like the rest of the week. Like. Yeah. And so it's. Yeah, it's always a trade-off."* ***(Emma)***.

Emma's reference to 'trade-offs' illustrates participants' constant assessment of priorities, with exercise often not being '*top of (their) list of priorities'* **(Tessa)**. Knowing the impact that exercise could have on their pain and energy levels led participants to plan it last within their schedules to minimise the resulting impact that it would have:

> "*I have to make sure I do it the other way round. So, if I'm gonna wipe myself out, I'll make sure I've got nothing else I need to do that day"* **(Rose).**

1.2. The cost-benefit analysis of eating behaviours

Similar cost-benefit analyses were conducted in relation to healthy eating practices. Participants struggled to make healthy meals due to their symptoms (e.g., fatigue or pain when standing or chopping) and instead often reached for convenience foods that were typically unhealthy. From an energy conservation perspective, some participants decided to calorie restrict rather than focus on the nutritional value of food:

> *"I find it easier to eat less rather than eat the right things, necessarily. Because generally the right things take a lot more preparation. So I find if I just eat smaller amounts of things. Even if it it's not the best thing to be eating"* ***(Delilah).***

Furthermore, participants tended to rely on food to reduce the impact of their symptoms on their daily functioning. For example, when fatigued they often reached for "*easy to grab, carby foods*" **(Tessa).** Despite acknowledging that this strategy conflicted with her weight management goals, Mandy justified that it was necessary to help her 'function':

> *"And some of the things that I eat which give me the energy to function are tremendously bad for my weight"* ***(Mandy).***

Other participants felt reliant on this as a strategy to help them prioritise aspects of their lives that they valued such as "*being a present mother with (their) kids*" ***(Ash)***, thus demonstrating a further cost-benefit analysis that participants engaged in concerning the integration of weight management behaviours into their life.

> *"With three kids in the house, you need to have that kind of energy going and for that the easy fix for me is to go and eat something sugary, get that sugar rush going, do the activity that needs to be done, and then you crash"* ***(Ash).***

For some participants, food was used more as a comforting coping mechanism. This was from both an emotional comfort eating perspective and a physical pain perspective, with some participants reporting food to have an analgesic effect. The quote from Layla below highlights how pain, mood and eating choices can result in a vicious cycle that hinders her weight management efforts.

> *"Like when I'm in pain, I get depressed and then depression equals eating basically because that's what I do for comfort"* ***(Layla).***

Theme 2: Misunderstood and stigmatised

This theme captures the participants' challenges of living with two stigmatised conditions: obesity and fibromyalgia. There are close links between this theme and the prior, with the invisibility of the participants balancing act feeding into the stigma that they experience, but also the stigma experienced by participants adding to the burden of their balancing act through mechanisms of isolation and emotional distress, particularly when this stigma became internalised. The first subtheme describes how the invisibility of fibromyalgia and the visibility of their weight interacted to increase the stigma that they experienced, while the second subtheme highlights how participants experienced stigma in a health-care context. Finally, the third subtheme reflects on the impact of internalised stigma.

2.1. The invisibility of fibromyalgia perpetuating weight stigma

Consistent among the participants' narratives was a perception of a lack of compassion and understanding from others regarding their weight management difficulties. In many cases, they felt that they were being blamed and judged for their weight whilst their pain and other symptoms were dismissed. Kendra highlights this with an experience in which her friends had assumed her mobility issues were caused by her weight rather than her pain:

> *"And I've always struggled with pain my friends used to laugh. Why can't you run? Is it your weight? I said it's not my weight. It's just that I'm in a lot of pain"* ***(Kendra).***

Participants discussed how they felt the invisible nature of fibromyalgia exacerbated the judgement they faced regarding their weight. Ash explains:

> "*It would be easier to have a physical something happened to you then. And that is a battle. Every day they just don't know what you're fighting" **(Ash).***

Ash's description of "a battle", indicates their distress regarding being misunderstood in terms of their condition. Emma offers further insight into this by describing the implications of having a physically invisible condition compared to a visible one:

> *"I think there's still a lot of stigma around cause, yeah, like, it's the old thing. If you're walking with a broken leg, everyone will be like, are you OK? You know, what do you need? (...) But with fibro you don't see that? So it's your own mental battle as much as anything else" **(Emma).***

Participants also worried about others making assumptions regarding their character and motivation based on their weight. For example, Delilah was concerned about people perceiving her as *'lazy'* and **'***not doing anything'***,** whilst being unaware of the invisible demands of fibromyalgia that she was contending with. This concern prevented other participants from attending exercise classes due to a fear of people making judgements about their involvement in the class. Emma recounted a time that she had attended a spin class and the instructor (who did not know she lived with fibromyalgia) had encouraged her to push herself harder, beyond her pain limits. This example also links back to Theme 1 which focused on how participants were engaged in a constant round of making cost-benefit judgements, and the subsequent theme about a lack of appropriate weight management support:

> *"There's still this, like, real trade-off for me (...) Other people don't see me as sick. I was sitting in a spin class once and they were like everyone in the back row. Turn up your dials! And I was like, I can't turn up my dial and then they came around and they were like, come on up your dials! And I'm like no, I literally cannot!! I know it doesn't look like I'm working very hard but I really am. I think that's the other hard thing. It's that kind of hidden stigma around, you know? Yeah, you might be in the gym and you might look like you're not doing anything, but actually you working your body as hard as it can, even if it doesn't look like it" **(Emma).***

Emma felt unfairly judged regarding the effort she was perceived to be putting into the class. This experience acted as a barrier to her attending future classes and was something other participants also mentioned. This demonstrates how the stigmatisation of obesity and lack of awareness of fibromyalgia can have negative social and psychological implications and present as a further barrier to participants engaging in exercise.

2.2. Stigma within the healthcare context

The feeling of being judged and stigmatised extended to the health care context. When confiding in their GP regarding their difficulties in attending an exercise class, Ash felt that their GP was attributing their lack of progress to their effort, leaving them feeling judged and misunderstood.

> *"I'm being genuinely honest to them, and they were thinking that I'm just being lazy. I'm just struggling (...) but it wasn't that I didn't wanna try or I didn't understand, I physically couldn't do it and for them not understanding where I'm coming from. That was hard. That was really hard"* ***(Ash).***

Ash's emphasis on 'genuinely honest' reflects them trying to express their sincerity (perhaps even to the interviewer) and highlights their frustration regarding putting themself in a vulnerable position with someone they thought would be understanding of their struggles, but instead being met with a lack of compassion and empathy. Kendra also felt blamed by HCPs for her weight and that there was a general unwillingness to understand her struggles and provide her with support.

> *"Don't patronise, them. And then don't speak to them as if it's their fault that they can't lose weight. I don't think anyone intentionally wants to put on weight. It's just to support, support them by listening to them and trying"* ***(Kendra).***

Mandy similarly shared frustrations regarding the lack of empathy shown by HCPs and reflected on how influential empathy had been in helping her to lose weight many years before when attending a private weight loss support group.

> *"And have empathy not necessarily sympathy. I need their empathy. I think that's really important for me. So the lady who got nearly six stone off me absolutely couldn't understand how I felt because it wasn't her experience, but she certainly empathised that I got a problem and she needed to help. And that obviously had a serious impact on me"* ***(Mandy).***

Some of the participants suspected that the lack of compassion and understanding from HCPs was rooted in HCPs' beliefs and scepticism about fibromyalgia. Michelle reflected: '*I don't actually believe she believed in fibromyalgia'*. Rose attributed this towards the complex history and debate among clinicians regarding the pathogenesis and legitimacy of the condition (37):

> "*That hangover of thinking it's psychological is still there (...) I've been reading that a lot that people with fibromyalgia are seen as malingerers. And I'm like I don't malinger bloody hell"* ***(Rose).***

Other participants shared similar concerns regarding HCPs having a negative perception of them: '*my sort of perception is that people think we're whingers'* ***(Julia)***, and unfortunately this impacted their willingness to seek medical help. Tying into the next theme regarding the lack of weight management support available for individuals with fibromyalgia they felt the perceived stigma around fibromyalgia impacted the quality of their care and the weight management advice they experienced, with HCPs disregarding the fibromyalgia specific challenges they faced and instead giving them generic weight management advice that was unsuitable. Some of the participants explained that they had been told by doctors that their weight was responsible for their symptoms and therefore the answer was to simply lose weight. Whilst many agreed that losing weight would likely help their symptom severity, they were frustrated that their experiences were being delegitimised.

> *"One of the key things is actually understanding that the pain is real. You know, fibromyalgia is all in the brain, isn't it, all in the mind, still for far too many medical professionals. You know, I have actually had one of the consultants (...) he said to me, 'you know the answer to all your problems with pain is to lose weight. So go and lose weight'. And he said 'so, you know, go lots of*

> *walking, lots of swimming, go and lose weight. Then you'll be fine. Ohh, it's all in your mind this fibromyalgia nonsense', he said."* ***(Mandy).***

2.3. Self-stigmatisation: "I'm this disabled mess".

Likely perpetuated by the stigma that they had experienced from others, many participants evidenced internalised weight stigma. This was demonstrated by poor body image and self-esteem amongst participants with some displaying extremely self-critical beliefs, noting a relationship between an increase in weight and a decline in their perception towards themselves. Whilst explaining her current difficulties with managing her weight Layla said:

> *"And it's almost embarrassing. You know, you go from this really ambitious person who was exercising and going to the gym and making friends. And now you know, a few years later and everything's gone downhill so quickly and I'm this disabled mess basically (...) I was ashamed that I had gotten to, you know, this size. I wasn't used to seeing my body the way it is"* ***(Layla).***

Layla's use of the words 'ashamed' and 'embarrassed' reflects her internalisation of weight stigma. Furthermore, her juxtaposition of 'really ambitious person' to 'disabled mess' reflects a sense that she has potentially conflated her struggles with weight management to other aspects of her life, blaming herself for being unable to implement standard weight management advice. Tessa expands on this with an observation from a pain management course she attended, noting that people were critical of themselves for not being able to implement weight management behaviours:

> *"And I just got the feeling from this sort of workshop with the people that were there that we are kind of beating ourselves up a little bit because we're not doing those things"* ***(Tessa).***

The implications of poor self-esteem and an internalisation of weight stigma extended beyond negatively impacting participants' emotional wellbeing, to also affecting their pain and thus their ability to exercise and manage their weight. Michelle describes being trapped in a vicious cycle, with '*not liking the way (she) looks*' being a connector of the cycle by worsening her mental health and pain outcomes.

> *"I can't stand to look at myself in the mirror. I've already got like, the mental health thing going on because I can't do the things I would normally do. And so by not liking the way I look. Impacts on your mental health as well, which all kind of like seems to link in with the pain. And if I can't move the way I would like to move then that pain. Gets worse as well, so it just seems to like go round in circles"* ***(Michelle).***

To combat feelings of inadequacy and frustration in relation to weight loss, both Emma and Maria suggested setting functional goals that aren't just based on weight loss:

> *"I think maybe the other part of it too is having little goals that are manageable as well. So again, it doesn't become so much about the weight necessarily, but it might be some other goals in terms of fitness or whatever, so that you can, you can get really excited that if the weight doesn't come off as much as you'd like it to or your body doesn't respond, you've still got these other things to celebrate, to reward yourself with the effort you put in"* ***(Emma).***

Emma highlights that focusing on 'manageable' non-weight-related goals can be beneficial for motivation and encouraging a more compassionate perspective to oneself. Likewise, Maria suggests taking a more positive approach, focussing on what her body can do rather than what it cannot do helped her to reframe her relationship with her weight and fibromyalgia.

> *"I learnt to recognise my weight and myself not as my weight and my body is not just my weight (...) I started appreciating what my body could do (...) instead of constantly telling myself all the things that my body was unable to do because of fibromyalgia or all the things that I felt self-conscious of because I was fat"* ***(Maria).***

Theme 3: Weight management: a neglected aspect of fibromyalgia care

This theme reflects on the participants' difficulties accessing weight management support that also accounted for their fibromyalgia symptoms and pain management needs. The first sub-theme reflects on the lack of availability and accessibility of both verbal support and physical resources and interventions for weight management; whilst the second sub-theme highlights the lack of integration between weight and fibromyalgia management approaches and the inappropriateness of non-tailored weight management support.

3.1. Lack of availability and accessibility to fibromyalgia specific weight management support

Many of the participants reported that they had not received any weight management support from HCPs. Some had been told they were overweight/ obese by HCPs and '*left to get on with it* '**(Florence)** and '*do the best (they) can*' **(Michelle).** Others had specifically sought help with their weight but had been left feeling dismissed. Despite having a BMI of 42.5 (calculated from survey data) Julia reported the following experience with a nurse:

> *"So, she weighed me and (...)And I said, "look (...) I'm this weight and I'm stuck and I'm just not moving". And she said 'oh that's fine. You know, you're absolutely fine'. And I'm thinking I'm not absolutely fine. There's no way as a healthcare professional, you could look at me being five foot two and think 15'8 (stone) is fine"* ***(Julia).***

This quote from Julia highlights her disbelief in the lack of support available. Despite having identified the need to lose weight and attempting to pursue help, she was dismissed. This likely increased her perception of feeling 'stuck', with her nurse acting as a gatekeeper to further support. Furthermore, participants were particularly disappointed in the lack of warning and support that GPs gave them in relation to the potential impact of the medication they were given to manage fibromyalgia symptoms and weight gain. To prevent patients from feeling 'alone', Layla highlights the importance of patients being fully informed regarding the side effects of medications:

> *"I think it's really important for GPs to straight away, you know, acknowledge the risk of weight gain and say look if this is happening please just you know let me know and then we will go through it together because with fibro it's not only the pain, it's everything else you know the weight gain, the depression,*

> *anxiety that comes with. And then you feel like you're all alone and no one is there to help you."* **(Layla).**

Participants felt there were missed opportunities for integrating weight management support throughout their care. Reflecting on her time at a pain management programme, Tessa recounts that despite multiple patients disclosing their struggles regarding engaging in weight management related behaviours, this was not touched upon within the programme.

> *"I did feel (...) a lot of people were steering it back to "I'd like to exercise more but can't" and, some people are saying "I don't feel like I'm eating any more than I've ever done. But I'm putting all this weight on". Other people were saying. "I'm just craving chocolate all the time. I just want the sweet stuff in the carbs", so you know, I think there is a lot of it out there with people with fibromyalgia. I think it would have been good way to add the thing to the workshop and I think maybe through the GP as well. I mean, I've not really had any support from my GP since I've had a fibromyalgia diagnosis"* **(Tessa).**

This presents as a missed opportunity in which patients could have accessed tailored advice and support from professionals who are understanding and knowledgeable of their fibromyalgia needs.

Not only did participants experience barriers in relation to receiving verbal advice and support from clinicians, but they also struggled to access physical resources. Due to the warmer water and reduced impact on joints many found the most beneficial and feasible form of exercise to be hydrotherapy. However, this was often inaccessible due to the need for referrals, session caps and a general lack of availability. Mia's quote below demonstrates some of the obstacles that participants had to contend with to be able to attend facilities that would make their weight management experience easier.

> *"And she's like, "oh, well, you need hydrotherapy". So, she's like, "call your physiotherapist and make sure they refer you". I called them and they said we can't do the referral, something about funding, blah, blah, blah"* **(Mia).**

3.2. Poor integration between fibromyalgia and weight management approaches

This subtheme encapsulates participants’ experiences of a lack of integration between weight and fibromyalgia management approaches. Often fibromyalgia specific needs were neglected in the weight management support provided to participants, making it unsuitable for them.

As a result of the lack of tailored support available, participants felt their only option was to attend generalised weight management classes and groups. However, these were often unsuitable: ‘*So there were a lot of exercises that involved kneeling down and doing things on your, on your knees, and I can't do it. It was too painful. I just can't kneel’* ***(Rose),*** and there was a concern that session facilitators were not equipped with adequate knowledge about fibromyalgia.

> *“I do want help and advice on weight management. If I went to Slimming World or, you know, Weight Watchers, anything like that, do they know (...) the obstacles and the hurdles?” (Julia)*

Delilah builds on this explaining that she does not feel comfortable telling instructors about her fibromyalgia in case they gave misguided advice that increased her pain.

> *“In my mind, I'd be like yeah, I could tell her but what if they're not prepared? What if they don't understand? What if they think they're telling me the right thing to do and it's not. (...) There's no guarantee that somebody who's a Pilates instructor has covered that in their training (...) So, to just spring it on them and then be like “ohh and I'm gonna join it now. Is that alright?” They’ll be like (pulls a worried face)”* ***(Delilah).***

Unfortunately, Mandy found that even the classes recommended by her GP were not suitable, with the leaders having a deficit in knowledge around fibromyalgia. This impacted her confidence in attending the classes.

> *"I've been to a couple of classes recommended by my GP and in both cases, the instructor said, have you got any health problems? And I said I have fibromyalgia and they said "what's that?"* (…) *but once I got that response, I just thought, ah, you know what? Why am I bothering? It wasn't it wasn't the response I needed to hear." **(Mandy).***

Furthermore, participants reflected that they would often receive separate and incompatible advice regarding weight and fibromyalgia management from HCPs.

> *"You get all the advice about pacing, but when you do try and pace you are then being told, that's not enough"* **(Florence).**

> *"I think one of the big downfalls is when you see a health professional, they tell you you are overweight, and the first words are "you need to lose weight and exercise more". And don't take into account the fact that that even exercising that bit more than you're doing at the moment could just be enough to tip me into a flare for symptoms and actually end up worse" (***Florence).**

Florence explains that in her prior experiences with HCPs, they had neglected to consider the interaction between her pain and weight management difficulties. This highlights fragmented and disjointed care, indicative of HCPs taking a narrow problem focussed approach to weight management, rather than a person-centred approach which considers other aspects of patient's health including their fibromyalgia symptoms.

Participants also reflected on how typical weight management approaches or advice tended to neglect the importance of self-compassion, which was a crucial aspect of their pain management.

> *"That self-compassion piece is I think that's probably the most massive part of it because even on the days when I feel like I want to go and do something, my body's holding me back. I just have to let it go and just kind of find something else to do that's just gonna let my body rest. And it's taken me a long time. Well, not a long time. It's taken me a while to feel comfortable with just being like,*

> *ok, it is what it is (...) I reckon in terms of that weight management piece, that to me would be one of the cornerstones of it all"* ***(Emma).***

Emma's quote highlights that self-compassion has behavioural implications in relation to allowing herself to rest and not push beyond her pain and fatigue limits. In turn, this impacted her weight management efforts by allowing her to exercise more consistently.

Maria (who is an occupational therapist) highlights the importance of individualising weight management support for individuals with fibromyalgia due to the variation in symptom presentation. She proposes that this will help to identify what specific barriers an individual is encountering in relation to weight management and from this they can be offered tailored support from a problem-solving perspective. For example, in relation to supporting someone overcome barriers to preparing health meals she suggested: '*getting someone a perching stall'* or *'things that might help with grip' or* looking at options such as '*batch cooking or one pan tray bakes'.*

> *"I think getting the basics of like I think understanding like weight management from a general population perspective and then understanding what that individual with fibromyalgia's problems are based on their fibromyalgia and then tackling those same categories (...) the only way that you can understand how fibromyalgia is impacting that is to ask every individual because like my story is gonna be completely different to somebody else's, isn't it? Because it's such a broad spectrum of symptoms"* ***(Maria).***

Discussion

This study contributes a new perspective to weight management when living with fibromyalgia by qualitatively exploring and providing an in-depth account of weight management experiences for those diagnosed with fibromyalgia. Similarly to prior studies investigating the experiences of individuals with Rheumatoid Arthritis and Chronic Obstructive Pulmonary Disease (38,39), the participants within the current study reflected on the challenge of juggling daily life demands alongside a chronic health condition. However, participants in the current study felt they had the added challenge of weight management. Often, they felt that their priorities conflicted with each other and that the prioritisation of one would come at the detriment of another. Given that an increase in movement is recommended for weight management (23) and activity pacing, which involves modifying behaviours of under and over activity, is a key component of pain management (40–42), it is unsurprising that participants found it difficult to balance the two in addition to their daily life demands.

Comparably to the participants in Craft et al's., study (27), participants reported being trapped in a vicious cycle in which they felt they made little progress on either their weight or pain management goals. For example, prioritisation of weight management following 'standard' weight management advice often resulted in over exertion and a flare up in symptoms which not only prevented them from maintaining exercise for weight management but also reduced their functioning and ability to engage in daily life demands. However, if they prioritised fibromyalgia management and followed advice in relation to pacing, they felt that they were unable to progress with their weight management. This resulted in participants constantly analysing the payoff of engaging in weight management behaviours and for many, they felt that the payoff of weight management was too high. Consequently, their weight management was placed on the back burner whilst they prioritised the management of their fibromyalgia and everyday tasks first.

In line with prior chronic pain research (e.g., (43,44)), due to the invisible nature of fibromyalgia, the participants felt that there was a lack of awareness from others (general public and HCPs) regarding their fibromyalgia related challenges. This perpetuated the stigma that they experienced due to their weight which in contrast, was an observable characteristic. Their experiences of discrimination and prejudice prevented them from wanting to engage in activities which may facilitate weight management such as seeking medical attention or attending exercise classes.

One explanation for the stigma experienced by participants may be that the mainstream weight management narrative within Western societies is driven by a healthism discourse which is heavily focussed on personal responsibility, control and will power (45) positioning those who are overweight as irresponsible with a lack of self-discipline (46). This neglects the multifaceted and complex nature of weight management which, as noted by the participants within this study, is further complicated for individuals living with fibromyalgia. Furthermore, the themes within this study also highlight that determinants of weight management expand beyond the individual to include social and systemic determinants (e.g., access to support), thus highlighting the healthism perspective as reductionist.

Prior research has noted the association of weight stigma with both negative psychological and pain related outcomes, particularly when internalised (47–49). Perhaps reflecting an internalisation of weight stigma and healthism ideals, participants were at times extremely self-critical regarding their struggles with weight management. They alluded to how this could also hinder their weight management efforts, by off railing their prioritisation of pain management. For example, pacing can be particularly difficult for patients who have high levels of shame and self-criticism. Armitage and Malpus (50,51) have coined this group of patients as ‘strivers’, identifying that they have a tendency to push through their pain, putting them at risk of persistent fatigue and long-term burnout, which could have a negative long-term impact on their weight.

Participants felt unsupported by HCPs regarding how to manage their fibromyalgia and weight concurrently. Guidelines stipulate that HCPs should raise the topic of weight opportunistically with obese and overweight patients and provide appropriate support and intervention (23,52). However, the subject of weight was seldom broached by HCPs with participants within the current study. Fibromyalgia patients are not alone in this experience, with evidence suggesting that conversations about weight rarely happen within a health care context (53,54). This has been attributed to a lack of time, insufficient training, fear of causing offence and low expectations regarding the success of interventions (55,56). However, participants reported that they would value such dialogue with clinicians if it was accompanied with empathy regarding their fibromyalgia specific challenges. This is reflective of prior research concluding that discussion of weight management interventions was perceived as appropriate by patients, particularly when it could have positive effects on long term condition management (57) and when handled in a sensitive and non-judgemental manner (58).

Participants felt that HCPs, exercise instructors and weight management group facilitators had insufficient knowledge regarding the integration of weight management and pain management. In particular, they felt unsupported in relation to exercise, and as a result, several participants lacked self-efficacy in their exercise ability and had a fear of exercise induced pain. This is problematic as exercise is advocated in the management of fibromyalgia (59,60) and can improve pain intensity and quality of life (61). Prior research has identified that patients with chronic pain have a preference for tailored support from knowledgeable health care professionals in relation to exercise (62). This was reflected in the current study with participants wishing for support regarding exercise that considers their fibromyalgia needs. Access to such support would likely increase participants' exercise self-efficacy which has been demonstrated to be a strong predictor of engagement in exercise for fibromyalgia patients (25,63,64).

A central concept woven into each of the themes is around visibility vs invisibility. The first theme highlights the lack of awareness around fibromyalgia (particularly due to the invisible nature of symptoms) and the impact it has on participant's decisions regarding engagement in weight management related behaviours. This meant that even HCPs were not empathetic regarding participants' weight management struggles, resulting in a lack of appropriate support (theme three). Whereas in theme two, participants felt that they were being seen but unfairly judged and stigmatised in relation to the visible characteristic of their weight. Consequently, participants either felt invisible and unsupported, or seen and misunderstood.

Implications for practice

Considering the challenges described by participants and in line with suggestions made by Craft et al., (27), there is a clear need for a weight management approach that is sensitive and tailored to the challenges that individuals with fibromyalgia face. Evidently, advice such as 'increase energy expenditure' neglects the complexity of fibromyalgia presentation and management, and in fact may even be counterproductive if a flare up is caused. The incorporation of pacing and education on how to prepare healthy foods in a way that reduces the likelihood of symptom flareup (potentially with the use of assistive devices) is an important consideration for a fibromyalgia specific weight management approach. Furthermore, given the potential benefit of exercise not only to weight management but also as a therapeutic modality for fibromyalgia (59,60), tailored exercise support should be a crucial component of fibromyalgia management to increase exercise self-efficacy. Encompassing advice from participants within the current study, a shift away from a weight focussed approach to a functional goal focussed approach and an individualised problem-solving perspective may be better suited for patients with fibromyalgia.

There is a need for more awareness among HCPs, in particular those in primary care, regarding the realities of living with fibromyalgia and the implications this may have for weight management. This would perhaps prevent patients from feeling dismissed when presenting with weight management difficulties and increase the likelihood of them being referred on to further support appropriately. Participants within the current study felt unheard by HCPs, which had negative implications on their mental wellbeing. Therefore, in addition to further training, HCPs could learn about these practicalities by listening to patients' first-hand accounts. The implementation of Motivational Interviewing techniques such as the OARS framework (open questions, affirming, reflective listening and summarising) (65) would help to ensure patients feel heard and validated.

In addition to supporting patients with pain management, health psychologists can also play an important role in supporting them to achieve their weight management goals. An example of this includes helping patients to develop self-compassion, which as highlighted by participants within this study is an important component of both weight and pain management. Compassion focussed interventions have been used in both a pain management and weight management context with positive results observed (45,51,66), including a reduction in weight related shame and resultant psychological disturbances (67). Therefore, self-compassion interventions may be a beneficial therapeutic approach that mutually benefits both weight and pain management, in addition to the mental wellbeing of patients.

Strengths and limitations

This study expands on previous research (e.g., (27) by exploring in depth accounts of the weight management experiences of individuals with fibromyalgia. However, one potential limitation of the current study is that the sample was predominately female (all but one participant who preferred not to state their gender). Whilst fibromyalgia has a higher prevalence in females (2) it is possible that the challenges faced by the women in this study may not be as relevant to men with fibromyalgia. Future studies may wish to explore the weight management experience of men with fibromyalgia. Furthermore, two of the themes related to participants' interactions with HCPs, highlighting that they felt unsupported. Whilst this research has explored the patient perspective, future research would benefit from exploring barriers to supporting fibromyalgia patients with weight management from the HCP's perspective. From this, tailored interventions could be developed to support HCPs with these interactions.

Conclusion

Despite prior research outlining weight management as an important consideration for people living with fibromyalgia, the findings from this study highlight that there is a lack of support that successfully integrates both patient's weight and fibromyalgia management needs. Consequently, patients feel alone and that they are engaged in an invisible balancing act that nobody else seems to understand. They also experienced stigma due to the visibility of their weight and the invisibility of their fibromyalgia, meaning that they often felt blamed for their weight, whilst the challenges they experienced with weight management were dismissed. We propose the need for individualised, problem focussed care that is delivered with empathy and aims to develop the self-compassion levels of patients, to combat internalised weight stigma and support positive weight-related behavioural changes.

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Author contributions

Chloe Mitchell: Conceptualisation, methodology, investigation, formal analysis, project administration, writing- original draft preparation, writing- review and editing.
Dr Karen Rodham: Conceptualisation, methodology, formal analysis, writing- review and editing.
Dr Jenifer Taylor: Conceptualisation, methodology, formal analysis, writing review and editing.
Dr Andrew Lucas: Conceptualisation, formal analysis, writing review and editing.
Dr Nisha Sharma: Conceptualisation, formal analysis, writing- review and editing.
Dr Rachel Povey: Conceptualisation, methodology, formal analysis, writing review and editing.

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2.2. Qualitative Study Reflective Commentary

Introduction

This commentary accompanies my qualitative study investigating the weight management experiences of individuals with Fibromyalgia. Not only will this commentary document the rationale for the decisions I made whilst undertaking the research, but it will also provide examples of reflexivity, outlining my acknowledgement that I, as a researcher, played an active role in the construction of knowledge within this research which is an integral part of the Reflexive Thematic Analysis (RTA) approach that I chose to adopt (Braun & Clarke, 2019).

Rationale

The idea for this study stemmed from interactions that I had with patients during my role as a Trainee Health Psychologist at the Royal National Orthopaedic Hospital. Many patients told me that as part of their chronic pain symptom management they had been advised by Health Care Professionals (HCPs) to lose weight, but due to their health conditions felt that they were faced with multiple barriers that prevented them from doing so. The most frequent conversations regarding the difficulties of weight management seemed to occur with those that had Fibromyalgia. This is in line with the literature outlining a high correlation between fibromyalgia and obesity (D’Onghia et al., 2021). With the exception of one other American based study (Craft et al., 2015) the extant research was largely quantitative, with little consideration given to the experience and opinion of those living with Fibromyalgia. This inspired me to design a study that would voice the specific experiences and barriers that these patients were facing when it came to managing their weight.

Design

I felt that a qualitative paradigm was most appropriate for this study as I wanted to gain a rich insight into individuals’ experiences and perceptions of weight management. I opted for semi-structured interviews over focus groups as weight management can be a sensitive topic and I wanted participants to feel comfortable to speak freely. As I was interested in barriers and facilitators, I felt that Reflexive Thematic Analysis (RTA) was an appropriate analytic approach as it can be used to identify patterns across the data in relation to participants’ experiences, views, behaviours and practices (Clarke & Braun, 2017) and it is a particularly useful method for examining under researched areas (Braun & Clarke, 2006).

Ethics

I found writing the ethics application helpful in terms of carefully considering and refining each aspect of the research design. My initial application was approved with minor flaws (e.g., I needed to explicitly state within the information sheet what information would be collected within the demographic questionnaire and reorder the consent form so that the participants name was taken after they had given consent).. After revision and approval, I also later submitted some minor amendments to ethics following PPI feedback (see below for more information).

Development of study materials

In preparation for submitting my ethics application, I designed the relevant study materials including the advertisement poster, information sheet, consent form, demographic survey, interview schedule and debrief sheet. When designing these I focussed on making the information accessible and inviting, thinking carefully about language used and the ratio of text and images on the page (particularly for the poster). Prior to commencing the study, I shared the poster, information sheet and interview schedule with the chair of Fibromyalgia Action (FMA) UK (who had lived experience of fibromyalgia) and arranged a meeting with him for feedback. He flagged that due to the contentious nature of weight management he felt more context was needed on the poster to ensure that it could not be misconstrued as blaming an individuals' fibromyalgia symptoms on their weight. Upon reflection I noted how I had been too focussed on reducing the text on the poster to make it more aesthetic and readable, with the justification that further context would be provided in the information sheet, but had underestimated that the poster would be the first thing that participants would see. This experience highlighted the importance and benefit of Patient and Public Involvement (PPI), and I adjusted my poster accordingly, incorporating some further context regarding the rationale of the study before submitting amendments to the ethics team.

Participants and recruitment

I opted to recruit participants via charities and social media posts. The charity FMA UK, advertised the study on their social media channels, newsletter and via email to regional support groups. To advertise the study with them I was required to complete a request form, provide proof of ethical approval, and meet with the chair of the charity to discuss the project details. I also advertised the study on my academic Twitter account, tagging relevant charities and organisations. Given that I am fairly inactive on this account and only have a small number of followers I was surprised by how widely this was circulated. Initial expression of interest for the study was strong, and I was able to recruit 11 participants out of the target sample of 15. I readvertised the study a further two times on Twitter and once more via FMA UK and managed to recruit a further two participants. However, at this stage interest dried up and I made the decision to begin analysis as I felt that the data that I had was rich enough to do so.

Data collection

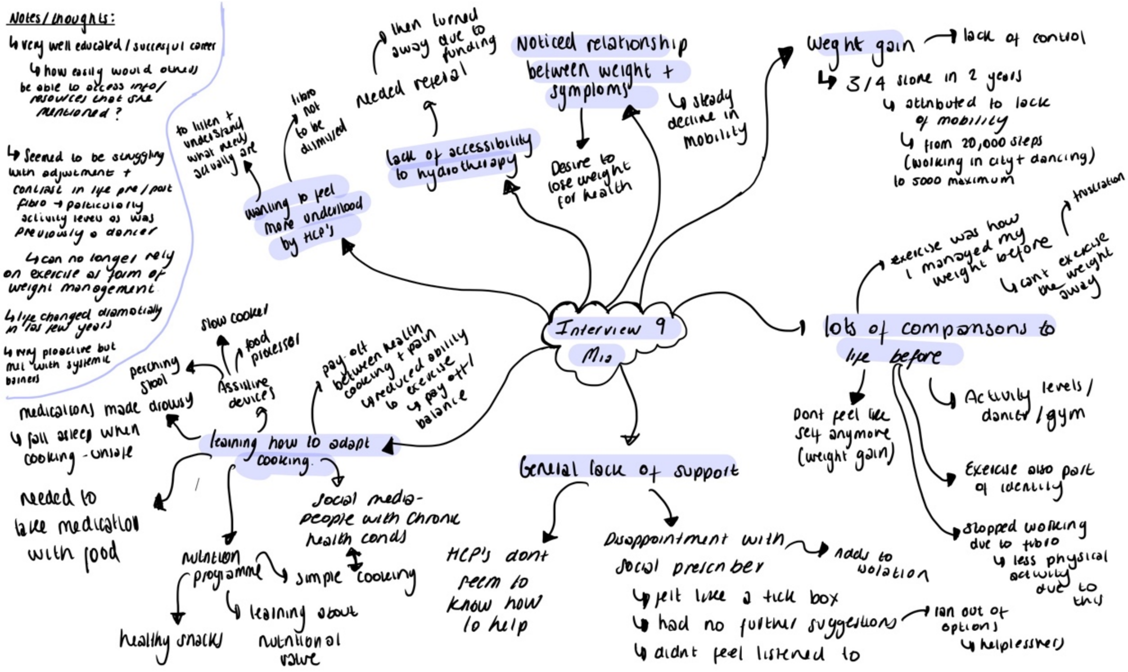
I was feeling fairly confident about conducting the interviews for this study as I had prior experience working with the target sample. However, what I had not anticipated was the challenge of transitioning from a therapeutic role to a researcher role, which I think was made more difficult by my prior experience of working with this group of patients. Although this experience aided my understanding of the challenges faced by participants and thus made it easier to probe around topics, it also made it challenging to remain impartial at times. As I had previously worked therapeutically with this patient group, I found it difficult not to interject to provide support around issues that they were struggling with (e.g., pacing or self-compassion) and it almost felt like a moral dilemma between remaining impartial as a researcher and helping the participants (beyond debriefing information) with the resources and knowledge that I had. In later data analysis stages, I noticed that I had used the motivational interviewing technique of repeating back what the participants had said but in different words. Although this can be a good tool to clarify understanding and demonstrate active listening, I think I was also using my prior knowledge of working with this patient group within my reflections which could arguably lead to bias.

Analysis

I was keen to use this research project to immerse myself in the literature and available learning materials for RTA, so that I could develop my skills as a qualitative researcher and adhere to guidance for best practice. Accordingly, I listened to several webinars by Braun and Clarke, familiarised myself with their website and read their journal publications prior to beginning analysis. I also referred to their book 'Thematic Analysis: A Practical Guide' (Braun & Clarke, 2021b) as I engaged in each phase of the analysis.

Throughout the analysis I was mindful of Braun and Clarke's forewarning that 'conducting a quality RTA is not about working through a series of steps, but rather the researcher's reflexive and thoughtful engagement with the data (Braun & Clarke, 2019). This was reassuring to know that I could go back to each step of the analytic process as required. As I conducted and transcribed all the interviews myself, I felt that I had a good grasp of the data. Therefore, I initially re-read the data, making brief notes and moved onto the next step of coding. However, I soon realised I would benefit from familiarising myself with the data some more. Upon reflection, I felt that just reading the data was not compatible with the way that I comprehend information best, so instead, I went back and made mind maps for the transcripts, making notes on key insights from the data alongside my initial reflections (see figure 1 below for an example).

Figure 1. Familiarisation notes

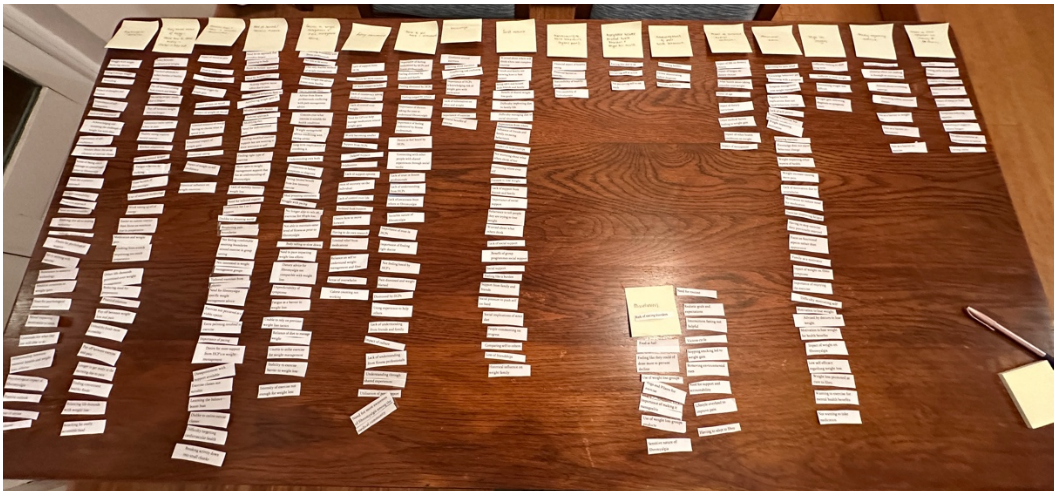


When designing the project, something that I deliberated over was whether to use an inductive or deductive approach to coding/ analysis. I concluded that an inductive approach was more aligned with my epistemological positioning and was more suitable given the under-explored nature of this topic. As it had been a while since I had completed any qualitative research, I was initially concerned that I was not coding 'correctly'. However, I felt reassured that coding is an iterative process and I returned to recode the transcripts on several occasions. I noted the benefit of this, as each time I returned to the data I noticed a new perspective and was able to apply more codes than I did in the prior rounds of coding. I think this was dependent on a variety of factors such as mood or whether I had recently engaged in reading that is relevant to different aspects/ interpretations of the data etc. This highlighted how not only can different researchers bring multiple interpretations to the research, but also the 'version' of an individual researcher that is showing up to do the analysis that day can also influence interpretations. I think this should be seen as a strength and rationale to engage in multiple rounds of coding, as had I not done this I would have missed out on different nuances and interpretations of the data.

I also attended a supervision session for reassurance regarding how I was coding. I was reminded of the importance of being able to understand the meaning of a code when taken away from the data so they can form the building blocks for theme generation (Braun & Clarke, 2013). As a result, I renamed some of my codes. I used NVivo to complete my coding, which meant that all the quotes for each code were automatically compiled together. Throughout the process of coding, I had duplicated several codes or named codes slightly differently despite them capturing the same essence. At the end of the coding process, I merged such codes together. In total I ended up with 261 codes.

The third step of generating themes shifts the focus from individual components of the dataset to the interpretation of aggregated meaning across the entire dataset (Byrne, 2022). For this step I initially decided to move away from NVivo and printed and cut out each code so that I had it as a physical copy that I could manually group together into tentative themes and subthemes, with provisional ideas for theme names written on post-it notes (see figure 2). I felt this allowed me to better visualise the data as a whole and enabled me to play around with several revisions.

Figure 2. Physical clustering of themes



I felt the data captured within this study was rich and comprehensive. Whilst I was grateful for this, it made theme refinement tricky in some respects as I had a lot of data to play with. This meant that I initially had many themes that were difficult to narrow down as I was concerned about losing important aspects of the participants' stories. However, I was aware that too many themes can result in the analysis becoming unwieldly or shallow (given journal word count restrictions). I went through several iterations of theme development using various methods to visualise the data including thematic maps and tables (see figure 3 and 4). Discussing themes within supervision sessions helped to identify a clear narrative and boundary for each theme, ensuring that there was homogeneity within themes, but also, adequate heterogeneity among themes (Patton, 1990). I also ensured themes were developed around a central organising concept, rather than merely representing topic summaries. Through this process I identified ways to merge and condense themes, and this collapsing and rearranging of themes was an ongoing process that continued well into the write up stage. Indeed, it was not until the write up stage that I decided to remove my theme around compassion.

Figure 3. First thematic map

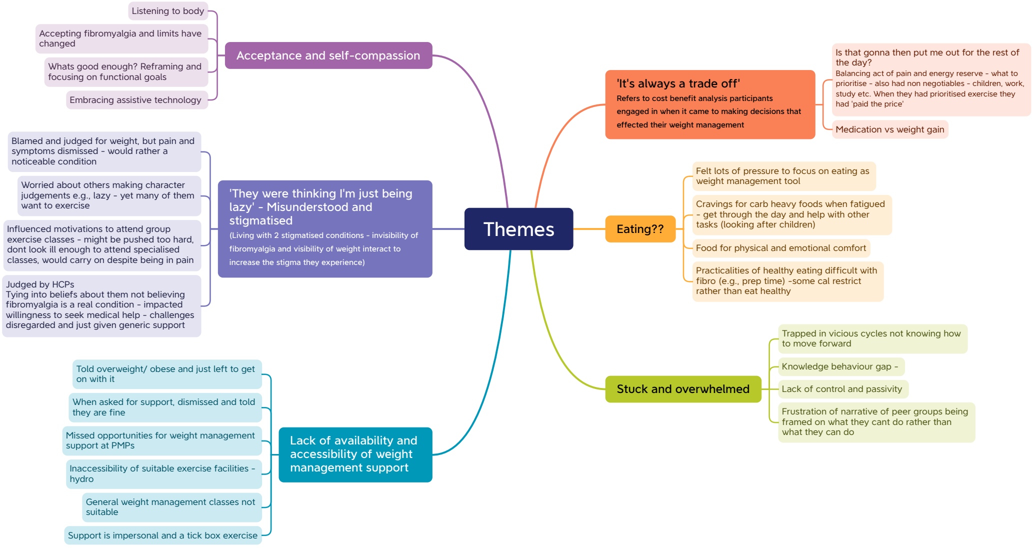
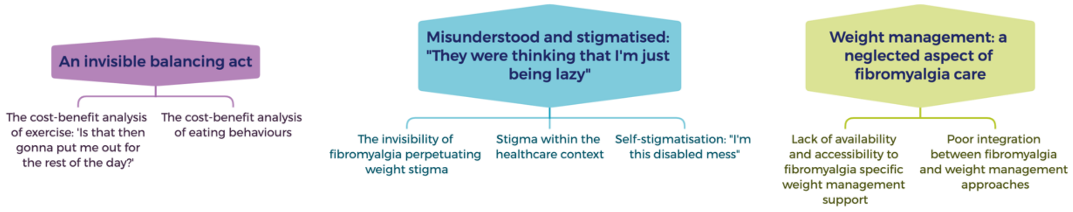


Figure 4. Final thematic map



Selecting the ‘best’ extracts to represent my themes was a challenge as the participants had provided many valuable insights. I was also conscious of fairly representing all the participants voices, but this was particularly difficult for one participant (Maria) who could perhaps be perceived as an outlier to the other participants. Maria was an occupational therapist and thus had a good understanding of the adaptions that she could make to support the management of her fibromyalgia symptoms. Her account was reflective of her prior struggles with weight management and how she had overcome them; in comparison to other participants who spoke about their current struggles. Whilst she provided valuable insights it was tricky to integrate these alongside other participants responses. To overcome this, I utilised her quotes to highlight potential solutions to the issues raised by other participants.

The final stage of writing up the report should provide a concise, logical and interesting representation of the data within and across themes (Braun & Clarke, 2006). Based on early feedback, when writing the analysis section, I was mindful of not merely paraphrasing quotes, and instead adding my own interpretative commentary. Interestingly, I found this easier to do when writing the discussion and in hindsight I think I became overly focussed on forming a story that linked the quotes together in a logical order when writing the analysis section. For future projects I will begin by writing my analytic narrative before the selection of quotes (and add to and adjust accordingly once quotes are integrated) to avoid this pitfall. I carefully considered the ordering of my themes to develop a logical and cogent narrative of the analysis, choosing to first focus on individual level factors (an invisible balancing act), then social factors (misunderstood and stigmatised) and finally, systemic factors (weight management: a neglected aspect of fibromyalgia care).

Whilst writing up the study I kept in mind Braun and Clarke’s (2021a) guidance for reviewers regarding standards for TA research. Although this is designed for reviewers, I found it useful to ensure I was reporting the research to a high quality and in line with the essence of their approach. I also considered the requirements of the journal I had planned to submit to for publication, which was Psychology and Health. I decided upon this journal as I did not want to target a journal with a sole focus of fibromyalgia or obesity as both topics were equally applicable. I also felt that the content of my study was relevant to a range of HCPs.

Reflexivity

An essential aspect of RTA is reflexivity. Inevitably, qualitative research is a subjective process, with researchers bringing their own “histories, values, assumptions, perspectives, politics and mannerisms into the research” (Braun & Clarke, 2013, p. 36). I kept a reflexive journal which captured notes on introspective and intersubjective reflexivity.

Prior to analysis I reflected on my researcher positionality (i.e., my relevant life experiences and the impact they had on my personal assumptions towards the topic area and how that has impacted the construction of the entire research process (Dean et al., 2018; Mason-Bish, 2019)). I also considered how the participants may perceive me and the impact this could have on their engagement with the research. To briefly summarise I identified that I adopted an outsider perspective to the research, that is I am not living with fibromyalgia. My prior experience working with this population group therapeutically meant that I was not approaching the research as a ‘naïve researcher’ within the topic area and already had a good idea of what the research would likely highlight. This was something I was conscious of, particularly as I was adopting an initially inductive approach and wanted to ensure I was telling the participants stories rather than that of the patients I had previously worked with.

I introduced myself to participants as a Trainee Health Psychologist and gave a brief overview of my role in pain management at RNOH. In hindsight this may have introduced a power dynamic. Nevertheless, I felt that highlighting my experience may help to build trust and rapport with the participants. However, at times throughout the interview I think I may have referred to my prior experience unnecessarily (e.g., likening their experiences to patients I had worked with previously). My motive for doing this was to show understanding and to help participants feel that they are not alone in their experience. However, this was arguably not appropriate in a research interview context. I also noted the benefit of adopting a naïve perspective to clarify understanding as this may also result in richer insights.

Overall reflection and conclusion

I enjoyed completing this research and found it rewarding to address a problem that I first observed in a clinical setting via research. I envisage myself undertaking further qualitative projects utilising RTA in the future, so I was keen to use this project as an opportunity to learn about recommended best practise for RTA. I feel I have succeeded in this, immersing myself in the relevant learning materials and gaining valuable insights from the research team. In particular, I have noted the importance of reflexivity and ‘owning one’s perspective’, alongside the value of PPI in the development of research materials. For future projects, I will aim to keep a more organised and detailed audit trail regarding decisions made and iterations of code and theme development. This could perhaps be achieved via a research log with embedded links to version histories.

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2.3. Quantitative Research Manuscript

Predictors of mental wellbeing in apprentices in England

Abstract

Little is known about the wellbeing of apprentices in England. This study aimed to determine factors that predict the wellbeing of English apprentices. Data were collected using an online cross-sectional survey. Wellbeing was measured using the Short Warwick and Edinburgh Mental Wellbeing Scale (SWEMWBS). Predictor variables included socio-demographic, work, apprenticeship, and work-life-study balance factors. The final sample (N=249; 54% male; 66.6% under 25 years) consisted of English apprentices from a range of sectors. T-tests, ANOVAs and correlations were conducted to understand differences in apprentices' wellbeing for predictor variables. Subsequently, significant variables were entered into a multiple linear regression to identify risk and protective factors. Pre-testing revealed a sub-set of 19 variables predicted wellbeing in univariate analyses. However, when entered into the regression model only six remained significant: job satisfaction ($\beta = 0.20$, $p< 0.001$), job performance ($\beta = 0.17$, $p = 0.004$), work presenteeism ($\beta = -0.16$, $p = 0.03$), employer empathy ($\beta= 0.15$, $p = 0.04$), difficulties with work-study-life balance ($\beta = -0.27$, $p <0.001$) and job impact on study ($\beta=0.18$, $p = 0.01$). The results from this study suggest that work-related and work-study-life balance characteristics may be important to target in interventions to support the wellbeing of English apprentices.

Key words: Apprentice, wellbeing, work-study-life balance

Introduction

An apprenticeship within England refers to a paid position which combines both employment and training, which upon completion results in a nationally recognised qualification (The Chartered Institute for Personnel and Development, 2023). As of September 2022, there were over 800 apprenticeships available within England and these ranged from level 2 (intermediate) which is equivalent to 5 GCSE passes, to level 7 which is equivalent to a master's degree (Powell, 2023). Apprenticeships are considered a core part of the government's skills agenda and integral to growing the economy (Department for Education, 2024a). In England, a total of 621,750 people participated in an apprenticeship during the 2023-2024 academic year (Department for Education, 2024b).

Wellbeing has been linked to both academic and work performance (Ford et al., 2011; Kaya & Erdem, 2021), which are both crucial components of an apprenticeship. With regards to educational attainment, poor wellbeing has been associated with lower grades and increased risk of drop out (Duffy et al., 2020; Zając et al., 2023). In an employment context, in 2021, 17 million workdays were lost due to issues relating to workplace stress (Health and Safety Executive, 2022) and nearly 40% of turnover costs were attributable to mental health related reasons (Deloitte, 2022). Overall, the combined cost of mental health related absenteeism, presenteeism and job turnover are reported to have cost UK employers up to £56 billion in 2020-2021 (Deloitte, 2022). It is therefore important to examine how apprentices are fairing with regards to their wellbeing given the importance of apprenticeships for the economy.

Within workplace wellbeing research, psychosocial stressors related to the nature of work or the workplace have been identified as contributing to poor mental health and wellbeing of workers (Gerhardt et al., 2021; Lulli et al., 2021; Schreibauer et al., 2020) The incidence of poor mental health in young people engaged in further and higher education study is also high (Pereira et al., 2019), possibly due to different types of stressors (Campbell et al., 2022; Sheldon et al., 2021). Whilst apprentices fall under the category of students, the experiences of students in apprenticeship programmes differs to other student courses (e.g., A-levels or undergraduate courses) (Neves & Stephenson, 2023). Typically, apprentices spend 80% of their contracted time working for their employer and 20% of their time partaking in off the job training and studies

(Powell, 2024). It is possible that apprentices experience both academic and work-related stressors impacting wellbeing, however this has not been researched previously with apprentices in England. The present study aims to address this important research gap, as highlighted by others (Neves & Stephenson, 2023).

International research has highlighted the vulnerability of apprentices in relation to wellbeing. Theurel and Witt (2023), revealed that 54% of French apprentices (recruited from a variety of sectors) experienced low levels of wellbeing and 27.19% experienced severe psychological distress. Likewise, Australian research has shown that construction industry apprentices are at risk of suicidal ideation, harmful substance use and poor mental health (du Plessis et al., 2013; Pidd et al., 2017; Ross et al., 2022). Finally, a sample of Austrian apprentices had a high prevalence of clinically relevant depression, anxiety, disordered eating and insomnia (Dale et al., 2021). However, little is known about the prevalence of wellbeing concerns or possible risk factors in English apprentices.

A qualitative study in Australia pinpointed financial stress as a commonly reported source of anxiety for apprentices, with low wages preventing financial self-sufficiency and perpetuating pressure to qualify quickly (Einboden et al., 2021). The same study also highlighted that long working hours had negative implications on apprentices' study, alongside their overall wellbeing, specifically, sleep, diet and social connection (Einboden et al., 2021). Similarly, Choi et al., (2022) found that Australian apprentices most commonly reported workplace pressure and expectations, personal time factors, bullying and relational issues as the most prevalent stressors. Specifically, within the Australian construction industry, Pidd et al., (2017) found that job stress, general social support and workplace bullying accounted for 38.2% of the variance in psychological distress. With regards to demographic factors, a study involving French apprentices concluded that female apprentices, those aged between 18-25 and those from certain occupations such as trade, banking and insurance experienced higher levels of distress and lower levels of wellbeing (Theurel & Witt, 2023). Likewise Dale et al., (2021) also found that female apprentices in Austria also had worse wellbeing than male apprentices.

Evidence to date, described above, points to demographic, work and apprenticeship-related factors impacting wellbeing for apprentices across several countries. Consideration of work-study-life balance and its impact on wellbeing for apprentices seems to be absent. Work-study-life balance is an extension of the concept of work-life balance which refers to an "individual's perception that work and non-work activities are compatible and promote growth in accordance with an individual's current life priorities" (Kalliath & Brough, 2008, p. 362). Work-study-life balance "captures the experience of students studying but also working part-time while trying to balance these demands in order to meet social or familial responsibilities" (O'Mahony & Jeske, 2019, p. 2). When there is an imbalance, it is likely to have negative implications such as preventing the individual from fulfilling their work, study or life demands to a satisfactory level, or overexertion resulting in burnout (Park & Sprung, 2015; Poulose, 2014). On top of juggling the demands of work versus life responsibilities, apprentices are required to simultaneously juggle the demands of their study (Smith et al., 2023). Compared to traditional students, apprentices are likely to have fewer protected hours for study, to be less integrated with their educational institutions due to spending most of their time in the workplace, and experience higher work demands (Umeokafor, 2022). Guidelines stipulate that apprentices should be allocated a minimum of 20% of their time to complete off the job training i.e., time for their studies (Powell, 2024). However, qualitative research from Australia evidenced suggests that is often is not the case with long working hours having negative implications on apprentices' study, alongside their overall wellbeing (Einboden et al., 2021).

The current study aims to address the gap in knowledge on predictors of apprentices' wellbeing in England. Understanding of protective and risk factors in terms of sociodemographic factors, work and apprenticeship-related factors and work-study-life balance could help to determine how best to support the wellbeing of apprentices.

Research question: What are the predictors of wellbeing for apprentices in England?

Methods

Design

A cross-sectional, online, survey of apprentices in England was conducted to collect information about wellbeing (the dependent variable) and measure multiple independent variables: socio-demographic factors, health, mental health, employment, studies, and perceived work-study-life balance. The study was approved by the [name removed until publication].

Recruitment

Eligibility criteria stipulated that participants were required to be over the age of 16 and enrolled in an apprenticeship. Apprentice training providers and employers in England were contacted and asked to distribute the survey flyer and survey link amongst their apprentices. Additionally, the study was advertised via social media platforms including X and LinkedIn.

Measures

The survey was co-designed with apprentices and the Institute for Apprenticeships and Technical Education, who work with employers to develop, approve, review and revise apprenticeships and technical qualifications. See supplementary material 1 for survey. Brevity was prioritised to increase engagement and reduce burden on participants, therefore, where possible the shortened version of measures was used.

Wellbeing

Wellbeing was measured using the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) (Stewart-Brown et al., 2009) which consists of seven items measured on a scale ranging from 1 (none of the time) to 5 (all of the time). The scale is scored by summing the scores for each item and transforming them into a metric score using the SWEMWBS conversion table. Higher scores indicate positive wellbeing. The scale has been validated for use with young people aged 15-21 (McKay & Andretta, 2017; Ringdal et al., 2018) and the general population (Ng Fat et al., 2017), with high levels of internal consistency in both populations.

Anxiety and Depression were also measured using GAD-2 (Kroenke et al., 2007) and PHQ-2 (Kroenke et al., 2003) but due to low response rates for these questions as they were optional, these were not analysed within this study.

Sociodemographic variables

Sociodemographic variables included gender, age range, ethnicity, socioeconomic status, financial difficulties, and parenting/ caring responsibilities. All were categorical variables. Socioeconomic status was assessed using a single item: 'What was the occupation of your main household earner when you were aged about 14?' (Social Mobility Commission, 2021). Financial difficulties were measured using a single item: During the last 12 months have you experienced difficulties affording costs of living (such as for food, transportation, or accommodation)? 'never', 'rarely', 'sometimes', 'often' (Bøe et al., 2021).

Physical/ mental health variables

Participants were asked three questions to report if they had a physical, neurodiverse or mental health condition (yes/ no/ prefer not to say) and if so, whether it reduced their ability to carry out their day-to-day activities (measured on a four-point Likert scale from not at all to always).

Work-related variables

Participants were asked about their job sector, work location, organisation size, number of years at their company, work hours, whether they ever worked over contracted hours and if so, how many hours over per week on average. Satisfaction with the time that employers gave participants to complete off-the-job training was rated on a five-point Likert scale (1= very unsatisfied, 5 = very satisfied).

Participants that disclosed parenting or caring responsibilities were asked whether their employer provided flexible working arrangements in acknowledgement of their parenting and/or caring responsibilities (yes/no).

Work presenteeism was measured using a single item (Aronsson, 2000): 'Has it happened over the previous 12 months that you have gone to work despite feeling that you really should have taken sick leave due to your state of health?'. Responses were scored on a four-point scale: No, never (1), Yes, once (2), Yes, 2–5 times (3), Yes, more than 5 times (4).

Job satisfaction was assessed using a five-point Likert scale (1 = extremely dissatisfied, 5 = extremely satisfied) in response to the question of: ‘Taking everything into consideration, how do you feel about your job as a whole?’.

Job performance was measured using a self-constructed measure which asked: ‘Relevant to your job: On a scale from 1 to 10 where '1 'is the worst performance anyone could have at your job and '10' is the performance of a top student, how would you rate your overall job performance on the days you worked during the past 6 months?’

Finally, participants were asked: ‘How much wellbeing support for apprentices does your current employment organisation provide? ('0' is no support or don't know; '10' is sufficient support)’ and ‘How well does your line-manager understand the pressures of being an apprentice? ('0' is no understanding or don't know; '10' is sufficient understanding)’.

Apprenticeship-related characteristics

The survey asked participants about their number of years as an apprentice, their apprenticeship level and apprenticeship provider type.

Participants with parenting or caring responsibilities were asked: ‘How often do you find that your parenting (and/or) caring responsibilities prevent you from giving the time you want to your apprenticeship?’. Responses were scored on a 5-point Likert scale (1 = Never, 5= Always).

The work presenteeism item (Aronsson, 2000) described above was adapted to read: Has it happened over the previous 12 months that you *have engaged in studies or assessments* despite feeling that you really should have taken sick leave due to your state of health? The scoring remained the same.

Study performance was measured using a self-constructed measure which asked: ‘Relevant to your studies: On a scale from 1 to 10 where '1 'is the worst performance a student could have and '10' is the performance of a top student, how would you rate your overall study performance on the days you studied during the past 6 months?’

Finally, participants were asked to respond to: ‘How much wellbeing support for apprentices does your training provider provide? ('0' is no support or don't know; '10' is sufficient support)’ and ‘How well does your tutor/lecturer understand the **pressures of being an apprentice**? ('0' is no understanding or don't know; '10' is sufficient’).

Work-study-life balance

Work-study-life balance was measured using the self-constructed measure: How easy or difficult is it for you to balance the demands of your work, studies, and personal life? Where '1' was very easy and '5' was very difficult.

To explore the individual components of the tripartite concept of work-study-life balance participants were also asked: How often do you find that **your job prevents you from giving the time** you want to **your studies** (e.g. lectures, preparation for assignments/exams)?; How often do you find that your job prevents you from giving the time you want to your personal life (personal life can include hobbies, leisure or parenting / caring responsibilities)?; How often do you find that your studies (e.g. attending lectures or preparing for assignments/exams) prevents you from giving the time you want to your job?; How often do you find that your studies (attending lectures or preparing for assignments/exams) prevents you from giving the time you want to your personal life (personal life can include hobbies, leisure or parenting / caring responsibilities)? These four items were rated on a five-point Likert scale (1= never, 5= always).

Additional measures

Additional survey questions asked respondents about their preferences for tailored resources to support apprentices and an open text response to provide any further information that had not been captured throughout the survey.

Procedure

By following either the QR code embedded in the poster or a hyperlink, interested participants were directed to an online participant information sheet, followed by an online consent form. Consenting participants were then forwarded onto the online survey which was anticipated to take approximately 9 minutes to complete. At the end of the survey, participants were given the option to leave their email address so that they could be entered into a prize draw to win one of one hundred £20 Love2shop vouchers.

Data analysis

Preparation of the data

A total of 1294 responses were collected. All partial responses (n=147) were deleted in line with our withdrawal process which informed participants that they could 'choose to withdraw their participation at any time by closing this browser'. This left a total of 1147 responses. However, suspicions were raised regarding the authenticity of some of the responses, with a suspected bot infiltration. Therefore, we decided to add a process for screening for bots. This included:

1) Highlighting any suspicious or repeated free text responses (i.e., those that appeared to be written by AI). From this we identified that all the responses marked as suspicious fell within particular date ranges and were from a particular email provider.
2) Responses within these date ranges were reviewed for any genuine looking free text responses (n=4).
3) Excluding the four genuine responses identified, all of the responses which fell between these date ranges and were from email addresses from the flagged email provider were removed. As a final screening step, we removed any responses that were completed in less than four minutes. We decided to take this cautious approach as there was no way to determine the authenticity of those without free text responses.

This left a total of 259 responses remaining.

Normality assumptions were assessed using skewness and kurtosis. Values of +/- 2 for skewness and kurtosis were considered acceptable. Outliers above or below 3 standard deviations on one or more variable were removed. This resulted in a final sample size of 249.

For analysis some of the levels of variables were collapsed to increase the number of responses within each level. Full details of collapsed levels can be found in supplementary material 2.

Statistical Analysis

The data were analysed using IBM Statistical Package for Social Science (SPSS) version 29.0.1.0 (171). Descriptive statistics were used to characterise the sample and their wellbeing. Statistical analyses were conducted in 2 stages. First, Pearson's correlations (for continuous data), independent t-tests (for dichotomous data) and one-way ANOVAs (for dimensions with more than two categories) were used to identify those variables that were either significantly correlated with SWEMWBS scores or showed significantly different scores between groups. Due to there being 42 variables to account for testwise error, the significance level was adjusted to account for the number of tests conducted, resulting in a p value of 0.001 or $p < 0.001$. In the second stage, to analyse whether the combined effect of the variables predict wellbeing, we conducted a multiple regression analysis. Those variables identified as significant in the prior stage were simultaneously entered into the multiple regression analysis as predictors. Dummy variables were created for categorical data.

Results

Sample characteristics

The sample had a split of 54% males and 46% females. There was a higher proportion of younger age groups with those aged between 16-24 making up over half of the sample (66.7%). The majority of participants were White or Caucasian (86.3%). 22.9% of the participants had parenting responsibilities and 10.8% reported caring responsibilities. Furthermore, 8.9, 12.6 and 12.3% of the sample had a physical, mental and neurodiverse condition respectively.

INSERT TABLE 1 HERE

Over half of the participants (52.2%) were from the construction, planning and the built environment sector. The next top three job sectors were engineering and manufacturing technologies (15.3%), health, public services and care (13.7%) and business, administration and law (8%). The largest proportion of apprentices were completing a level 6 apprenticeship (40.6%) and 67.5% were completing their apprenticeship via a local authority or higher education provider. Nearly all (96%) of the apprentices worked full time and the majority (71.5%) worked for large organisations. There was a good split in terms of location, with participants located in many regions within England.

INSERT TABLE 2 HERE

Testing the impact of each predictor on wellbeing

T-tests, one-way ANOVAs and correlations were conducted to assess differences and correlations in apprentices' level of wellbeing based on socio-demographic profiles and work and apprenticeship characteristics. To account for testwise error, the p value of 0.05 was divided by the total number of variables (n=42) resulting in significance being determined by a p value of p = 0.001 or p< 0.001.

A total of 19 out of 42 variables were significant. Specifically, significant differences were noted for age, with those aged 25 and over having worse wellbeing than those aged between 16 and 24 (t= 3.37, p<0.001). Female apprentices had worse wellbeing than males (t = 3.22, p = 0.001), as did apprentices with parenting responsibilities (t = 4.60, p<0.001) and those with a mental health condition (t = -4.62, p<0.001). Participants who reported sometimes/ often experiencing financial difficulties had significantly worse wellbeing than those who never/ rarely experienced financial difficulties (t = 3.76, p <0.001). Furthermore, those who reported attending work (t= 6.84, p =<0.001) or study (t= 6.83, p <0.001) despite being sick had worse wellbeing than those who did not.

There were also significant differences in wellbeing based on satisfaction with off-the-job training (F= 8.89, p<0.001). Tukey's post hoc tests showed that those that rated their satisfaction with off the job training as very satisfied/ satisfied had significantly higher wellbeing scores compared to those that rated their satisfaction as neutral ($p < 0.001$, 95% CI = -2.96, -0.74). The same was observed for job satisfaction ($F=25.22$, $p<0.001$), with Games-Howell post hoc tests revealing that those that rated their job satisfaction as extremely satisfied/ satisfied having better wellbeing compared to those that rated their satisfaction as neutral ($p < 0.001$, 95% CI -4.33, -2.57). Participants that specified that their study impacted on their life ‘sometimes, often or always’ had significantly worse wellbeing than those that specified it never/ hardly ever impacted their lives ($t= 3.98$, <0.001). This was also the case for job impact on study ($t = 3.39$, $p<0.001$) and for job impact on life ($t = 3.85$, $p<0.001$). Coinciding with this, there was a negative correlation between difficulties in juggling demands of study, work and life and wellbeing ($R = -0.43$, $p<0.001$). There were positive correlations between wellbeing and provider support ($R = 0.31$, $p<0.001$), employer support ($R = 0.32$, $p<0.001$), employer empathy ($R= 0.44$, $p<0.001$) and tutor empathy ($R = 0.36$, $p< 0.001$).

INSERT TABLE 3 HERE

Determining relative influence of factors on apprentices’ wellbeing

A multiple regression model containing the nineteen significant variables identified above was conducted to determine which factors predicted apprentices’ wellbeing. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was also independence of residuals, as assessed by the Durbin Watson statistic of 2.11. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardised predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than +/- 3 standard deviations, no values for Cook’s distance above 1 and no leverage values above 3.5. The assumption of normality was met as assessed by Q-Q plot and histogram. Based on a power calculation, a model with 19 predictors required at least 217 participants to be adequately powered. Due to missing data for some of the variables the total N for the model was 227, which was sufficiently powered.

This model was significant, *F*(20, 206) = 9.82, p <0.001, with the coefficient of determination (R^2) equalling 48.8% and an adjusted R^2 of 43.8%, which is a large effect size according to Cohen's (1992) classification. Six variables were significant within the model: job satisfaction, job performance, work presenteeism, work-study-life balance, job impact on study and employer empathy. Specifically, higher scores for job performance and employer empathy were identified as protective factors for wellbeing. As was being satisfied/extremely satisfied with their job. Job impacting on study (sometimes/often/always) was also a protective factor for wellbeing. On the contrary, poorer work-study-life balance scores were a risk factor for poorer wellbeing. The strongest predictors were difficulties with managing work-study-life balance and job satisfaction.

A summary of the results is presented in table 4.

INSERT TABLE 4 HERE

Discussion

This study highlights multiple risk and protective factors for English apprentices' wellbeing. Namely, the multiple regression determined that wellbeing is predicted by job satisfaction, job performance, work presenteeism, employer empathy, work-study-life balance and job impact on study when controlling for other socio-demographic, work, apprenticeship, and work-study-life balance variables. Notably all the significant predictors were related to apprentices' job or work-study-life balance, with no socio-demographic or apprenticeship related variables remaining significant within the model.

In particular, work-study-life balance was the most predictive factor for apprentices' wellbeing. To our knowledge this is the first study to explore the tripartite concept of work-study-life balance which is an integral component of an apprenticeship. Findings from our study emphasise the significance of work-study-life balance in predicting apprentices' wellbeing, highlighting it as a pertinent factor to consider in relation to apprenticeships. We also explored different sub-components of the work-study-life balance concept finding that study impact on job, study impact on life and job impact on life were not predictive of wellbeing. However, job impact on study was a predictive sub-component, although not in the direction that was expected, with higher ratings for job impact on study (sometimes/often/always) predicting better wellbeing among apprentices. Given that the exploratory t-tests and means suggested the opposite (i.e., that those that had higher ratings for job impact on study (sometimes/often/always) had lower wellbeing scores), we suspect that this variable has interacted with others within the model, causing it to change its direction on wellbeing scores. This warrants further investigation that is beyond the scope of this paper. This unexpected finding contrasts with the qualitative findings of Einboden (2021), who found that apprentices stated that long working hours had negative implications on their study, alongside their overall wellbeing.

Our finding that job satisfaction, job performance and work presenteeism are predictive of apprentices' wellbeing is novel, as to our knowledge this has not been explored in other studies investigating apprentice wellbeing. However, these results are not surprising as they align with findings from the workplace wellbeing literature (Cannas et al., 2019; Jeong et al., 2020; Lange & Kayser, 2022; Ortan et al., 2021). Job satisfaction was the second most predictive variable within the regression model which may be reflective of the fact that apprentices spend a large proportion of their time within the workplace (comparative to their educational institution).

In relation to previous research involving apprentices, Einboden et al., (2021) found that 'pressure to perform' and 'unrealistic expectations from employers' negatively impacted apprentices' wellbeing. Likewise, Choi et al (2022) identified workplace pressures and expectations as the most commonly reported stressor for Australian apprentices. This could help to explain our finding that higher job performance scores were predictive of better wellbeing as apprentices felt better equipped to meet employer expectations. It could also explain our finding that higher perceived employer empathy towards the demands of the apprenticeship was a positive predicter of apprentices' wellbeing as apprentices with more empathetic employers may be met with more realistic expectations and less pressure to perform. Furthermore, higher perceived employer empathy towards the demands of the apprenticeship may have mediated the relationship between work-study-life balance and wellbeing, particularly if employer empathy resulted in employers being more accommodating towards the apprenticeship and allowing more time for study. On the contrary, tutor empathy, employer provided wellbeing support and wellbeing support from the educational provider were not significant variables within the final regression model, suggesting they are of less importance to wellbeing than employer empathy.

Although there were some aforementioned similarities between our findings and the findings of international research investigating apprentice wellbeing, there was also some discrepancies. In contrast with Theurel and Witt (2023), we did not identify a significant difference in wellbeing between different job sectors. Furthermore, both Dale et al., (2021) and Theurel and Witt (2023) found worse wellbeing for female Austrian and French apprentices respectively. Although our preliminary testing results correspond with this finding (e.g., female apprentices in the current study had significantly worse wellbeing than males), this variable did not remain significant in the regression when other variables were accounted for. Likewise in their qualitative work Einboden et al., (2021) highlighted financial worries as a common stressor for Australian apprentices. Despite those with financial difficulties having significantly worse wellbeing in the current study, this factor was not a significant risk factor within the final regression model.

Limitations

Our sample was skewed towards those in the construction planning and the built environment sector, with just over half of our sample belonging to this sector. It is possible that the results from this study may be more representative of apprentices with the construction, planning and built environment sector, although there were no significant differences in wellbeing scores between the sectors. Additionally, the cross-sectional design of this study precludes establishing causal relationships between variables.

Recommendations for practice

Importantly, all the factors that remained significant within the regression are characteristics that can be targeted through intervention. The results of this study underscore the importance of supporting apprentices to manage their work-study-life balance. Given that all of the other significant predictors were work-related variables, future interventions may be best suited to delivery in the workplace and incorporate the briefing of apprentice employers and managers on the demands of the apprenticeship with the aim of increasing empathy towards apprentices and increasing the amount of time they are allowed to engage in study related tasks. This may also help with improving the work-study-life balance of apprentices.

Recommendations for future research

The results from this study may be expanded through a qualitative investigation of English apprentices' perceived risk and protective factors for wellbeing. Such a study may provide further insight into the nuance and relations between risk factors, alongside further identifying areas for potential intervention, thus adding to the paucity of existing research. Furthermore, this research has attempted to explore the concept of work-study-life balance. To the authors' knowledge there are no existing validated measures of work-study-life balance, so self-constructed items were utilised. These consisted of one overall work-study-life balance measure (assessed using a sliding scale) and four questions to assess the individual dyads of work-study-life balance; that is, the impact of work and study on each other and their impact on apprentices' lives. Although beyond the scope of this research, it would be beneficial to assess the psychometric properties of these items to understand whether they could be summed to form a composite measure of work-study-life balance.

Conclusion

This study is novel in providing insights into the risk and protective factors for English apprentices' wellbeing. Overall, this study highlights that job-related and work-study-life balance factors are most predictive of apprentices' wellbeing along with employer empathy. This emphasises the distinct differences between the wellbeing challenges of apprentices and typical students as apprentices also contend with job-related stressors which are impactful on their wellbeing. The findings from this study can be used to inform the target of wellbeing interventions for apprentices in England, with results indicating the importance of targeting the modifiable factors of; job satisfaction, job performance, work presenteeism, employer empathy, work-study-life balance and job impact on study in particular.

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The authors report there are no competing interests to declare.

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Table 1. Participant characteristics

Characteristic	Frequency n (%)
Age	
16 – 24	166 (66.7)
25+	83 (33.3)
Gender[1]	
Female	114 (46)
Male	134 (54)
Ethnicity	
Non-white	34 (13.7)
White or Caucasian	215 (86.3)
Socioeconomic Status[2]	
Professional and intermediate background	151 (64.8)
Lower socio-economic background	82 (35.2)
Parenting responsibilities	
Yes	57 (22.9)
No	192 (77.1)
Caring responsibilities	
Yes	27 (10.8)
No	222 (89.2)
Physical condition[3]	
Yes	21 (8.9)
No	214 (91.1)
Mental condition[4]	
Yes	29 (12.6)
No	201 (87.4)
Neurodiverse condition[5]	
Yes	29 (12.3)
No	206(87.7)

1. N = 248, 2. N = 233, 3. N = 235, 4. N = 230, 5. N = 235

Table 2. Job and apprenticeship characteristics

Characteristic	**Frequency n (%)**
Job characteristics	
Job Sector	
Business, Administration & Law	20 (8)
Health, Public Services & Care	34 (13.7)
Engineering & Manufacturing Technologies	38 (15.3)
Retail & Commercial enterprise	1 (0.4)
Construction, Planning & the Built Environment	130 (52.2)
Information & Communication Technology	4 (1.6)
Education & Training	10 (4.0)
Agriculture, Horticulture & Animal Care	1 (0.4)
Arts, Media & Publishing	1 (0.4)
Science & Mathematics	1 (0.4)
Other	9 (3.6)
Work location	
West Midlands	66 (26.5)
East Midlands	11 (4.4)
East of England	4 (1.6)
London	39 (15.7)
North East	17 (6.8)
North West	37 (14.9)
South East	14 (5.6)
Yorkshire & the Humber	3 (1.2)
Other	6 (2.4)
Organisation size	
Less than 10 employees	16 (6.4)
10 – 49 employees	15 (6.0)
50 – 250 employees	40 (16.1)
Over 250 employees	178 (71.5)
Working hours / Employment type[1]	
Full-time	237 (96)

Part-time	10 (4.0)
Apprenticeship characteristics	
Time as apprentice	
Less than 1 year	113 (45.4)
1 – 2 years	78 (31.3)
2 – 3 years	32 (12.9)
Over 3 years	26 (10.4)
Apprenticeship level	
Level 2	23 (9.2)
Level 3	66 (26.5)
Level 4	39 (15.7)
Level 5	14 (5.6)
Level 6	101 (40.6)
Level 7 (Masters)	6 (2.4)
Provider type	
Further education	80 (32.1)
Local authority or higher education	168 (67.5)
Private training provider	1 (0.4)

1. N = 247

Table 3. Pre-testing analysis of impact of variables on wellbeing

Variable	SWEWBS					
	N	M (SD)	*t*	*f*	*r*	*P*
Sociodemographic characteristics						
Age			3.49			**< 0.001**
16 – 24	166	22.04 (2.93)				
25 +	83	20.61 (3.27)				
Gender[1]			-3.22			**0.001**
Female	114	20.89 (2.94)				
Male	134	22.14 (3.16)				
Ethnicity			-0.79 (Welches t-test)			0.43
Non-white	34	21.96 (3.16)				
White or Caucasian	215	21.50 (3.11)				
Financial difficulties[2]			3.76			**<0.001**
Never and rarely	138	22.17 (3.06)				
Sometimes and often	107	20.70 (2.99)				
Socioeconomic status			2.13 (Welches t-test)			0.04
Professional and intermediate background	151	21.90 (3.02)				
Lower socio-economic background	82	20.96 (3.32)				
Parenting responsibilities			4.60			**<0.001**
Yes	57	19.96 (3.20)				
No	192	22.03 (2.93)				
Caring responsibilities			2.22			0.03
Yes	27	20.32 (2.94)				
No	222	21.71 (3.11)				
Health and mental health characteristics						
Physical health condition			-0.73			0.47
Yes	21	21.29 (2.90)				
No	214	21.80 (3.10)				
Impact of physical condition on day-to-day activities			1.01			0.32
Not at all	5	22.44 (2.15)				
Occasionally, often, always	16	20.93 (3.07)				
Mental condition			-4.62			**<0.001**
Yes	29	19.96 (2.16)				
No	201	22.07 (3.09)				

Impact of mental condition on day-to-day activities[7]			0.06		0.95
Not at all	5	20.02 (1.17)			
Occasionally, often and always	24	19.95 (2.33)			
Neurodiverse condition			-1.67		0.10
Yes	29	20.77 (2.66)			
No	206	21.80 (3.14)			
Impact of neurodiverse condition on day to day activities			0.04		0.97
Not at all	7	20.81			
Occasionally, often, always	22	20.76			
Work characteristics					
Job Sector				1.94	0.09
Business, Administration & Law	20	22.19 (2.83)			
Health, Public Services & Care	34	20.97 (2.88)			
Engineering & Manufacturing Technologies	38	21.67 (2.86)			
Construction, Planning & the Built Environment	130	21.80 (3.18)			
Education & Training	10	19.03 (2.69)			
Other	17	21.42 (3.70)			
Work location				1.77	0.09
West Midlands	66	21.26 (2.68)			
East Midlands	11	20.92 (3.37)			
South West	52	21.94 (3.25)			
South East	14	19.34 (3.14)			
North West	37	22.27 (3.29)			
North East	17	22.37 (3.39)			
London	39	21.43 (2.76)			
Other	13	21.77 (3.89)			
Organisation size				2.65	0.05
Less than 10 employees	16	23.08 (2.92)			
10 – 49 employees	15	20.09 (2.74)			
50 – 250 employees	40	21.20 (3.55)			
Over 250 employees	178	21.63 (3.01)			
Years at organisation			1.83		0.07
Up to 2 years	152	21.85 (3.29)			
2 years plus	97	21.11 (2.78)			
Working hours / Employment type			2.55		0.01
Full-time	237	21.68 (3.11)			
Part-time	10	19.14 (2.27)			

Work over contracted hours			1.31			0.19
Yes	161	20.43 (2.77)				
No	88	22.92 (2.97)				
Hours of work over contract				2.57		0.08
1 – 5 hours	120	21.70 (3.20)				
5 – 10 hours	27	20.34 (2.93)				
Over 10 hours	14	20.51 (3.42)				
Satisfaction with off job training				8.90		**<0.001**
Very unsatisfied and unsatisfied	16	20.42 (2.30)				
Neutral	53	20.21 (2.77)				
Satisfied and very satisfied	180	22.06 (3.14)				
Job satisfaction				43.53 (Welch Anova)		<**0.001**
Extremely dissatisfied and dissatisfied	5	19.25 (1.72)				
Neither satisfied nor dissatisfied	38	18.69 (1.88)				
Satisfied and extremely satisfied	206	22.14 (3.01)				
Job performance	249				0.32	**<0.001**
Work presenteeism			6.84			**<0.001**
No	113	22.92 (2.97)				
Yes	136	20.43 (2.77)				
Flexible working for parenting			-0.53			0.60
Yes	42	20.09 (3.18)				
No	15	19.58 (3.32)				
Flexible working for caring			0.17			0.87
Yes	16	20.23 (3.16)				
No	11	20.43 (2.72)				
Employer support	249				0.32	**<0.001**
Employer empathy	249				0.44	**<0.001**
Apprenticeship characteristics						
Time as apprentice			0.57			0.87
Up to 1 year	113	21.68 (3.22)				
1 year plus	136	21.46 (3.03)				
Apprenticeship level				0.90		0.48
Level 2	23	21.35 (2.78)				
Level 3	66	21.87 (3.37)				
Level 4	39	20.93 (3.37)				
Level 5	14	21.26 (3.13)				
Level 6	101	21.78 (2.86)				
Level 7 (Masters)	6	19.97 (2.94)				

Provider type			1.73		0.09
Further education	80	22.06 (3.28)			
Local authority or higher education	168	21.33 (3.02)			
Study presenteeism			6.83		**<0.001**
No	136	22.69 (3.04)			
Yes	113	20.20 (2.63)			
Study performance	249			0.32	**<0.001**
Provider support	249			0.31	**<0.001**
Tutor empathy	249			0.36	**<0.001**
Impact of parenting responsibilities on time dedicated to apprenticeship			1.25		0.22
Never or hardly ever	16	20.80 (4.06)			
Sometimes, often, always	41	19.63 (2.78)			
Impact of caring responsibilities on time dedicated to apprenticeship			0.74		0.47
Never or hardly ever	9	20.91 (3.71)			
Sometimes, often, always	18	20.01 (2.54)			
Work-study-life balance characteristics					
Work-study-life balance	249			-0.43	**<0.001**
Job impact on study			3.39		**<0.001**
Never or hardly ever	97	22.38 (3.17)			
Sometimes, often or always	152	21.04 (2.97)			
Job impact on life			3.85		**<0.001**
Never or hardly ever	91	22.53 (3.36)			
Sometimes, often or always	158	21.00 (2.83)			
Study impact on job			1.61		0.11
Never or hardly ever	129	21.86 (3.35)			
Sometimes, often or always	120	21.23 (2.81)			
Study impact on life			3.68 (welches t-test)		**<0.001**
Never or hardly ever	78	22.69			
Sometimes, often or always	181	21.04			

p-values 0.001 and under are marked in bold letters.

Table 4. Regression analysis predicting apprentices' wellbeing

	Beta	***t***	**Sig.**	**CI**
Age: 25+ (16-24)	-0.07	-0.98	0.33	-1.34, 0.49
Gender: female (male)	-0.09	-1.71	0.08	-1.24, 0.08
Financial difficulties: sometimes/often (never/rarely)	-0.09	-1.68	0.09	-1.23, 0.11
Parenting responsibilities: yes (no)	0.00	0.01	0.99	-1.02, 1.03
Mental health condition: yes (no)	-0.22	-0.39	0.70	-1.30, 0.81
Satisfaction with off the job training: very unsatisfied/ unsatisfied (satisfied/ very satisfied)	0.08	1.44	0.15	-0.42, 2.38
Satisfaction with off the job training: neutral (satisfied/ very satisfied)	-0.06	-1.06	0.29	-1.28, 0.37
Job satisfaction: satisfied/ extremely satisfied (neutral/satisfied/very satisfied)	0.20	3.38	**<0.001**	-3.37, 1.13
Job performance	0.17	2.92	**0.004**	0.15, 0.74
Work presenteeism: yes (no)	-0.16	-2.22	**0.03**	-1.81, -0.09
Study performance: yes (no)	0.11	1.79	0.08	-0.03, 0.45
Study presenteeism: yes (no)	-0.05	-0.74	0.46	-1.16, 0.51
Difficulties with work-study-life balance	-0.27	-4.04	**<0.001**	-1.26, -0.43
Job impact on study: sometimes/often/ always (never/hardly ever)	0.18	2.83	**0.005**	0.34, 1.93
Job impact on life: sometime/often/ always (never/hardly ever)	0.04	0.62	0.54	-0.51, 0.99
Study impact on life: sometimes/often/ always (never/hardly ever)	-0.01	-0.08	0.94	-0.84, 0.78
Provider support	0.01	0.18	0.86	-0.15, 0.19
Employer support	0.08	1.11	0.27	-0.08, 0.26
Tutor empathy	0.08	1.25	0.21	-0.06, 0.24
Employer empathy	0.15	2.11	**0.04**	0.02, 0.34

Model 1: F(21,205) = 9.33, $p<0.001$, $R^2 = 0.436$

N.B. words in round brackets specify the reference categories for categorical variables.

2.4 Quantitative Research reflective commentary

Introduction and background

I completed this study as part of my research role at a UK university in which I am based within a workplace wellbeing research group. My manager approached me about working on a piece of research relating to apprentice wellbeing, explaining that she had already co-developed a cross-sectional survey in collaboration with apprentices and the Institute for Apprenticeships. The study had already received ethical approval from the University's ethics committee and had funding for vouchers to incentivise participation. Unfortunately, the roll out of the survey had been delayed due to competing demands. Although the study already had ethical approval, the research questions and plan for analysis were broad which offered me the opportunity to steer the direction of the study and use it towards my doctorate portfolio. On a personal level, the research area intrigued me due to the parallels between the set up of apprenticeships (e.g., work combined with study) and the professional doctorate. I was particularly drawn to the included measure of work-study-life balance and assessing the relation between work-study-life balance and wellbeing.

Defining the research question and study design

As I was picking up this research after the survey had already been designed, the scope of my own research questions was limited to that possible with the measures included within the survey. However, as the survey included a wide range of measures, I did not feel limited by this. When designing my research questions, I wanted to ensure that they would address a gap within the literature. Therefore, I reviewed the existing research on apprentice wellbeing and was surprised at the dearth of research within this area, particularly within England. Other than limited research from France, Australia, and Austria (e.g., (Choi et al., 2022; Dale et al., 2021; Einboden et al., 2021; Theurel & Witt, 2023)), there appeared to be little knowledge regarding apprentices' wellbeing and any potential risk and protective factors, especially within England. I therefore decided to tailor my research question to identify predictors of apprentices' wellbeing as I felt that this was an important issue to address, as an understanding of risk and protective factors could inform the specific target population and components of wellbeing interventions for apprentices.

Assessing the measures included within the pre-developed questionnaire, I felt this was achievable as there were measures of wellbeing (SWEMWBS (Stewart-Brown et al., 2009)), anxiety (GAD-2 (Kroenke et al., 2007)) and depression (PHQ-2 (Kroenke et al., 2003)) and measures of varying predictors including sociodemographic, apprenticeship, work and work-study-life balance related variables. However, as the survey measured a total of 42 potential predictors the challenge came with narrowing down the predictors that I wanted to focus on.

I sought to be transparent and have a clear rationale for analysis of particular predictor variables to prevent issues around outcome reporting bias, which is defined as "the selection for publication of a subset of the original recorded outcome variables based on the significance of results" (Hutton & Williamson, 2000). However, I felt that the paucity of existing research could not form a foundation for any directional hypotheses to be drawn as it was limited and often conflicting. Consequently, I decided to take a data-driven approach to narrow down predictors via exploratory analyses. I felt most comfortable with this approach as I did not want to dismiss any variables from the analysis which were potentially important to the wellbeing of apprentices. Nevertheless, I was cautious about test wise error (see below for more information).

Ethics

Although I was not involved in the submission of the initial ethics application, I was responsible for submitting a non-substantial amendment to the ethics committee. The survey had originally been designed shortly after COVID and as such had a few questions relating to how COVID impacted aspects of participants apprenticeship and wellbeing. Given, that the survey was being launched in 2024, I decided that these questions were no longer relevant and consequently removed them and informed the ethics committee of this. I also clarified any details that I felt were unclear in the initial application e.g., around recruitment. Additionally, I sought and was approved ethical clearance from Staffordshire University.

After data collection I also consulted with the ethics committee regarding the most ethical way to conduct the prize draw following a suspected bot infiltration in survey responses. I took a cautious response to the removal of suspected bot responses for the purpose of analysis (see below for more details) but was unsure if this approach would be appropriate for running the prize draw as it could potentially remove genuine responses, which could be unethical. Nonetheless, the ethics committee advised me to implement the same approach for the inclusion of participants within the prize draw. I was reassured to have their approval and this experience highlighted the benefit of having a team of people with experience in ethical issues to check in with.

Data collection

I utilised several methods for recruitment. My primary method was emailing apprenticeship training providers and employers with a brief background to the study and the recruitment poster, requesting them to advertise the study with their network. This included both cold contacts and warm contacts (i.e., people that my manager already knew). I suspect that the warm contacts were the most successful based on their replies to my emails and based on the proportion of sectors recruited to the study. For example, due to many of our warm contacts being from the construction sector, over half of our total sample ended up being from this sector. I also advertised the study on Twitter and LinkedIn. Although we had a relatively good uptake, in an ideal world, it would have been beneficial to have allocated more time for recruitment as it often took a while for the apprentice training providers to advertise the study with their apprentices. This is something I will consider when planning future quantitative studies.

Analysis

Screening the authenticity of responses

When preparing the data for analysis the first issue that I needed to contend with was my suspicion that the survey had been hacked by a bot. These suspicions were initially raised when there was a sudden influx in responses (approximately 700 responses over a few days) during data collection. Upon investigation of these responses, they all appeared to be from a Gmail account consisting of a random string of numbers and letters and those that had left free text responses appeared to be written by AI. For example, they would provide random facts about apprenticeships that did not seem relevant to the focus of the survey.

When I noticed this issue, I researched and consulted supervisors to see if there was a way to further protect the survey from any further disingenuous responses from bots.

Unfortunately, other than the CAPTCHA question (a test to determine if an online user is a human or a bot) that I had already included within the survey and the bot appeared to have surpassed, there did not appear to be any other preventative measures that I could take whilst the survey was already open, nor did there appear to be any conclusive advice on how to filter out the bot responses. I found this to be surprising, as I envisage this to be a common issue for survey data.

Once data collection had closed, I sought to decipher a system to filter out the bot responses from the genuine responses. For the purpose of analysis, I felt it best to be over cautious as I wanted to maintain the authenticity of my findings. I began by highlighting any suspicious or repeated free text responses (i.e., those that appeared to be written by AI). However, this was only helpful for those that had left a free text response and many participants had not. Nevertheless, I noted that all the suspicious responses fell within particular date ranges and were from a Gmail address. I then filtered all the responses down to those that were from a Gmail address and fell within the identified date ranges. Responses within these date ranges were reviewed for any genuine looking free text responses (n=4). Excluding the four genuine responses identified, all the responses which fell between these date ranges and were from email addresses from the flagged email provider were removed. As a final screening step, we removed any responses that were completed in less than four minutes. This left a total of 259 responses. It was disheartening to have such a big drop in responses from 1146, but I felt that a cautious approach that prioritised authenticity was the most important factor so that our findings were truly representative of genuine apprentices and could make a positive contribution to the literature.

Data cleaning

Once I had established the dataset, I began cleaning, coding and scoring the data. This process took longer than anticipated as I was having to refamiliarise myself with SPSS after not having used it since my Masters degree. I also checked the normality of all continuous data using skew and kurtosis values and removed outliers above or below 3 standard deviations of the mean. This resulted in a final sample size of 249. As some of the levels within each variable had a low N, I decided to collapse some of the categories together for analysis. When doing this, I made sure that I had a clear and logical rationale for the way that I collapsed the groups, but also reflected that this is a somewhat subjective process that loses some of the detail of the data. Following advice from the module lead I documented this process within the write up of the manuscript. I also ran correlations between the predictors to identify any that were highly correlated with each other, however there were no predictors that correlated higher than 0.55.

In line with the ethics application some of the questions within the survey were optional. This was the case for the GAD-2 and PHQ-2 questions. Unfortunately, this resulted in a low response rate for these questions, which then impacted the options to utilise these variables within analysis. In hindsight, it is strange that it was stipulated within the ethics that these questions would be optional, whilst SWEMWBS for example was compulsory. This is something I should have picked up when reviewing and amending the ethics application. Furthermore, when designing quantitative studies in the future, I will take care to consider whether to make questions optional, particularly those that are planned to be utilised as the dependent variable.

Running the exploratory t-tests, ANOVAs and correlations

I conducted Pearson's correlations (for continuous data), independent t-tests (for dichotomous data) and one-way ANOVAs (for categorical/ ordinal data with more than two categories) to identify those variables that were either significantly correlated with SWEMWBS scores or showed significantly different scores between groups. This initially resulted in 25 significant results. I was advised by the module lead that due to the number of tests conducted I needed to be cautious of testwise error. To account for this he advised dividing the p value of 0.05 by the number of tests conducted (n=42), resulting in a new p value of 0.001. This benefitted me by further narrowing down the number of significant results to 19, which had appropriate levels of power for the subsequent regression analysis.

Regression analysis

A key decision involved which type of regression analysis to utilise. Having little knowledge of regression prior to undertaking this project I read around the different types of regression analyses available and sought guidance from supervisors. An early consideration was to use a stepwise regression due to the high number of predictor variables that we had. However, after reading around stepwise regression, I noted that it was heavily debated and often heavily criticised (Smith, 2018). Therefore, I decided against this approach. The contentiousness of different analytical approaches was not something that I had anticipated, as I had wrongly assumed that there was a clear 'right' or 'wrong' in relation to quantitative data analysis, with little room for subjectivity. However, through conducting this project, I quickly realised that this is not the case.

Given that I had decided to keep my dependent variable (SWEMWBS) as a scale variable, rather than utilising a categorical approach in which respondents are split into three groups of high, average and low mental wellbeing dependant on their scores, I opted for multiple linear regression over logistic regression. To run the analysis, I created dummy variables for any of the categorical variables that were significant in the t-tests, ANOVAs and correlations. I then inputted these alongside the significant continuous variables into a multiple regression analysis.

The overall model was significant, explaining 43.6% of the variance, with 6 variables remaining significant in the model (job performance, work presenteeism, employer empathy, work-study-life balance and job impact on study). I found the direction of the continuous variables with the regression relatively easy to interpret, but struggled somewhat with the categorical variables, particularly those with more than two levels. Strangely, for some of the variables, the regression model was suggesting a direction that was opposite to what the means would suggest (e.g., for job impact on study, the sometimes/often/always group predicted better wellbeing compared to the never/hardly ever group, but the mean SWEMWBS score was lower for the sometimes/often/always group compared to the never/hardly ever group). I queried this with supervisors and eventually established that this was likely due to an interaction with the other variables within the regression model.

Interpretation of the results

I think that perhaps the most interesting observation from the results is that all the significant results from the regression model were those relating to apprentice's job or work-study-life balance (e.g., job satisfaction, job performance, work presenteeism, employer empathy, difficulties with work-study-life balance and job impact on study). This was useful information as it suggests that future wellbeing interventions for apprentices may be best suited towards delivery within the workplace. I also interpreted it positively that all of the significant variables within the final model were modifiable factors rather than demographic factors. This highlights the need for and importance of appropriate intervention. In particular, targeting employer empathy towards the demands of apprenticeship could be a potential intervention target as this may have positive knock on implications for other significant variables. For example, more empathetic employers may allow more time for study which could improve apprentices' work-study-life balance and the impact of their job on their study. Likewise, more empathetic employers may have more realistic expectations for apprentices which could increase their perceived job performance and job satisfaction and possibly reduce work presenteeism.

Writing up the manuscript and dissemination

I chose to submit my paper to Work and Stress which has an impact factor of 6.1 and has the aim of presenting papers relating to psychological, social and organizational aspects of occupational health and well-being. It describes itself as a natural home for research on the work-family interface, thus fitting well with the aims of the study. As there was no more funding available for dissemination, I chose a journal that the University had an open access fee waiver agreement with.

Writing up the manuscript was a stage of the project that I enjoyed. Although I am typically more drawn to qualitative research, I find the writing up of quantitative research more 'clear cut', preventing me from 'overthinking' and making it easier to stay within the prescribed word counts.

When advertising the study, many of the apprenticeship providers expressed an interest in hearing about the results of the study. I compiled a list of all those who expressed an interest and plan to share a lay summary alongside the manuscript with them. Given the significance of the workplace, I will also suggest that they further share this any apprentice employers within their contacts.

Future research

This dataset was rich and there is plenty more analysis that could be conducted with it. Unfortunately, I was restricted by time constraints due to my contract ending and losing access to the data, but if I had more time it would have been valuable to conduct a mediation analysis to identify whether work-study-life balance mediated the relationship between any of the variables and wellbeing. Given the lack of conceptualisation of ‘work-study-life balance’ and the lack of validated measurement instruments, it would also be useful to investigate the psychometric properties of our measures. To avoid the ‘file-drawer’ problem I will flag these possible avenues for future research with my colleagues to encourage further analysis of the data after my departure.

Conclusions

This was the element of the research competency which I was most apprehensive about completing due to my limited experience and confidence in quantitative research methods. However, I was keen to use the completion of this project as an opportunity to develop my quantitative research skills. Although the survey had already been developed, I felt I was still able to develop a research question within the constraints of a predefined questionnaire. I also learnt a lot about quantitative data analysis, including the preparation of data for analysis and the different types of regression analyses, which was something I had not conducted independently prior to this work. Although a minor setback to my progress with the study, I was reassured that I picked up on the unusual finding within my regression (in relation to the suggested direction), this helped to prove to myself that I had a solid understanding of the output, and it was reassuring that even those much more experienced in quantitative data analysis were puzzled by this. This has been a rewarding project to work on, particularly due to the paucity of existing research relating to apprentice wellbeing. The results of the study are novel and provide an important early insight into the predictors of English apprentices’ wellbeing. Having completed this work, I feel I have achieved my goal of gaining confidence with quantitative research analysis and will be less avoidant of quantitative research opportunities in the future.

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2.5. Systematic Review Manuscript

Workplace Mental Wellbeing Interventions in the Construction Industry: A Systematic Review of Outcome Reporting

ABSTRACT

Background: Construction workers have disproportionately high levels of poor mental health and suicide rates compared to other sectors. Accordingly, there is an urgent need for more evidence-based interventions to improve their mental health. The necessity for outcome reporting guidance through the development of a core outcome set (COS) has been identified by the National Institute of Health and Care Excellence as a research priority within the area of workplace mental wellbeing. This systematic review forms the first step in the ambition to develop a COS for workplace mental wellbeing interventions, specifically within the construction industry. By reviewing published intervention studies that have targeted the mental wellbeing of construction workers trends in outcome reporting in terms of both what is measured, and how will be identified.

Methods: Four on-line databases were searched (inception to August 2023): PsycINFO, Web of Science, MEDLINE and Scopus. Quantitative studies evaluating the impact of interventions designed to improve construction worker mental wellbeing were included. One reviewer completed the screening process, with a second reviewer screening a 10% subset. Two reviewers independently extracted the verbatim outcomes. Subsequently all other data were extracted by one reviewer, with a second reviewer extracting a 10% subset. Patterns of outcome reporting such as frequency of outcome reporting (i.e., what was assessed and how often), assessment methods and assessment timings were identified and reported using descriptive statistics. The quality of outcome reporting reproducibility was rated using pre-defined criteria. Finally, outcomes were inductively mapped into domains.

Results: A total of 52 outcomes were reported across the 14 included studies. Most outcomes (n=45/52; 86.54%) were reported just once across all reviewed studies. There was little consistency in outcome reporting, with the most frequently reported outcomes reported just twice across all reviewed studies. Outcomes were inductively categorised into four domains: 1) Mental health or wellbeing, 2) Mental health stigma, behaviours or attitudes, 3) Suicide awareness, knowledge, beliefs or behaviours, and 4) Work environment. The greatest number of discrete (i.e., different) outcomes fell into the work environment domain (16/45; 35.56%) and included several instruments that assessed workplace social relationships and perceived support from supervisors. The greatest number of total outcomes (i.e., including those reported twice) were reported in the mental health or wellbeing domain (18/52; 34.62%), The quality of outcome reporting was rated as a mean 4.18 out of total 5.

Discussion: This review highlights the need for clearer guidance on what outcomes to select to assess the effectiveness of workplace mental wellbeing interventions within the construction industry. This could be achieved through the co-development of a core outcome set (COS) with stakeholders from the industry and could enable organisations to better understand what interventions work, and subsequently which interventions to make available to their workforce.

What is already known on this topic?
Construction workers have disproportionately high levels of poor mental health and suicide rates compared to other sectors. We need to be able to evaluate and compare the effectiveness of interventions designed to improve the mental wellbeing of construction workers. However, this could be limited by inconsistencies in outcome selection and reporting.

What this study adds:

Considerable heterogeneity and inconsistency in outcome reporting across published evaluations of workplace mental wellbeing interventions within the construction industry in terms of what, how and when outcomes are assessed is evidenced in this review. This limits evidence synthesis and thus the advancement of mental wellbeing interventions for construction workers.

How this study might affect research, practise or policy:

This review supports the NICE recommendation to develop a COS for mental wellbeing interventions, specifically within the construction sector. Development of a COS, co-created with construction workers and other stakeholder groups could provide standardisation of outcome assessment for future intervention studies.

INTRODUCTION

Construction workers are reported to have poorer mental health than their counterparts from other industries (1,2). A recent survey identified that out of 2081 construction workers, in the past year, 87% had experienced anxiety, 70% had experienced depression, 97% had experienced stress and 28% had had suicidal thoughts (2). Burnout has also been highlighted as particularly prevalent amongst construction workers (3,4) As a consequence of poor mental health, drug and alcohol addiction are prevalent amongst construction workers (5). Concerningly, there are also high suicide rates among construction workers compared to other occupations and the wider population (6,7). Accordingly, mental ill-health has been aptly coined as the ‘silent crisis within the construction industry’ (2).

There are distinctive occupational challenges faced by construction workers that have been associated with their mental wellbeing. These include; long working hours, job uncertainty, tight deadlines and financial pressures due to the often temporary and resource constrained nature of construction projects (2,8–10). The construction industry covers a diverse workforce ranging from manual trade workers to office-based construction professionals, each of which experience differing workplace stressors (11). Research suggests that professional workers within the construction industry tend to experience stress related to industry competition and time pressures, with this stress trickling down through their management to trade workers who then experience high job demands, long working hours and poor social support (11,12). Physical factors such as noise levels, inadequate temperature control and uncertainty of working location are also problematic for construction workers (2). Furthermore, the construction industry is male dominated, with men making up 85.3% of the workforce within the UK (13). It is argued that this has contributed to a macho culture, perpetuating poor mental health and discouraging mental-health related help-seeking (14).

In light of the growing evidence for poor mental wellbeing among construction workers, there have been repeated calls for the construction industry to improve mental wellbeing support for its workers (e.g., (15,16). Accordingly, attempts have been made to develop and implement interventions targeting workplace mental wellbeing within the industry. However, outcome selection and reporting guidance for such interventions is not available. To address this, the National Institute for Health and Care Excellence (NICE) NG212 Workplace Mental Wellbeing working group recently prioritised the need for outcome reporting guidance through the development of a Core Outcome Set (COS) for workplace mental wellbeing interventions.

A COS refers to an agreed standardised set of outcomes that should be measured and reported within all trials related to a specific area as a minimum (17). The benefits of a COS include a reduction in the measurement of inappropriate outcomes, increased relevance of outcomes to stakeholders, increased comparability between trials and a reduction in reporting biases and over recruitment (17–21). Without a COS there are often inconsistencies in outcome selection and reporting between studies which presents challenges when comparing evidence within systematic reviews and meta-analyses (17). Evidence synthesis of the data relies on the homogeneity of outcome selection and reporting, and where there is heterogeneity in reported outcomes this can limit evidence synthesis and thus our understanding of which interventions are most beneficial.

Outcome reporting guidance for mental wellbeing intervention studies within the construction industry is not available. Moreover, the quality of outcome reporting is unknow. We define ‘quality of outcome reporting’ as how well the authors of studies report the outcomes that they considered in their study to enable replication. In line with recommendations for best practice in relation to COS development (e.g., (17,22,23)), this review will summarise all outcomes reported in the included studies and report on outcome reporting variance across published workplace wellbeing intervention studies in the construction industry, highlighting the range of outcomes measured, how the outcomes are assessed, the different perspectives captured (i.e., employee vs employer) and quality of outcome reporting.

METHODS

This systematic review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) guidelines (24). The protocol is registered with the International Prospective Register of Systematic Reviews (PROSPERO): (https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023410717).

Search Strategy

Through consultation with an expert librarian within the lead authors institution, a comprehensive search strategy was compiled to identify all studies evaluating an intervention designed to target mental wellbeing within the construction industry. The search terms included synonyms of; 1) construction workforce, 2) mental wellbeing, 3) interventions and 4) workplace. The full list of search terms can be found in the supplementary appendix A.

Four online databases were searched (inception to August 2023): PsycINFO, Web of Science, MEDLINE and Scopus. These databases were selected as they index a range of wellbeing and construction related journals. Reference lists of systematic reviews identified as relevant to the topic area were hand searched to identify any articles that had been missed via our own searches.

Eligibility Criteria

Included studies reported quantitative assessments of interventions designed to improve construction worker mental wellbeing (see Table 1). Construction industry workers were defined as: any persons engaged in the construction industry as professionals, supervisors, construction project managers engaged in planning, coordinating, and controlling construction projects and frontline workers involved in manual aspects of construction work (8).

Mental Wellbeing interventions were defined as per the NICE Mental Wellbeing at Work Evidence Review F (25) , to include any interventions that aim to (one or more of):

- Improve mental wellbeing.
- Promote positive mental wellbeing.
- Prevent poor mental wellbeing.
- Increase awareness or understanding of mental wellbeing.
- Help managers understand, recognise and respond to their employee's mental wellbeing.

Also in line with NICE guidance (25), the level of these interventions can be:

- Universal approaches for managers (training delivered to managers in addition to usual practice)
- Universal organisational level approaches (organisational-level approaches delivered to an unselected population in addition to usual practice)
- Universal individual level approaches (individual-level health promotion and risk reduction programmes made available to an unselected population in addition to usual practice)
- Targeted organisational level approaches (organisational-level approaches delivered to a selected population in addition to usual practice)
- Targeted individual level approaches (individual-level approaches delivered to a selected population in addition to usual practice)

Both interventions with a focus on improving mental wellbeing directly (e.g., psychological therapy) and indirectly (e.g., via the work environment) were appropriate for inclusion. Included studies also needed to be published in peer-reviewed academic journals and available as a full-text article written in English.

Table 1. ***Study eligibility criteria***

	Inclusion	**Exclusion**
Participants	Primary population of employees aged 16 and over that work within the construction industry. This can include individuals that are: • Self-employed • Work at/for micro, small and medium enterprises (SME's) in addition to larger national/ international level construction businesses • Employees in full or part time work including those in permanent, training, temporary or zero-hour contracts.	Child workers under the age of 16. Studies that do not focus on workers within the construction industry as the primary population.
Intervention	Interventions designed to improve mental wellbeing within the construction workforce	Interventions that were not designed to improve mental wellbeing within the construction workforce
Setting	Any intervention that is delivered within the workplace, or delivered outside of the workplace but was designed, delivered, managed, funded or signposted to by the employer, delivered in person or delivered/ accessed online/ digitally	Studies based on national public health campaigns
Study Design	Quantitative Pre and post intervention measures as a minimum.	Qualitative Cross sectional designs, case studies and observational studies, protocols

Study Selection

Abstracts were retrieved from the databases and uploaded to Rayyan (26) systematic review software. All titles and abstracts were reviewed for inclusion/exclusion by one author (CM). A randomly assigned 10% subset were screened by a second author (AT).

This process was repeated for the full texts; any disagreements were discussed with a third author (CT) who provided the deciding vote for inclusion.

Data Extraction

Data were extracted into a predefined template which captured study specific information (e.g., author, year of publication, country, study design, number of participants, demographics, participant job role, size of organisation, study aims and intervention details/ duration), alongside outcome specific information such as what outcomes were assessed, how were they assessed (e.g., which outcome measurement instruments (OMIs) were used) and by whom, when they were assessed and whether the described method of assessment was reproducible based on whether it was supported by sufficient explanation or a supporting citation (22,23). Authors of studies were contacted and requested to provide missing information where necessary.

Both CM and CT independently extracted the verbatim outcomes. Subsequently all other data were extracted by CM (100%) and CT (10%), followed by a discussion between the researchers to check reliability. N.B. In line with the mental wellbeing focus of this review, only mental wellbeing specific outcomes are reported in the results section (e.g., physical health and process related outcomes are not reported, but organisational level variables that were changed with the rationale of improving mental wellbeing are reported).

Data analysis

Patterns of outcome reporting such as frequency of outcome reporting (i.e., what was assessed and how often), assessment methods and assessment timings were identified and reported using descriptive statistics. Adapting the approach of Peason et al. (2022), one reviewer (CM) scored the quality of outcome reporting on a scale of 0-5, whereby 0 signified not at all reproducible and 5 signified fully reproducible. Every extracted outcome from each study was allocated one point for describing/ having each of the following criteria: 1) supporting reference, 2) OMI items (if supported by a reference, number of items and specification of sub-scales justifies a point, if not supported by a reference specification of items is needed), 3) scoring information, 4) mode of administration (face-to-face, telephone, electronic)/ setting (clinic, home, other) and 5) identification of who completed the assessment (e.g., self-report or clinician). Points were summed to form an overall reproducibility rating. N.B. if an OMI was developed by the authors of the study, meaning they could not provide a supporting reference, it was still allocated a point for the supporting reference criterion to negate receiving a lower rating purely on this basis.

The outcomes were also inductively categorised into domains by clustering together outcomes based on conceptual similarities. These domains were discussed amongst authors until a consensus was reached.

RESULTS

Flow of included studies

As illustrated in figure 1, database searching yielded 3259 hits. After removal of duplicates (n=2156), 1103 studies remained for title/ abstract screening; 1070 studies were excluded, and 33 full texts retrieved for assessment. From these, 23 studies were excluded (see figure 1 for reasoning). An additional 4 studies were identified by handsearching the reference list of recent systematic reviews evaluating construction workplace wellbeing interventions (5,27,28), resulting in a total of 14 articles for inclusion in the review. The review flowchart is shown in Figure 1 below.

INSERT FIGURE 1 HERE

Study characteristics

Half of the included studies (n= 7) were conducted in Australia (29–35), three in Nigeria (36–38), and one each from the United States (39), Sweden (40), Finland (41) and Singapore (42). The earliest study was published in 2011 (29), with most (9/14) published in the last 5 years. Most were randomised controlled trials (RCTs) (n=6/14; 42.86%), with three non-randomised controlled trials (21.43%), three uncontrolled studies (21.43%), one uncontrolled pilot study and one comparison study. The number of participants in the studies ranged from 35 to 20,125 and participants were predominately male and represented a range of occupations within construction (See Table 2).

Table 2.
Intervention study design and participant characteristics

First Author and year	Country	Type of Study/ design	Participant occupation	Intervention Group		Control Group	
				Sample size (% male)	Age (M/%)	Sample size (% male)	Age (M/ %)
Anger 2018 (39)	United States	Uncontrolled before and after study (pilot)	Carpenter, safety engineer, field engineer, (senior) project engineer, site administrator, project coordinator or manager, health care market leader, and (senior) superintendent.	Supervisors: 22 (90.9) Employees: 13 (69.2)	Supervisors: 39.2 Employees: 37	N/A	N/A
Cedstrand 2022 (40)	Sweden	Non-randomised Controlled trial	Trade workers and professionals	Baseline: 203 (79.4%) 12 month follow up: 189 24 month follow up: 176 Complete cases: 101	39.4	Baseline: 124 (83.9%) 12 month follow up: 135 24 month follow up: 104 Complete cases: 41	44.2
Elo 2013 (41)	Finland	Non-randomised, controlled before and after study	Trade workers and professionals	Subordinates (working for 8 supervisors that took part in the intervention): 49 (67%)	44.7	Subordinates (working for 32 supervisors who did not take part in the intervention: 96 (84%)	43.9

Gullestrup 2011(29)	Australia	Non-equivalent group comparison	Not reported (Recruited from public and private sector construction sites)	7311 (gender not reported)	Not reported	355 (gender not reported)	Not reported
Iremeka 2021(36)	Nigeria	Randomised controlled trial	Skilled construction workers	80 (80%)	Not reported	80 (75%)	Not reported
King 2018 (30)	Australia	Uncontrolled before and after study	Technicians, trade workers. Labourers, machinery operators, managers, professionals and clerical/admin workers	20, 125 (92.5%)	15-24 years: 14.8% 25-34 years: 32% 35-44 years: 23.9% 45+ years: 29.3%	N/A	N/A
King 2019 (31)	Australia	Uncontrolled before and after study	Technicians, trade workers. Labourers, machinery operators, managers, professionals and clerical/admin workers	19,917	15-24 years: 14.9% 25-34 years: 31.6% 35-44 years: 23.9% 45+ years: 29.6%	N/A	N/A
King 2023 (32)	Australia	Randomised controlled trial	Trade workers and professionals	Baseline: 509 (88.8%) Received allocated intervention: 86	17-29 years: 28.3% 30-39 years: 23.2% 40-49 years: 19.1%	Baseline: 575 (84.9%) Included in final analysis: 575	17-29 years: 27.8% 30-39 years: 25.2% 40-49 years: 19.3%

				Included in final analysis: 509	50-59 years: 15.9% 60+ years: 3.5% Missing: 10%		50-59 years: 11.8% 60+ years: 4.5% Missing: 11.3%
Milner 2018 (33)	Australia	Randomised control trial	Not reported	Baseline: 343 (100%) Follow up: 247	18-29 years: 9.8% 30-39 years: 22.1% 40-49 years: 29.5% 50-59 years: 29.1% 60+ years: 9.4%	Baseline: 302 (100%) Follow up: 231	18-29 years: 11.4% 30-39 years: 25.8% 40-49 years: 31.8% 50-59 years: 22.9% 60 years plus: 8.1%
Milner 2020 (34)	Australia	Randomised control trial	Not reported	Baseline: 343 (100%) Follow up: 243	18-29 years: 11.1% 30-39 years: 21.8% 40-49 years: 32.1% 50-59 years: 26.7% 60+ years: 8.2%	Baseline: 302 (100%) Follow up: 225	18-29 years: 11.1% 30-39 years: 24.9% 40-49 years: 32.9% 50-59 years: 21.8% 60+ years: 9.3%
Okereke 2021 (37)	Nigeria	Randomised control trial	Construction Trade areas: Masonry/bricklaying, carpentry & joinery, cabinet making,	63 (gender not reported)	40.70	62 (gender not reported)	42.16

			plumbing, tiling, interlocking Mechanical trade areas: Autobody repairs, auto mechanics work, A/C and refrigeration, welding and fabrication, machining, key fabrication, vulcanising				
Omeje 2021 (38)	Nigeria	Randomised control trial	Construction trade artisans (e.g., carpenters, electricians, tilers etc)	70	20-30 years: 30% 31-40 years: 27.1% 41-45 years: 21.4% 45+ years: 21.4%	70	20-30 years: 30% 31-40 years: 24.3% 41-45 years: 21.4% 45+ years: 24.3%
Palaniappan 2022 (42)	Singapore	Uncontrolled before after and follow up study	Not reported	348 (99.1%)	<25 years: 18.4% 26-25 years: 46% 36-45 years: 23% >45 years: 12.9	N/A	N/A
Ross 2020 (35)	Australia	Before, after follow up	Not reported	GAT: Baseline: 2260 (91.8%)	GAT: Baseline: 34.94	N/A	N/A

	comparison study	Post: 2241 (91.8%) Follow up: 189 (83.4%) MAT: Baseline: 717 (95.5%) Post: 700 (95.9%) Follow up: 56 (91.1%)	Post: 34.89 Follow-up: 41.73 MAT: Baseline: 30.56 Post: 30.43 Follow up: 37.43

Seven discrete interventions were described across the studies. Gullestrup et al., (29), King et al., (30–32) and Ross et al (35) all evaluated components of the Australian 'Mates in Construction (MATES)' multimodal workplace focussed suicide prevention programme. Two studies from the same lead author (Milner et al., (33,34)) evaluated Contact+Connect, an Australian electronic mental health stigma intervention. See Table 3 for a summary of all interventions.

Table 3. *Intervention characteristics*

First Author and year	Intervention description	Intervention type	Aim of intervention evaluation
Anger 2018 (39)	Multicomponent Total Worker Health intervention	Universal individual level and universal approach for managers	A pilot study to test whether the Total Worker Health Intervention could be implemented in the commercial construction sector and have positive impacts on Kirkpatrick's four levels of training evaluation.
Cedstrand 2022 (40)	Co-created intervention consisting of structured round making and duties clarification alongside implementation support.	Universal organisational level	To evaluate the effectiveness of a co-created occupational health intervention on stress and psychosocial working conditions within the construction industry in Sweden and to evaluate whether the intervention was implemented as intended.
Elo 2013 (41)	Leadership intervention delivered by 2 external process consultants.	Universal approaches for managers	To investigate whether a personal growth orientated leadership intervention among line supervisors improves their subordinates' perceptions of the psychosocial work environment,

			leadership and wellbeing.
Gullestrup 2011(29)	MATES multimodal workplace focussed suicide prevention programme*	Universal individual level	To examine the impact of the intervention on short- and medium -term indicators of effectiveness, including knowledge of suicide prevention and support services, and help-seeking behaviour.
Iremeka 2021(36)	Weekly group Rational Emotive Behavioural Therapy (REBT) sessions.	Targeted individual level	To examine the effect of group REBT on stress management among a sample of skilled construction workers in the Nigerian construction industry.
King 2018 (30)	MATES General Awareness Training: One hour group training session delivered in an interactive lecture format. The session aims to increase awareness of mental health and suicide, improve knowledge of warning signs, reduce stigma and encourage help seeking and help offering behaviours among workers*	Universal individual level	To evaluate the effectiveness of the intervention, specifically in terms of its impact on attitudes and beliefs regarding mental health and suicide.
King 2019 (31)	MATES General Awareness Training: (As above)*	Universal individual level	To examine age differences in suicide prevention literacy among construction workers, as well as in attitudes to the workplace in addressing mental health. A secondary

			aim was to compare change in suicide beliefs across age groups in response to the intervention and examine age differences in beliefs across occupational groups.
King 2023 (32)	In addition to the 1-hour group MATES General Awareness Training session, participants received access to the MATESmobile application*	Universal individual level	To evaluate the implementation of MATESmobile and assess its effectiveness in complementing face-to-face training.
Milner 2018 (33)	Contact+Connect: Digital intervention which included information on stigma, mental health, information on help seeking, and links to sources of help, whilst also encouraging the establishment and maintenance of long-term contact with others**	Universal individual level	To assess whether an intervention designed to reduce stigma against mental health problems was associated with lower self-stigma.
Milner 2020 (34)	Contact+Connect: Digital intervention which included information on stigma, mental health, information on help seeking, and links to sources of help, whilst also encouraging the establishment and maintenance of long-term contact with others**	Universal individual level	To assess whether an intervention designed to reduce stigma against mental health problems, could have a role in reducing thoughts about suicide, communication about suicide or suicide attempts.
Okereke 2021 (37)	Group Rationale Emotive Behaviour	Targeted individual level	To ascertain the effect of REBT on burnout among building

	therapy (REBT) for burnout.		construction and mechanical trade artisans.
Omeje 2021 (38)	Group cognitive-behavioural stress management intervention comprising of stress management skills training and relaxation training.	Targeted individual level	To investigate the effect of a cognitive behavioural intervention on occupational stress among Nigerian construction trade artisans in the building construction sector.
Palaniappan 2022 (42)	Training and workshops facilitated by qualified counsellors covering how to identify a peer struggling with anxiety, depression, or stress, how to provide help and how/when/ where to seek professional help.	Targeted individual level	To evaluate the effectiveness of peer support to improve mental health in migrant workers.
Ross 2020 (35)	MATES General Awareness Training (GAT): (As above) MATES Awareness Training (MAT): Similar content to GAT but only 15 min duration and delivered by a single trainer using an informal, conversational structure *	Universal individual level	To compare GAT and MAT on improving suicide awareness and knowledge, help-offering and help-seeking and to investigate the long-term effectiveness of both interventions.

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* Studies evaluating elements of the MATES multimodal suicide prevention programme

** Studies evaluating the Contact+Connect electronic mental health stigma intervention

Note: intervention type defined using categories adopted in the NICE NG212 Guideline on Mental Wellbeing in the Workplace

Which outcomes were reported?

A total of 52 mental wellbeing relevant outcomes were reported across the 14 included studies. Each study reported between 1 and 10 mental wellbeing related outcomes, with most studies including 2-3 outcomes. Most outcomes (n=45/52; 86.54%) were reported just once across all reviewed studies; that is, just one study included the outcome. There was little consistency in outcome reporting, with the most frequently reported outcomes reported just twice across all reviewed studies; these included assessments of perceived stress, stress, help seeking intentions, suicide and suicide prevention awareness and beliefs, suicide prevention literacy and safety climate.

In total, 32 different Outcome Measurement Instruments (OMIs) were utilised to measure the 52 outcomes. All but one of the OMIs were self-report questionnaires. The one outcome that was not measured by a self-report questionnaire was help-seeking behaviour, which was measured by the number of calls made to an emergency help-line and the number of follow up calls requested post intervention.

All the extracted outcomes were inductively assigned to domains, with four domains constructed: 1) Mental health or wellbeing, 2) Mental health stigma, behaviours or attitudes, 3) Suicide awareness, knowledge, beliefs or behaviours, and 4) Work environment (see Table 4 below).

1) Mental health or wellbeing

This domain includes outcomes relating to workers' mental health and wellbeing and consisted of 4 sub-domains; 1) mental health; 2) subjective wellbeing; 3) stress; and 4), work-related wellbeing.

In total 18/52 (34.61%) of the total (i.e., all of the outcomes reported within each study including those reported more than once) and 15/45 (33.33%) of the discrete outcomes (i.e., the number of unique outcomes reported, not accounting for those reported more than once) belonged to the "mental health or wellbeing" domain. Three of these outcomes (total/discrete) belonged to the mental health subdomain, 5 total/ 4 discrete to the subjective wellbeing subdomain, 7 total/5 discrete to the stress subdomain and 3 total/discrete to the work-related wellbeing subdomain. Eight studies (8/14; 57.14%) reported outcomes belonging to this domain (35–42).

2) Mental health stigma, behaviours, or attitudes

This domain includes outcomes relating to mental health related stigma and attitudes and consisted of two sub-domains; 1) internalised stigma; and 2) stigma-related behaviours.

In total 7/52 (13.46%) of the total and 6/45 (13.33%) of the discrete outcomes belonged to this domain. In terms of the subdomains, 2 total/discrete outcomes belonged to the internalised stigma subdomain and 5 total/ 4 discrete outcomes belonged to the stigma related behaviours subdomain. Five studies (n=5/14; 35.71%) reported outcomes belonging to this domain (29,30,32,33,35). Notably, these were all studies evaluating either the MATES multimodal workplace focussed suicide prevention programme or the Contact+Connect intervention.

3) Suicide awareness, knowledge, beliefs, or behaviours

This domain includes outcomes relating to suicide and consisted of 2 sub-domains; 1) Suicide knowledge, awareness, or beliefs; and 2) Suicide related behaviours or experiences.

In total 10/52 (19.23%) of the total and 8/45 (17.78%) of the discrete outcomes belonged to this domain. Seven of the total outcomes and five of the discrete outcomes belonged to the suicide knowledge, awareness, or beliefs sub domain and 3 total/discrete outcomes were categorised to the suicide related behaviours of experiences subdomain. Six studies (n=6/14; 42.86%) had outcomes belonging to this domain (29–31,31,32,35). Again, these were all of the studies evaluating the MATES and Contact+Connect interventions.

4) Work environment

This domain includes outcomes relating to factors within the work environment that could impact on workers' mental health. It consisted of 3 sub-domains; 1) work environment and relationships; 2) organisational processes and 3) workplace psychosocial hazards.

In total 17/52 (32.69%) of the total and 16/45 (35.56%) of the discrete outcomes belonged to this domain. The work environment and relationships subdomain contained eight total/discrete outcomes, the organisational processes subdomains included three total/discrete outcomes and the workplace psychosocial hazards subdomain had six total/ five discrete outcomes. Only 3/14 (21.43%) studies reported outcomes belonging to this domain (39–41). Unsurprisingly, the focus of the interventions within these studies were on changing elements of the work environment (i.e., environmental, relational and organisational) to improve mental wellbeing.

Summary of domains

The greatest number of total outcomes were reported in the mental health or wellbeing domain (18/52; 34.62%), meaning that outcomes within this domain were most frequently commented on overall. This domain also had the largest number of studies reporting outcomes belonging to it (n= 8/14). The greatest number of discrete outcomes were reported within the work environment domain (16/45; 35.56%). Despite this, outcomes in the work environment domain were reported by the fewest number of studies (n=3/14).

Table 4

Outcome Domain Mapping and Outcome Measurement Instruments (OMIs)

Inductive categorisation		Extracted information			
Outcome Domain	**Sub-domain**	**Outcome***		**Outcome Measurement Instruments (OMI)**	
		Verbatim Outcome	**Number of times reported and by who**	**OMI used to measure outcome**	**Number of times OMI used for specific outcome and by who**
1) Mental health or wellbeing	Mental health	Anxiety	1 (42)	Depression Anxiety Stress Scales - Self Report - 21 questions questionnaire (DASS-21)	1 (42)
		Burnout	1 (37)	The Copenhagen Burnout Inventory	1 (37)
		Depression	1 (42)	Depression Anxiety Stress Scales - Self Report - 21 questions questionnaire (DASS-21)	1 (42)
	Subjective wellbeing	Emotional exhaustion	1 (41)	Maslach's Burnout Inventory (Emotional Exhaustion subscale)	1 (41)
		Emotional wellbeing	1 (35)	Unclear/ developed by researchers	1 (35)
		Life satisfaction	1 (39)	The Satisfaction with Life Scale	1 (39)
		Wellbeing	2 (39)	5-item subset of the 20-item Centre for Epidemiological Studies Depression Scale	1 (39)
				12-Item Short Form Health Survey (SF-12)	1 (39)

Stress	Occupational stress	1 (38)	Artisans occupational stress questionnaire (developed by researchers)	1 (38)
	Occupational stress – work family conflict	1 (39)	Work–family conflict and family–work conflict scales.	1 (39)
	Occupational stress – Family work conflict	1 (39)	Work–family conflict and family–work conflict scales.	1 (39)
	Perceived stress	2 (36,41)	Perceived Stress Scale - 14 (PSS-14)	1 (36)
			Single item perceived stress scale	1 (41)
	Stress	2 (40,42)	Copenhagen Psychosocial Questionnaire III (COPSOQ)	1 (40)
			Depression Anxiety Stress Scales - Self Report - 21 questions questionnaire (DASS-21)	1 (42)
Work-related wellbeing	Work related irrational beliefs	1 (36)	Work Related Irrational Beliefs Scale (WIB-Q)	1 (36)
	Dysfunctional thoughts at work	1 (38)	Artisans’ dysfunctional thoughts at work questionnaire (developed by researchers)	1 (38)
	Job satisfaction	1 (39)	The Michigan Organizational Assessment Questionnaire--Job Satisfaction Subscale	1 (39)

2) Mental health stigma, behaviours or attitudes	Internalised stigma	Self-blame	1 (33)	The self-stigma of depression scale (SSDS) (Self-blame subscale)	1 (33)
		Shame	1 (33)	The self-stigma of depression scale (SSDS) (Shame subscale)	1 (33)
	Stigma related behaviours	Help seeking inhibition	1 (33)	The self-stigma of depression scale (SSDS) (help seeking subscale)	1 (33)
		Help seeking and help offering propensity	1 (30)	Measure developed by researcher	1 (30)
		Help-seeking intentions	2 (32,35)	Adapted from the General Help-Seeking Questionnaire	2 (32,35)
		Help seeking behaviour	1 (29)	Number of calls made to emergency helpline and number of follow up calls requested	1
3) Suicide awareness, knowledge, beliefs or behaviours	Suicide knowledge, awareness, or beliefs	Suicide and suicide prevention awareness and beliefs	2 (29,30)	Measure developed by researchers – participants rate agreement with common suicide myths	2 (29,30)
		Suicide prevention literacy	2 (31,32)	Measure developed by researchers (adapted from their own prior work – participants rate agreement with common suicide myths)	2 (31,32)

		Suicide awareness	1 (35)	Developed by researchers	1 (35)
		Attitudes to the workplace in preventing suicide	1 (31)	Measure developed by researchers (adapted from their own prior work)	1 (31)
		Suicidal ideation	1 (34)	The suicidal behaviours questionnaire revised	1 (34)
	Suicide related behaviours or experiences	Communication about suicide	1 (34)	The suicidal behaviours questionnaire revised	1 (34)
		Experiences of Suicide and helping behaviours	1 (30)	Measure developed by researchers	1 (30)
		Suicide attempts	1 (34)	The suicidal behaviours questionnaire revised	1 (34)
4) Work environment	Work environment and relationships	Feedback from supervisor	1 (41)	The Healthy Organisations questionnaire	1 (41)
		Support from supervisor	1 (41)	The Healthy Organisations questionnaire	1 (41)
		Justice of leadership	1 (41)	The Healthy Organisations questionnaire	1 (41)
		Team Effectiveness	1 (40)	Team effectiveness scale	1 (40)

	Team cohesion	1 (39)	Perceived cohesion Scale	1 (39)
	Work climate	1 (41)	The Healthy Organisations questionnaire	1 (41)
	Family-supportive supervisor behaviours – supervisor	1 (39)	Family Supportive Supervisor Behaviour Short-Form	1 (39)
	Family-supportive supervisor behaviours – employee	1 (39)	Family Supportive Supervisor Behaviours	1 (39)
Organisational processes	Flow of information at the workplace	1 (41)	The Healthy Organisations questionnaire	1 (41)
	Planning	1 (40)	No name (taken from prior study)	1 (40)
	Staffing	1 (40)	Measure developed by researchers	1 (40)
Workplace psychosocial hazards	Job demands	1 (41)	The Healthy Organisations questionnaire	1 (41)
	Job control	1 (41)	The Healthy Organisations questionnaire	1 (41)
	Safety Climate	2 (39,40)	The Psychosocial Safety Climate Questionnaire	1 (40)
			Unclear	1 (39)

		Quantitative Demands	1 (40)	Copenhagen Psychosocial Questionnaire III (COPSOQ)	1 (40)
		Role Clarity	1 (40)	Copenhagen Psychosocial Questionnaire III (COPSOQ)	1 (40)
4	11	45	52		52

Timing of assessment

Six studies only reported outcome data pre and immediately post intervention (29–31,33,34,39). Eight studies (57.14%) collected and reported follow up outcome data at time points ranging from 3 months to 24 months. However, for one study (Okereke et al., 2022a), the specific timing of follow up assessments was unclear.

Quality/ reproducibility of outcome reporting

Across all domains the mean quality appraisal score for outcome reproducibility (i.e., how well the authors of studies report the outcomes that they considered in their study to enable replication) was 4.18 out of a maximum 5. This indicates that studies were reporting on average four of the following criteria for each outcome: 1) supporting reference (if not developed by themselves), 2) OMI items (if supported by a reference, number of items and specification of sub-scales, if not supported by a reference specification of items is also needed), 3) scoring information, 4) mode of administration (face-to-face, telephone, electronic)/ setting (clinic, home, other) and 5) Identification of who completed the assessment (e.g., self-report or clinician). This suggests that there was a relatively high degree of reproducibility of outcome reporting.

DISCUSSION

Considerable heterogeneity and inconsistency in outcome reporting across published evaluations of workplace mental wellbeing interventions within the construction industry in terms of what, how and when outcomes are assessed is evidenced in this review. Despite the relatively small number of studies included in the review, a large number of discrete (i.e., different) outcomes were reported, with very few reported across multiple studies; most were reported in just single studies. Such inconsistency in outcome reporting thwarts evidence synthesis, essential for informing evidence-based guidance for improving the management of mental wellbeing in construction workers.

Prior reviews evaluating the effectiveness of workplace interventions, including in the construction industry, have noted a deficit in the reporting of positive mental health outcomes and instead a focus on pathology-oriented concepts of mental health such as burnout and distress (27,43). Supporting this observation, within the current review, the mental health and wellbeing domain comprised of mostly negatively framed aspects of wellbeing (e.g., anxiety, depression, burnout, emotional exhaustion, occupational stress, occupational stress – work family conflict, occupational stress – family work conflict, perceived stress, stress, work related irrational beliefs and dysfunctional thoughts at work). These accounted for 11/15 discrete outcomes and 13/18 of the total outcomes within this domain, whereas positive mental health outcomes (e.g., emotional wellbeing, life satisfaction, wellbeing and job satisfaction) accounted for only 4/15 discrete outcomes and 5/18 total outcomes in this domain. Wellbeing is often conceptualised as a continuum from psychological ill-being, such as burnout and stress, to facets of positive well-being, such as happiness, vitality, or sense of purpose (43). Therefore, a dominance of pathology-orientated outcomes could limit our understanding of interventions that can promote healthy functioning in construction workers.

Although not directly related to mental wellbeing, this review included outcomes relating to the work environment. This is to account for organisational interventions which typically target the psychosocial work environment (27). Such approaches are important in encouraging organisations to address underlying work-related risk factors for poor mental health which are prevalent within the sector (e.g., low job control, high job demand, poor working conditions) rather than placing sole responsibility on the individual worker for their wellbeing (44,45). It is therefore important for these interventions to also assess effectiveness based on organisational/ group level change as these may be an intermediary outcome that can improve worker wellbeing (27,46). Consequently, we felt it important to capture outcomes relating to this domain, so that this information can be fed into a future COS development process. Within this review, three studies measured outcomes relating to the work environment domain (39–41). Measurement of work environment variables alongside individual level wellbeing variables could facilitate our knowledge of work characteristics that could be targeted by future interventions to improve construction worker wellbeing (27).

Strengths and limitations

To the authors’ knowledge, this is the first systematic review to investigate the outcome reporting trends within mental wellbeing interventions targeted at the construction industry and therefore provides novel insights regarding the heterogeneity of reporting. Strengths of this review include its systematic and comprehensive search strategy, in addition to its broad criteria in terms of study design inclusion criteria which ensured we could capture all intervention studies within the topic scope and were not restricted to those with an RCT design. Furthermore, although only English language publications were included, international publications were included, reflecting the international focus of COS.

It should be considered that this review focussed on reported outcomes, and therefore may not be reflective of what was actually measured within the studies. To determine reporting bias, where available, it may have been beneficial to look at the protocols of studies to cross-examine outcomes reported in trial design and those reported within the publication of results. A further limitation is that only one researcher rated the reproducibility of outcome reporting. However, transparent rating criteria were used to reduce the risk of bias. Finally, assessing the relative quality and acceptability of identified assessment methods (OMIs) was beyond the scope of this review, but this would be an important consideration when informing outcome selection.

Recommendations for future research

This review supports the NICE recommendation to develop a COS for mental wellbeing interventions (47). Given the distinctive occupational challenges faced by construction workers (2,8,9,14), and the urgent need to support their wellbeing (15,16), we propose an initial sector specific approach within the construction industry. For the construction industry, development of a COS, co-created with construction workers and other stakeholder groups could provide standardisation of outcome assessment for future research and intervention studies relevant for researchers, industry bodies, workplace health and wellbeing and public health practitioners. It would also ensure the relevance of outcomes to all stakeholders, facilitate comparability between studies and reduce research wastage (17–21).

When developing the COS it needs to be considered that the construction industry covers a diverse workforce, with workers experiencing differing stressors (11). Marginalised groups need to be considered. Given the male dominated nature of the construction industry, women within construction experience unique stressors including benevolent and hostile sexism (48–50). Whereas migrant workers, are more vulnerable to discrimination, language barriers, time pressures and poor working environments (51). Within the UK, the construction industry has the highest level of self-employment across the whole economy (13), which has been identified as a risk factor of poor mental health in itself (52). Throughout the development of the COS, it will be crucial to incorporate the voices of all worker groups, particularly those from marginalised subgroups, to ensure that the COS is relevant to all worker groups within construction. Adding to this, there are a multitude of other stakeholder (e.g., employers) views and goals that need to be considered when measuring worker wellbeing (53).

Finally, this review identified only 14 studies, evaluating seven discrete mental wellbeing interventions for construction workers. This highlights the dearth of published research evaluating mental wellbeing interventions within the construction sector. In line with the development of a COS, more research is needed to evaluate and build on mental wellbeing interventions for this at-risk group of workers.

CONCLUSION

Construction workers are a vulnerable group with regards to mental health and suicide. Whilst increased attention and focus on the development of mental wellbeing interventions for the industry is a positive step in the right direction, the inconsistency in outcome reporting demonstrated by this review is concerning and may limit evidence synthesis and advancement of mental wellbeing interventions for construction workers. There is a pressing need for the construction industry to have more research-informed guidance (in the form of a COS) in terms of what to measure when assessing the effectiveness of mental health initiatives so that organisations can better understand what works and subsequently what to make available for their workforce. Outcome reporting guidance is urgently required.

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All authors contributed to the work undertaken to generate this paper and have seen and approved the final manuscript.

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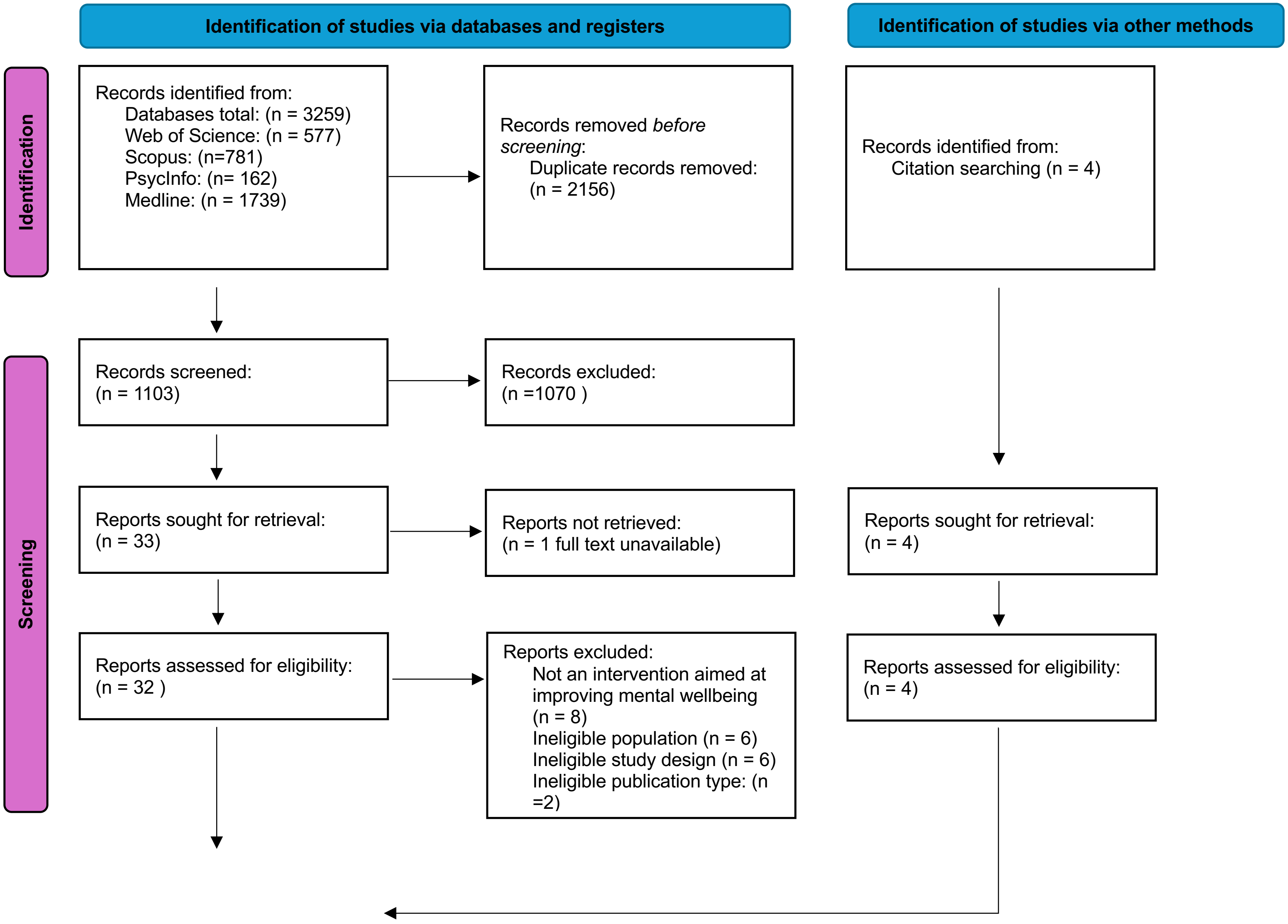
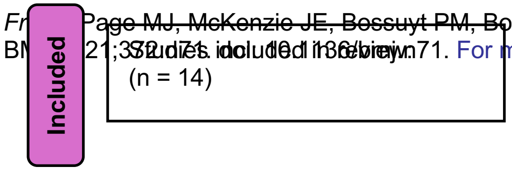
Figure 1: PRISMA Flow chart





Fr Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BM 21;372:n71. doi: 10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/

2.6 Systematic Review Reflective Commentary

Introduction

This commentary summarises my experience of conducting a systematic review titled ‘Workplace Mental Wellbeing Interventions in the Construction Industry: A Systematic Review of Outcome Reporting’. I completed this review as part of my work as a research assistant at a UK university. Shortly after starting this role, I was approached by my manager to complete this review as an initial step in her team’s ambition to design a Core Outcome Set (COS) for mental wellbeing interventions within the construction industry.

Rationale for review

In their most recent guidance on workplace mental wellbeing, the National Institute of health and Care Excellence (NICE) identified the development of a COS for workplace mental wellbeing interventions as a research priority (National Institute for Health and Care Excellence, 2022). A COS refers to an agreed standardised set of outcomes that should be measured and reported within all trials related to a specific area as a minimum (Williamson et al., 2012). The purpose of a COS is to reduce heterogeneity of outcome measurement between studies, thus facilitating the comparability of the data and therefore knowledge regarding which interventions are most beneficial (Clarke, 2007; Kirkham et al., 2010, 2013, 2018; Williamson et al., 2012). The first step in developing a COS involves a systematic review to identify which outcomes have previously been reported in published intervention studies (Haywood et al., 2018; Pearson et al., 2022; Williamson et al., 2012). The review that I completed aimed to complete this initial first step of the COS process. Despite the NICE guidance recommending the development of a COS for workplace mental wellbeing interventions in general, we decided to focus specifically on the construction industry as construction workers face distinctive occupational challenges and have poorer rates of mental health and suicide in comparison to other sectors (Lingard & Turner, 2015; Rees-Evans, 2023). The development of a COS could support this vulnerable group by facilitating evaluations and thus development of interventions which may be able to improve their wellbeing.

Whilst it was clear that this was an important review to complete, I also needed to be sure that such a review had not already been conducted or was not already in the process of being conducted. To ensure this was not the case, I searched both Prospero and COMET (Core Outcome Measures in Effectiveness Trials, 2023) databases and was reassured that no other researchers had begun exploring this area.

Having only ever conducted a systematic review as part of my master's degree before, I was nervous that this review was different to typical systematic reviews in that it was focussed on outcome reporting and as such, had slightly different methodology. However, prior to starting the review I had a meeting with my manager and a Professor of outcomes, regarding the purpose and process of conducting this kind of review and how it feeds into the larger COS development process. I was reassured by this, and that I would have the support of both colleagues whilst conducting the review.

Writing the protocol/ designing the study

Writing the protocol helped to clarify my thought processes and rationale regarding decisions I made in relation to the design of the review. In line with the purpose of the review forming the first step of the COS process, the scope of my review question was limited to identifying outcome reporting trends of prior intervention studies. However, a key decision I was required to make was in relation to the breadth of intervention studies that I looked at. Initially, I decided to look at studies evaluating all wellbeing interventions within the construction industry (rather than just mental wellbeing). My rationale for this was that I knew there was not a great number of mental wellbeing interventions targeted at the construction industry, so I felt I had the capacity to be inclusive of all wellbeing. This was a decision I later amended (see below for more details).

The study selection criteria should accurately reflect the review question (Khan et al., 2003). When it came to defining my inclusion and exclusion criteria, I found it difficult to find a framework that was a good fit. For example, PICO, PICOS and SPIDER criteria did not feel appropriate due to the focus of my review being on 'outcomes' meaning I could not populate the outcome field as an inclusion/exclusion criterion. After discussion with members of the review team and some deliberation I decided not to try and force my inclusion/exclusion criteria within a specific framework.

Rather, I presented it in a table using the headings of participants, intervention, setting and study design (see table 1 below).

Table 1
Study eligibility criteria

	Inclusion	**Exclusion**
Participants	Primary population of employees aged 16 and over that work within the construction industry. This can include individuals that are:	Child workers under the age of 16.
	• Self-employed • Work at/for micro, small and medium enterprises (SMEs) in addition to larger national/ international level construction businesses • Employees in full or part time work including those in permanent, training, temporary or zero-hour contracts.	Studies that do not focus on workers within the construction industry as the primary population.
Intervention	Interventions designed to improve mental wellbeing within the construction workforce	Interventions that were not designed to improve mental wellbeing within the construction workforce
Setting	Any intervention that is delivered within the workplace, or delivered outside of the workplace but was designed, delivered, managed, funded or signposted to by the employer, delivered in person or delivered/ accessed online/ digitally	Studies based on national public health campaigns
Study Design	Quantitative	Qualitative
	Pre and post intervention measures as a minimum.	Cross sectional designs, case studies and observational studies, protocols

To define my search terms, I broke down my review question and identified synonyms of each element. I looked at the terms used by previous systematic reviews that had reviewed the effectiveness of wellbeing interventions within the construction industry (e.g. (Greiner et al., 2022; Hulls et al., 2022)) to help me identify appropriate synonyms. From this I identified industry phrases such as ‘blue-collar’ and ‘white-collar’ that I had not considered prior to doing so. Finally, I met with a subject librarian to help me translate these key terms into comprehensive search strategies for my chosen databases. This was helpful, and she reminded me of strategies to improve my search (e.g., utilising asterisks and MESH terms). I also consulted with the librarian regarding which databases would be best in terms of targeting construction and wellbeing related journals.

In terms of methodological decisions, I closely followed the example of previously published outcome reporting reviews (e.g., (Haywood et al., 2018; Pearson et al., 2022)). For example, I adopted (and in some cases slightly adapted) their approach to data extraction and quality appraisal of outcome reproducibility. As one of the review members was an author of these papers, I was also able to look at their data extraction templates and adapt for my own use. I was grateful that I was able to rely on these papers for guidance given the atypical nature of this type of review.

When submitting my protocol to PROSPERO I was nervous regarding whether they would accept it due to the focus on outcome reporting and variation in methodology compared to a typical systematic review. Unfortunately, these concerns were validated, and I had to submit several revisions to reassure the PROSPERO team regarding my choices in relation to why we were not assessing risk of bias, our methods of data synthesis and further details on the outcome sections. I relied heavily on referencing previous outcome reporting reviews to support my responses to PROSPERO’s queries. Following these clarifications, the Protocol was published on Prospero on the 05/04/23.

Conducting the initial searches and screening

I conducted my searches in all 4 of my chosen databases using the search terms in Table 2 and where appropriate utilised the databases’ thesaurus terms. Combined, the searches yielded a total of 6839 hits.

Table 2. Search Terms

Topic	**Terms**
Construction workforce	"construction industr*" OR "construction sector" OR "construction trade" OR "construction compan*" OR "construction worker*" OR "trade worker*" OR "manual worker*" OR labourer* OR laborer OR "blue collar worker*"
Wellbeing	Wellbeing OR well-being OR "mental health" OR "psychological health" OR "psychological well-being" OR "mental well-being" OR "mental wellbeing" OR "mental wellness" OR stress OR burnout OR "workplace stress" OR "job stress" OR "occupational stress" OR anxiety OR depression OR health
Intervention	Intervention* OR initiative* OR program* OR prevention OR training OR policy OR promotion OR campaign*
Workplace	Work OR workplace OR "work place" OR organisation* OR organization*

I uploaded all the retrieved articles to Zotero to remove duplicates and used Rayyan to screen articles. When screening the studies, it soon became clear that there was some ambiguity in relation to which types of intervention should be included under my inclusion criteria of 'interventions that aimed to target the wellbeing of construction workers'. For example, I was unsure whether to include health and safety related interventions (which there was an abundance of). I felt that these were not fitting with the aim of my review and our intended focus on wellbeing, but struggled to provide a justification for removing them as it could be argued that health and safety interventions are very relevant to the wellbeing of construction workers. After consulting with my supervisor, we decided to contact a colleague from another university who is a Professor of Organisational Behaviour and has experience conducting research within the construction industry. He advised against excluding health and safety interventions if we had a broad focus on wellbeing as he explained that workplace safety is a big contributor to wellbeing in high hazard industries. We took this feedback on board, but nevertheless felt that the scope of the review was becoming too broad for what we aimed to do within the timeframe we had. It was at this point that we decided to narrow our search down to focus on interventions that aimed to target the 'mental' wellbeing of construction workers.

Update to PROSPERO

I contacted PROSPERO to update the protocol to narrow the scope of the review so that the focus was solely on the outcome reporting of interventions that aimed to improve mental wellbeing. An additional benefit of this was that it meant the review was closer aligned with the NICE NG212 guidance which highlighted a need for a COS for workplace *'mental'* wellbeing interventions. Whilst making this amendment I also decided to tighten up the wording of the inclusion and exclusion criteria. I consulted the NICE evidence reviews to see how they had defined their inclusion and exclusion criteria and decided to adopt their definitions of mental wellbeing interventions. The amendments were accepted and published on Prospero on 03/08/23.

Rerunning the searches and screening studies

Once I had received approval from PROSPERO regarding the amendment, I reran my searches removing the term 'health' from the row relating to wellbeing. This time I had far less hits (3259), which was reassuring that I would be able to complete the screening and data extraction within a reasonable time frame. I also hand searched the reference list of other systematic reviews that had been conducted in relation to construction worker wellbeing (e.g., (Duckworth et al., 2022; Greiner et al., 2022; Hulls et al., 2022) and identified a further four articles for inclusion.

Despite having tightened up my inclusion/exclusion criteria, screening of studies was complicated by the aim of the review entailing extracting outcomes. This meant that I was unable to use outcomes of the studies as a method for identifying inclusion/exclusion as this could have biased the outcome of the review. Instead, I had to screen based on what the authors specified was the aim of the intervention. This was difficult at times as authors often did not explicitly state this. This was particularly pertinent for organisational level interventions (e.g., those whose intervention involved changing aspects of the work environment such as working time alterations) as these would often state aims of improving work life balance but did not explicitly mention wellbeing. In the end, I decided to exclude studies if they did not explicitly state an aim of targeting construction workers' mental wellbeing.

I was nervous to compare my results with the second reviewer (who looked at a 10% subset), particularly given some of the difficulties I had experienced in making decisions regarding inclusion/exclusion. However, I was pleasantly surprised that we had 100% agreement for abstract screening. We also had high agreement at the full text screening stage, with agreement on all but one article which was quickly resolved through discussion.

Data extraction

For data extraction, I used an adapted version of a data extraction excel sheet that had been used in one of the other author's prior outcome reporting reviews. The extraction sheet had previously been used for health-related reviews (e.g., ankle fracture and cardiac arrest) so the changes I made were mostly related to the participant demographics. For example, we felt it was important to capture participants' occupations to understand which specific parts of the construction industry they were coming from.

One of the most difficult variables to extract was the Outcome Measurement Instruments (OMIs) used within each of the studies, particularly for studies that had developed their own OMIs. Reporting of this was often unclear and it was hard to understand whether the studies were using the same or different instruments. A further dilemma that I faced with regards to data extraction was regarding which outcomes to report on and classify as mental wellbeing specific in line with the scope of the review. After discussion with my supervisor, we decided to count work environment outcomes (e.g., work relationships or organisational processes) as mental wellbeing specific, as the studies that included these variables were trying to change these variables to improve mental wellbeing.

To avoid errors, it has been advised that at least two reviewers should extract data independently (Taylor et al., 2021). Originally, we had planned to have two reviewers extract 100% of the data, but due to time constraints and conflicting deadlines at my work we were unable to do this in the end, and only 10% were double extracted. In addition to my concerns that this could limit the robustness of the methodology, it also made me apprehensive about missing information. Consequently, I engaged in extensive rechecking of papers which slowed down my progress and I was often frustrated when studies were poorly reported and there were missing data. However, this highlighted and reminded me of the importance of clear and transparent reporting for my own primary research.

Analysis/ synthesis

I followed a similar approach to analysis as had been used in prior outcome reporting reviews, that is reporting on descriptive statistics of outcome reporting such as, how often various outcomes were reported and how they were measured (e.g., what instruments used at what time points and by whom). I was initially concerned that this approach seemed limited and that I was not doing enough but was again reassured that was reflective of the scope and nature of the review.

Part of the analysis also involved mapping the extracted outcomes into domains and subdomains. Some of the prior outcome reporting reviews had done this deductively using a predefined framework, but this was not appropriate for my review due to the lack of consensus regarding the conceptualisation of employee wellbeing. Instead, I was required to do this inductively, clustering together outcomes based on conceptual similarities. This was done collaboratively with another member of the review team. At times, this process was complicated by inconsistency and ambiguity regarding how authors had defined their outcomes such as what they stated they were measuring and the OMI they used to do so.

The assessment of outcome reproducibility was the stage of the review that I had the most ambiguity over as it is not typical within systematic reviews. I tried to adopt the criteria that had been used in previous reviews but found them difficult to apply and was uncomfortable with utilising them as I felt the scoring system to be quite arbitrary and subjective. Instead, I translated the existing criterion into a more systematic scoring system whereby I allocated a point for each criterion present and summed the total number of points to get the total reproducibility score.

Writing up

Originally, I had planned to submit to the International Journal of Environmental Research and Public Health as I felt it was a good fit for my review, had a good impact factor and a quick publishing time. However, after consulting with two of the review members I was advised that Multidisciplinary Digital Publishing Institute (MDPI) journals had recently received bad press regarding predatory publishing (e.g., (Predatory publishing, 2023). I investigated some of these claims and instead decided to target Occupational and Environmental Medicine which is a BMJ journal. Although this journal had longer processing times, I thought it was more important to publish with a credible journal.

I wrote up the manuscript in line with the journal's guidelines. The discussion section was perhaps the hardest section to write. As the aim of the review was limited to describing outcome reporting trends, beyond outlining the need for the development of a COS, I struggled a little with the 'so what?' aspect of the discussion. I raised this with my supervisors and was reassured by them that this was reflective of the type of review that I was completing.

Overall reflections

Overall, I found completing this review quite a challenging process. As there was limited guidance on how to complete this type of review, I frequently doubted myself and often spent a long-time making decisions. This is something that I reflected on within a supervision session and was reminded that despite our best efforts to be 'systematic', there will always be an element of subjectivity regarding the decisions made during the review process. However, the most important thing is being transparent regarding the decisions made and the rationale for them. I found this to be reassuring and tried to be as transparent as possible with my reporting. I also kept a research log throughout the review process which served as a useful reminder of why I made certain decisions.

Something that was key to this review was collaborative working, drawing upon everyone's unique skill set and expertise. I was grateful to be working alongside an experienced team and I learnt a lot particularly in relation to methodological concerns with outcome heterogeneity and how to develop a COS. However, a challenge of collaborative working was managing everyone’s time and conflicting deadlines to align with the timelines of the review itself. When leading projects in the future, I will create a Gantt chart with dates for key milestones and required feedback/actions.

It is rewarding to know that this review forms the initial step in developing a COS for mental wellbeing interventions for construction workers. Alongside working on this review, I have also been helping to write a bid for further funding to allow my research team to continue working on the COS development process. Although this review has a methodological focus that feels quite far removed from practical implications, I can see the benefit that this review will have in facilitating the evidence base and thus improvement of interventions and the subsequent wellbeing of construction workers.

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Chapter 3: Psychological Interventions

3.1 Individual Face-to-face Intervention Case Study

Introduction

This case study outlines a one-to-one psychological intervention that was implemented as part of my Trainee Health Psychologist role at the Royal National Orthopaedic Hospital's (RNOH) pain psychology service. The patient involved in the intervention was a 39-year-old woman, who for the purpose of this case study had been allocated the pseudonym Margo. She had diagnoses of; Hypermobile Ehlers-Danlos Syndrome, Postural Orthostatic Tachycardic Syndrome, Irritable Bowel Syndrome, Restless Leg Syndrome and Cyclical Vomiting. The intervention began when Margo was an inpatient on the pain management programme (PMP) at RNOH and continued as outpatient sessions following Margo's discharge from the programme. The remainder of this case study will outline my process of assessment, formulation, delivery, and evaluation of the intervention.

Assessment

An assessment is the first step involved in conducting a psychological intervention and typically incorporates two primary tasks: data collection and rapport building (Pashak & Heron, 2022). The collection of data is crucial as it facilitates understanding of the problem that the client would like help with. In preparation for the clinical interview, I reviewed Margo's archival medical data, which included the outcome of her pre assessment for the PMP. This gave me an insight into her consultant's opinion regarding her chronic pain and made me aware of her past medical procedures, current investigations and plans for any future interventions. Crucially, it also informed me of which members of the multi-disciplinary team were currently working with her so that I could contact them when appropriate to ensure collaborative working. Although this review helped me to prepare for the clinical interview by equipping me with contextual information and affording me the opportunity to read up on the patient's medical conditions, I was also conscious of not developing any initial biases before talking to the patient herself.

In the case of chronic pain an individual's experience of pain is known to be impacted by a complex interplay of biological, affective, cognitive, social, and behavioural processes (Martinez-Borba et al., 2021). Therefore, it is crucial to conduct a comprehensive biopsychosocial assessment (Williams, 2013). Accordingly, I devised an interview guide incorporating all the above elements. Doing this helped me to identify relevant biopsychosocial variables that were contributing towards Margo's ability to manage her pain and associated emotions effectively.

My initial assessment session with Margo was on the first day of her admission on the PMP. From my experience working on the PMP, I knew that patients often feel anxious and overloaded with information on the first day of their admission. This meant it was particularly important for me to build rapport with Margo to have a successful assessment session. To do this I employed techniques from motivational interviewing including active and reflective listening, adopting an accepting and non-judgemental tone, and affirming Margo's strengths and prior change efforts (Tahan & Sminkey, 2012). As our conversations progressed Margo disclosed that she had experienced negative interactions in the past where she had not felt heard, believed or understood by health care professionals. It was also evident that she had a high degree of shame relating to her physical health. Within the literature shame has been associated with failure to seek treatment or disclose all relevant information to health care professionals (Dolezal & Lyons, 2017). Therefore, by employing the aforementioned techniques and communication styles I hoped to demonstrate sincerity, respect and a collaborative approach so that Margo felt comfortable to share and engage with the sessions. The table below outlines some further considerations I made during the clinical interview.

Table 1

Clinical Interview Considerations

Key Considerations	How I went about it	Reflections/ further information
Assessing and managing the patients' expectations	• Explored Margo's understanding and expectation for the initial assessment session • Gave an overview of what the initial assessment entailed. • Explored Margo's expectations for future sessions and what she hoped to get out of our work together • Explained the remit of health and pain psychology • Collaboratively reviewed referral reason and pre-assessment goals to check that Margo felt that this described her presenting problem well and that the goals were still appropriate	• Margo stated that she had no preconceptions about the psychology sessions and was honest in saying that her priority/ main motivation for the programme was physiotherapy • Within the assessment Margo raised concerns about her mental health. She disclosed that she frequently has dissociative episodes and referenced to childhood trauma and periods of being mute as a child. She also raised questions about whether she might have autism and ADHD. This made it particularly important for me to be clear about the remit of health psychology and our role on the pain management programme, whilst also acknowledging and validating her experience.
Assessing the patient's appropriateness for pain psychology	• Assessed the role of Margo's pain on her mental wellbeing and quality of life • Assessed the impact of Margo's thoughts, feelings, and behaviours on her physical pain • Reviewed Margo's hopes and goals for the intervention	• Once I explained the remit of pain psychology and set boundaries in terms of what we could cover in sessions, it was evident that there were many factors relating to pain psychology to work on (e.g., barriers to pacing, self-compassion and acceptance of

		chronic health conditions, assertiveness skills).
Assessing my own competence to work with the patient	• Considered my own experience, knowledge, and skill set • Worked on a formulation specific to pain psychology • Consulted and sought support from my clinical supervisor	• Initially I felt a little out of my depth when Margo spoke about her childhood trauma and queried mental health diagnoses. However, once I explained the remit of health psychology and directed her towards more appropriate goals for the sessions, I could clearly see how I could help her in relation to her pain management.

Assessment tools

After completing the clinical interview, based on the information obtained and my initial formulations I asked Margo to complete the self-compassion scale short form and the brief fear of negative evaluation scale as throughout the clinical interview it became clear there was a deficit in these areas that were preventing her from being able to manage her pain effectively. Therefore, I wanted a further understanding of Margo's baseline levels for each variable. Table 1 below outlines the outcome of each measure.

Table 2

Quantitative Assessment Tools

Measure	Score	Explanation of score
Self-Compassion Scale Short Form (SCS-SF) (Raes, Pommier, Neff & Van Gucht, 2011)	Self-kindness = 2 Self-judgement = 1.5 Common Humanity = 3 Isolation= 3 Mindfulness = 4.5 Over identification = 3 Overall self-compassion = 2.83	Higher scores indicate greater self-compassion (N.B the self-judgement, isolation and over identification sub-scales have been reversed scored) 1- 2.49 = low 2.5-3.5 = moderate 3.51-5.0 = high
Brief Fear of Negative Evaluation Scale (Leary, 1983)	Overall Score: 54/60	Higher scores indicate greater fear of negative evaluation from others.

Formulation

After completing the assessment, I was able to begin the process of case formulation. Formulation is a process that involves combining theory, research, and the client's unique presentation to summarise their problem and develop a working hypothesis regarding why the problem may have occurred and is being maintained (Liossi & Howard, 2016; Johnstone & Dallos, 2013). My formulation evolved and developed across several revisions. Initially I worked independently on a formulation utilising the information obtained from the assessment. For example, on a basic behavioural level it was clear that Margo was struggling to manage her pain because she tended to minimise and mask her pain and physical symptoms and felt uncomfortable asking for help and support from others. This meant that she was pushing through her pain resulting in flare ups and a boom bust activity cycle. On a psychological level it appeared that these behaviours were underpinned by a high degree of illness related shame (IRS), a lack of self-compassion and high levels of self-criticism which were evidenced quantitatively by her poor ratings for overall self-compassion, self-judgement, self-kindness and fear of negative evaluation by others. She also lacked assertiveness skills.

As part of my intervention, I felt it would be beneficial to build on this initial formulation collaboratively with Margo. This collaborative approach to formulation has been particularly advocated for compassion focussed interventions (Dale-Hewitt & Irons, 2015). Working alongside Margo I utilised a longitudinal threat focussed Compassion Focussed Therapy (CFT) formulation. My rationale for this was that during the assessment Margo described multiple adverse childhood experiences (ACEs) which, within the literature, have been associated with deleterious impacts on mental and physical health throughout the life-course (Bussieres et al., 2020). The CFT longitudinal formulation links historical difficulties to current fears and safety strategies to aid understanding and de-shame and normalise the client's experiences.

Figure 1 below outlines a detailed overview of the formulation I completed with Margo in session 1 and Figure 2 offers a simplified pictural version that was shared with Margo. To summarise the longitudinal formulation in words; Margo's ACEs had caused her to develop self-critical core beliefs such as 'my needs are not as important as others' and 'I'm lazy if I cannot keep up with what everyone else is doing'. This resulted in guilt and shame around her health conditions and her difficulties engaging in daily activities as a result of them. Unfortunately, these beliefs had been reinforced by invalidating and dismissive interactions with health care professionals, friends and family in her adult life, thus coinciding with research highlighting social and cultural attitudes as key determinants of illness related shame (Clark, 2012). Due to this, Margo developed a hyper-vigilance to how others perceive her and learnt to make herself invisible by engaging in masking and minimising behaviours and struggled to set boundaries that would help her manage her pain with others. Instead, she was basing her judgements of acceptability on what she felt a '*normal*' person would be able to do. In addition to having deleterious impacts on her mental well-being, this was also exacerbating her pain and contradicting with pacing guidance from the PMP.

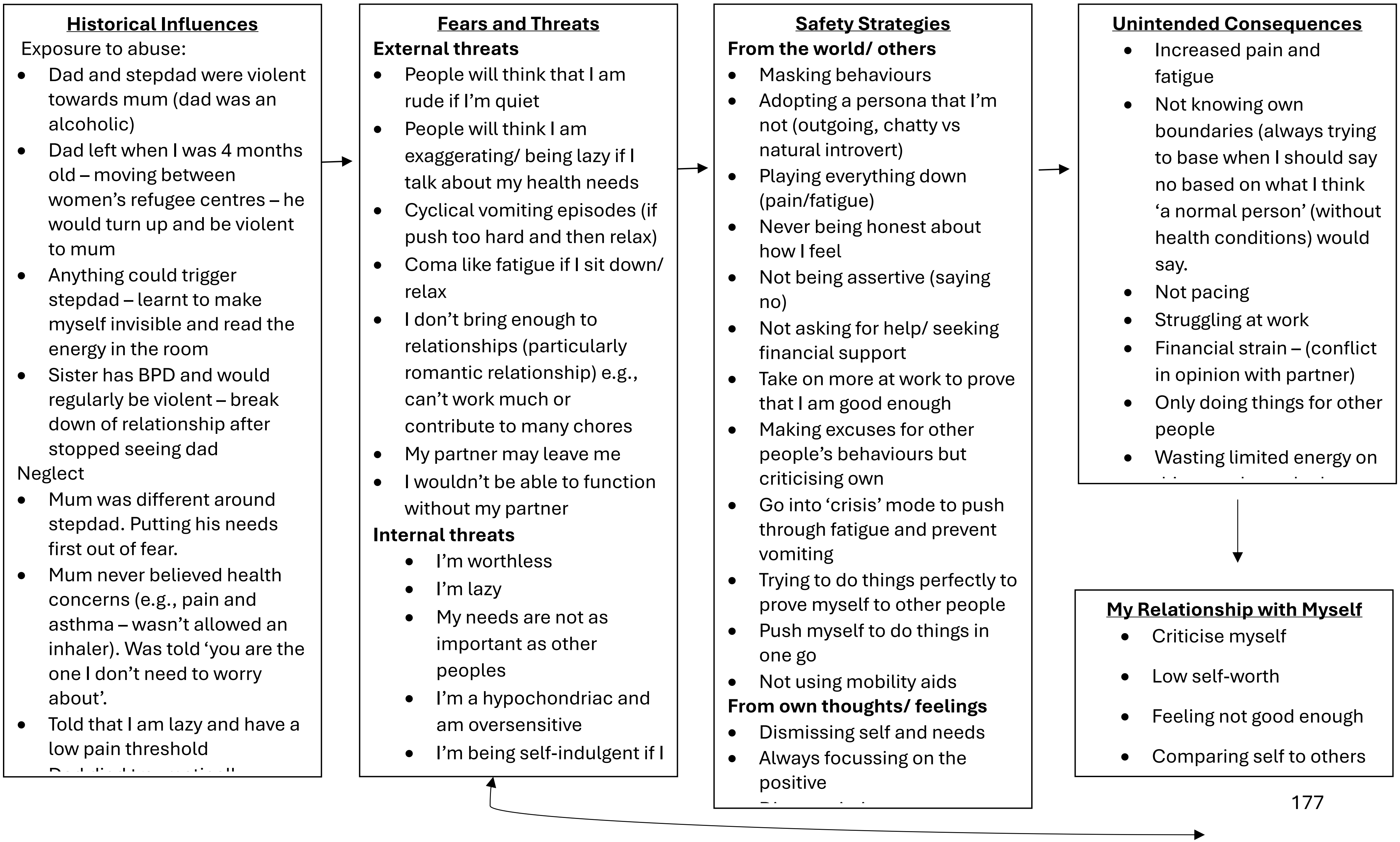


Figure 1. Collaborative longitudinal threat focussed formulation

Historical Influences

Exposure to abuse:

- Dad and stepdad were violent towards mum (dad was an alcoholic)
- Dad left when I was 4 months old – moving between women's refugee centres – he would turn up and be violent to mum
- Anything could trigger stepdad – learnt to make myself invisible and read the energy in the room
- Sister has BPD and would regularly be violent – break down of relationship after stopped seeing dad

Neglect

- Mum was different around stepdad. Putting his needs first out of fear.
- Mum never believed health concerns (e.g., pain and asthma – wasn't allowed an inhaler). Was told 'you are the one I don't need to worry about'.
- Told that I am lazy and have a low pain threshold

Fears and Threats

External threats

- People will think that I am rude if I'm quiet
- People will think I am exaggerating/ being lazy if I talk about my health needs
- Cyclical vomiting episodes (if push too hard and then relax)
- Coma like fatigue if I sit down/ relax
- I don't bring enough to relationships (particularly romantic relationship) e.g., can't work much or contribute to many chores
- My partner may leave me
- I wouldn't be able to function without my partner

Internal threats

- I'm worthless
- I'm lazy
- My needs are not as important as other peoples
- I'm a hypochondriac and am oversensitive
- I'm being self-indulgent if I

Safety Strategies

From the world/ others

- Masking behaviours
- Adopting a persona that I'm not (outgoing, chatty vs natural introvert)
- Playing everything down (pain/fatigue)
- Never being honest about how I feel
- Not being assertive (saying no)
- Not asking for help/ seeking financial support
- Take on more at work to prove that I am good enough
- Making excuses for other people's behaviours but criticising own
- Go into 'crisis' mode to push through fatigue and prevent vomiting
- Trying to do things perfectly to prove myself to other people
- Push myself to do things in one go
- Not using mobility aids

From own thoughts/ feelings

- Dismissing self and needs
- Always focussing on the positive

Unintended Consequences

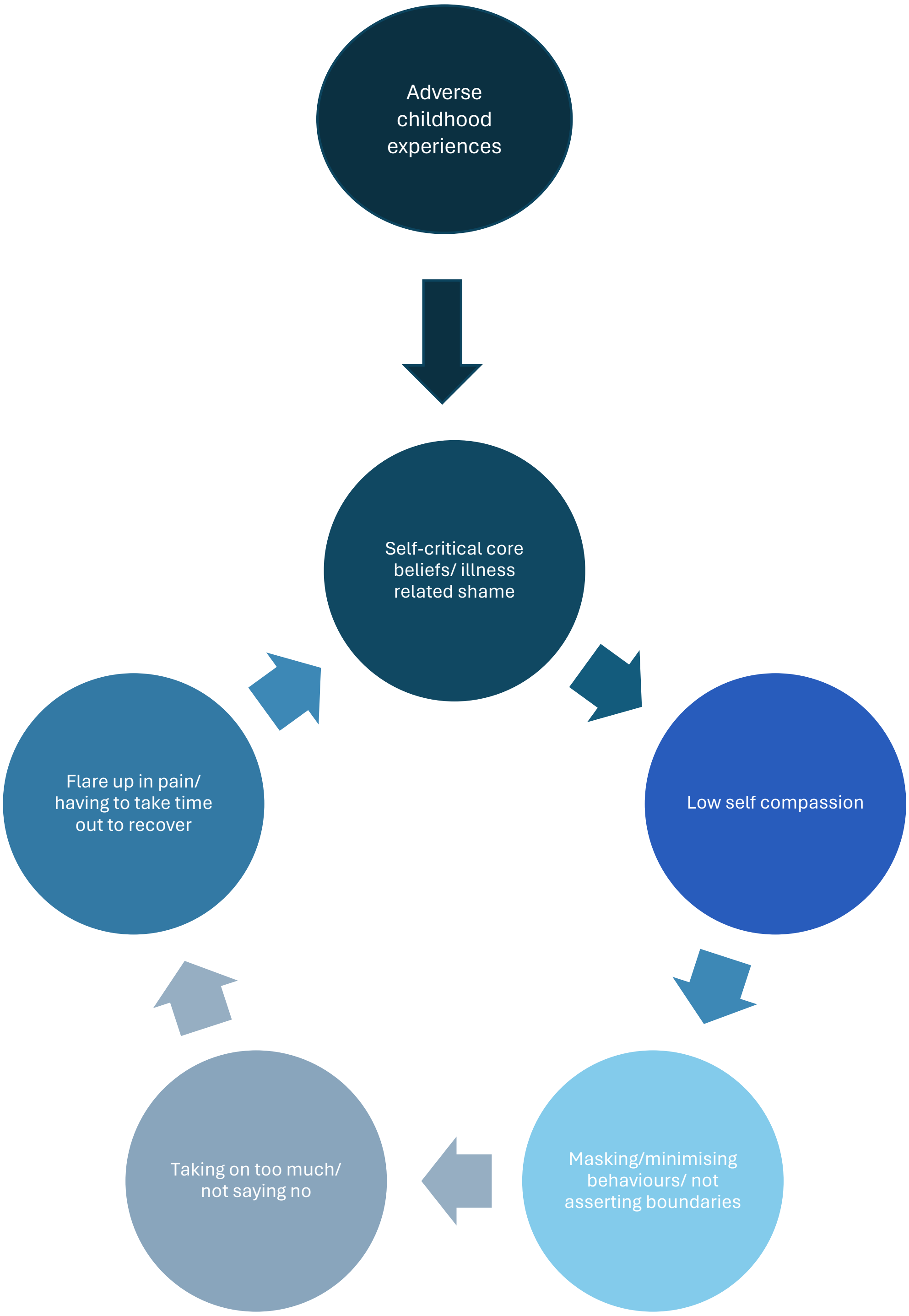
- Increased pain and fatigue
- Not knowing own boundaries (always trying to base when I should say no based on what I think 'a normal person' (without health conditions) would say.
- Not pacing
- Struggling at work
- Financial strain – (conflict in opinion with partner)
- Only doing things for other people
- Wasting limited energy on

My Relationship with Myself

- Criticise myself
- Low self-worth
- Feeling not good enough
- Comparing self to others

Figure 2

Simplified pictural formulation



Planning and designing the intervention

Based on my formulation I felt an integrative intervention incorporating aspects of CFT and assertiveness training would be beneficial for Margo as a deficit in these areas was a key factor underpinning her behaviours. This decision was supported by a recent review conducted by Austin et al., (2020) which advocated the use of compassion-based therapies in physical health populations. More specifically, a burgeoning body of research is supporting the use of CFT for chronic pain patients, particularly those belonging to the unique group of pain management patients coined as strivers by Armitage and Malpus (2017) who, like Margo, tend to have high levels of shame and self-criticism and engage in over-activity, resulting in flare-ups and a boom-bust activity cycle. (Armitage & Malpass, 2017).

My plan formed the foundation of the intervention, but I purposefully kept it quite broad as I knew from experience intervention plans often change based on the needs of the client. I feel this flexibility and ability to adapt is important to ensure the intervention is person centred. I based my plan on the following three intervention goals:

1) To increase self-compassion
2) To reduce Margo's preoccupation with what other people think of her
3) To improve assertiveness skills and behaviours

To address these goals, I broke the intervention down into five phases that targeted different aspects of the formulation and identified potential intervention techniques within each phase (see table 3 below).

Table 3

Intervention Plan

Treatment phase	Possible intervention techniques	Rationale
1) Establishing the therapeutic relationship	• Active listening • Motivational interviewing • De-blaming and de-shaming	• I felt it was important to spend time building rapport and trust with Margo as she had negative past experiences with health care professionals • CFT approaches advocate the importance of spending time to develop the therapeutic relationship • Margo had a high degree of IRS, so it was important to de-blame and de-shame
2) Psychoeducation around compassion/ compassionate mind training	• CFT formulation • Discussion of 3 systems model – link to chronic pain • Approaches to activate soothe system • Compassionate imagery • Soothing breathing and mindfulness • Compassionate thought diary	• The rationale behind spending time on this formulation was to help facilitate empathy and understanding that she is not to blame for her own distress. • I wanted to help Margo understand the importance of self-compassion and the implications of unbalanced systems • To provide Margo with practical compassionate mind training skills
3) Assertiveness training	• Identifying needs and compassionate behaviours • Assertiveness skills training	• A key barrier to Margo managing her pain was her inability to acknowledge, prioritise and assert her needs. This needed to be addressed so that she could pace effectively and break the boom bust cycle
4) Review and planning for the future	• Review of content • Maintenance plan	• For Margo to retain changes I felt it was important to cover behaviour maintenance strategies and address any anticipated barriers to maintenance

Delivering the intervention

My work with Margo began during her admission on the PMP and continued as outpatient sessions. This meant that the first three sessions were delivered in-person, and the three sessions post PMP programme were (as per hospital COVID-19 guidelines for outpatient sessions) remotely delivered via Microsoft Teams. The in-person session timings were dictated by requirements of the PMP (i.e., all patients are seen once per week). However, once Margo transitioned to outpatient care there was more flexibility and we decided on fortnightly sessions. This was an intentional decision as I felt it would help Margo to develop self-efficacy in between sessions. I followed a similar format for each session consisting of:

1) A review from the following week (including a review of any homework set)
2) Setting an agenda
3) Main intervention work
4) Summarise session and plan homework for in between sessions

Table 4 below outlines what was covered in each of the sessions alongside some of my reflections.

Table 4

Summary of Intervention Sessions

Treatment phase	Session	Content of session	Reflections/ further information
Establishing the therapeutic relationship	1	• Clinical interview • Building rapport/ de-blaming and de-shaming • Administering additional psychometric questionnaires	• Margo presented with lots of questions beyond the remit of my service/ health psychology (e.g., about suspected autism and attention deficit hyperactivity disorder, alongside questions about dissociative episodes). I was conscious of trying to balance ensuring she felt heard in addition to setting clear boundaries regarding my role. • Once I explained the remit of my role it became easier to focus on aspects relating to her pain management. • I felt we developed good rapport within the session and Margo seemed comfortable talking to me.
Psychoeducation around compassion/ compassionate mind training	2	• Collaborative CFT formulation • De-blaming and de-shaming • Identifying focus for remaining sessions • Discussion of pacing (based on ward round feedback)	• I felt the collaborative formulation was one of the most influential aspects of the entire intervention and helped Margo to understand the impact of her past experiences on her current safety behaviours. • Throughout the exercise I adopted a non-judgemental approach and asked Margo to bring a ‘compassionate mind’ to each element of the formulation. • It felt a little rushed going through the formulation, and probably could have extended across two sessions, but I was conscious of time restrictions. • It was useful to plan for future sessions collaboratively so that Margo felt empowered, and we could ensure our expectations aligned.
	3	• Three systems model and link to chronic pain	• The three systems model was useful in helping Margo to understand the here and now. We discussed that she is predominately in the threat or drive state and struggles to activate the soothe system. We reflected on why this might be (e.g., feeling that she must be available for others, trying to live up to unrealistic expectations and worrying that she will crash when she stops).

			• We also discussed that Margo’s soothing system was underdeveloped, linking this back to the formulation and acknowledging that this is common in individuals who have experienced trauma. • I found the three systems model a useful model to apply to chronic pain due to its neurobiological basis. I was also able to link it to the rationale for the compassionate mind training exercises we went on to discuss.
		• Reviewed use of soothing breathing and mindfulness exercises	• Breathing and mindfulness exercises had already been covered in detail with the therapy technicians as part of the PMP, therefore due to time limitations we did not practise them in session and instead briefly discussed how they related to activating the soothing system. We planned for when/ how often Margo would practise them.
Assertiveness Training	4	• Discussion of compassionate behaviours and barriers to acting compassionately • Began creating a compassionate needs document	• I asked Margo to consider what her needs are, both in relation to from herself and from others. I suggested that we make a document summarising her needs and that this could be something she could share with friends and family. Margo liked the idea of this, and we began mapping out headings for the document. These included: an overview of her conditions, how they impact her (physically and psychologically), and what her needs are. We began making bullet points for each section. • I asked Margo to finish a draft of this in between sessions.
	5	• Reviewed compassionate needs document • Addressed barriers to asserting needs.	• Completed self- compassion exercise – e.g., if a friend/ your daughter was in your situation what do you think their needs would be • Used downward arrowing to pinpoint what was triggering her barriers/concerns about asserting needs and related back to the formulation • Reframed anxious thoughts about what others might think of her • Set behavioural experiment for homework to assert her needs with a chosen family member.
Review and planning for the future	6	• Reviewed the content we had	• Margo had been well engaged throughout the intervention and was able to recall most of the things we had covered. She also reported benefits from doing so (see

	covered and the progress she had made • Discussed anticipated barriers and ways to overcome them	below for more information). Using MI communication techniques, I affirmed her strengths and change efforts. • One of Margo's anticipated barriers was being unable to let go of self-critical thoughts. To address this, I introduced Margo to defusion techniques. It was unfortunate that we did not have a whole session to be able to cover defusion and upon reflection I think it should have been included in my intervention plan. • Margo enjoys journaling and we discussed adding a self-compassion prompt to her journal to help monitor her behaviour and keep her accountable (e.g., what have I done to show myself self-compassion today)

Ending the intervention

The closing sessions of an intervention provides an opportunity to review and celebrate the clients progress and discuss what they plan to take away from the sessions (Chapman & Rosenthal, 2016). In order to manage Margo's expectations, I was clear both at the start, and regularly throughout, that the intervention was time limited to six sessions. However, in our final session she asked if I would continue seeing her privately if I could no longer offer her sessions with the NHS. This was something that took me by surprise and required in action reflection (Schon, 1983). In addition to considering ethical boundaries, I decided that this was something I did not feel comfortable with as I felt that I was not suitably competent or qualified to address many of the issues that Margo wanted support with (e.g., trauma) and I do not currently run a private practise. I explained this to Margo and advised her that there would be more appropriate services for her. Before the session I had discussed options for signposting Margo with my clinical supervisor as I knew this would be an important component of ending the intervention. My supervisor advised me to direct her to her GP, who would be able to refer her on to appropriate services. My supervisor also suggested that if Margo was open to private services, I could send her the link to a database of approved psychologists and counsellors. After discussing this with Margo in the session, I emailed her the link. I had also previously had conversations with the consultant psychiatrist at RNOH about a previous patient who sought advice about seeking an ADHD diagnosis. Due to the current long waiting lists for ADHD diagnoses he had recommended a specific private psychiatrist that specialised in this area. I also passed these details onto Margo.

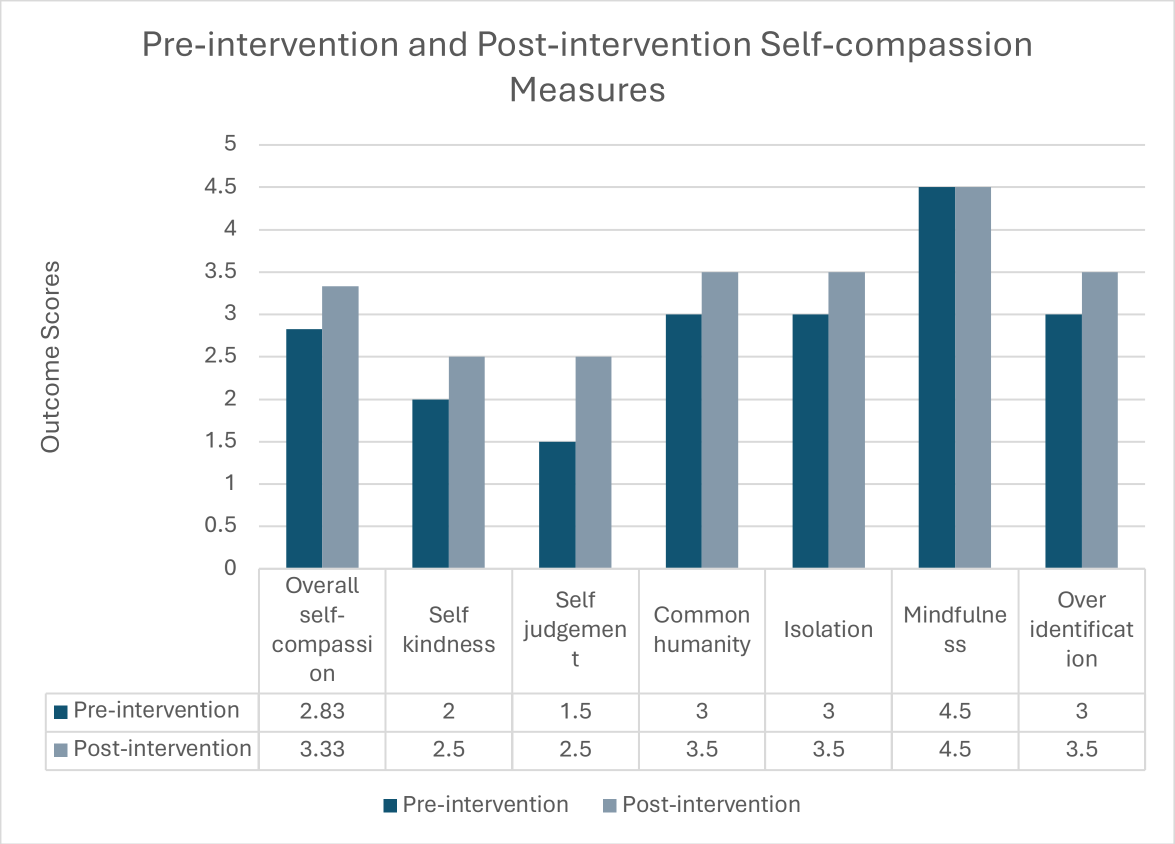
As part of my standard practise at RNOH I also write detailed discharge letters. These are multifunctional and are sent to the patient, their GP and their consultant at RNOH. My preferred way of doing this is to address it to the patient and copy in the other recipients. Within my letter I outline the initial presenting problems/ formulation, the content that was covered, progress made and the plan moving forward. I try to write them in a way that they will serve as a useful tool for the patient to remember the strategies we have covered within the session, whilst also conveying all the necessary information to the patient's consultant and GP. In Margo's letter, with her consent, I made a note to her GP to flag her concerns (trauma, ASD, ADHD) and request they refer her onto further services. This was to inform the GP, but also to support Margo in discussions with her GP given that she has not felt heard in prior interactions with health care professionals.

Evaluation

I evaluated the intervention through multiple sources. These included quantitative assessment measures, qualitative feedback from Margo and my own self reflections. As previously discussed, the quantitative assessment measures that I utilised were the Self-compassion Scale Short Form and the Brief Fear of Negative Evaluation Scale. I administered these measures during the assessment session and after the last session. Had the intervention of been any longer than five sessions then I would have also considered administering the measures halfway through the intervention to give me an idea of progress. As detailed in figure 3 below, Margo's overall self-compassion score improved and there were improvements in each of the subscales other than mindfulness which remained the same. However, her mindfulness score was already high pre-intervention indicating there was little room for improvement.

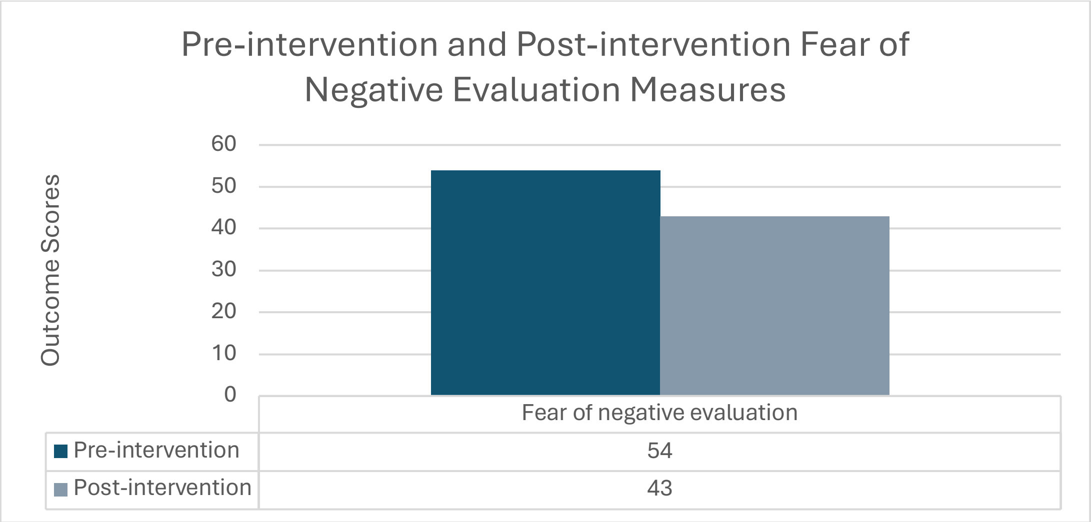
There were also improvements seen in the Brief Fear of Negative Evaluation Scale (see figure 4). Margo's pre-intervention score was very high (54/60), and this reduced considerably. This was great to see as Margo's IRS and concerns about what others thought of her were significant barriers to her asserting her needs. I would also postulate that Margo's positive experience with the behavioural experiment of asserting her health-related needs may have reframed some of her beliefs and worries about what other people may think of her, thus contributing to the improvement in scores.

Figure 3
Pre vs Post Intervention Self-Compassion Measures



N.B Higher scores indicate an increase in self compassion. Please note self-judgement, isolation and over identification sub scales have been reverse scored therefore a higher score indicates improvements in the domain.

Figure 4
Pre vs Post Intervention Fear or Negative Evaluation Measures



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Furthermore, there may have been an interaction between self-compassion and fear of negative evaluation. For example, as Margo's self-compassion increased this may have reduced her focus on what other people think of her as she learnt to prioritise herself. This would coincide with studies outlining higher self-compassion as a predictor of lower social anxiety (e.g., Bates, Elphinstone & Whitehead, 2021). However further exploration would be needed to determine the mechanisms of action within the current intervention.

I also asked Margo for qualitative feedback on her progress. This was collected verbally within our final session and then also within a written feedback form and a card that she gave me. I believe this is an important addition to the quantitative feedback as it highlights the patient's perspective and the impact the intervention has had on their life.

Table 5

Summary of Patient Feedback

Intervention Goal	Written feedback (post sessions)	Verbal feedback (within sessions)
To increase self-compassion	• I have a long way to go, but she has genuinely helped me to recognise I am deserving of self-compassion, that self-compassion benefits my loved ones and to be in the moment when I am being self-critical, to become aware of this voice and to actually hear what I say to myself, thereby being able to then question this, where it comes from and challenge it.	• I have been putting myself first more often • I never normally celebrate my birthday but this year I have booked a spa
To reduce Margo's preoccupation with what other people think of her	• I wasn't expecting to engage well in these sessions as historically people say 'why does it matter what others think of you' and I've found myself placating them and agreeing it doesn't – but of course it does- painfully. Chole took a different approach and instead helped me unpick where this started, looking at my upbringing	• I'm now more mindful of my inner critic voice and have been able notice how it impacts my interactions with others.

	and helping me link some of my experiences then to my now ongoing paranoia about others' perceptions and unrealistic self-expectations. • I am now trying to judge myself by the same standards I judge everyone else instead of to my previously unfair, unrealistic and unattainable standard. As a result, I have found myself actually thinking 'why does it matter what they think of you'!	
To improve assertiveness skills and behaviours	• I do have a long way to go on a day-to-day basis, but I have already asserted my needs in a way I never have before, I feel less guilty (regards failing as a mother and partner) and more accepting of the situation, recognising that guilt doesn't change the situation, it just adds more negativity which impacts everyone.	• When playing with my daughter I was able to tell her that I needed to break it down into 45-minute chunks and I was actually able to stick to this
General feedback	• This was the aspect of the (pain management) course that I had the least expectations about, yet it turns out that this will be the most effective and life changing part of the course.	• I have noticed a reduction in my pain • I have started to realise the importance of pacing and breaking the boom-bust cycle.

Conclusion

To conclude, the positive results of this intervention has highlighted to me the utility of self-compassion focussed interventions within the pain management field, alongside the fundamental importance of building rapport, particularly in instances where the client displays high levels of shame and self-criticism. I have enjoyed working alongside Margo and members of the MDT to foster positive behavioural change to facilitate Margo's pain management. Furthermore, on a personal level I feel I have developed key therapeutic skills in relation to collaborative formulations, compassionate focussed therapy, and assertiveness training. I look forward to utilising these skills within interventions in the future.

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3.2 Individual Face-to-face Intervention Reflective Commentary

This reflective commentary accompanies a six-session intervention with a client who has been allocated the pseudonym Margo. Reflection is essential for the professional growth of psychologists and their development of therapeutic skills (Prasko et al., 2012). Informed by feedback I obtained from Margo and my clinical supervisor, alongside reflective journal entries that documented the initial reflections I made following each session/ stage of the intervention; this commentary will summarise my key reflections and learning points from delivering this intervention.

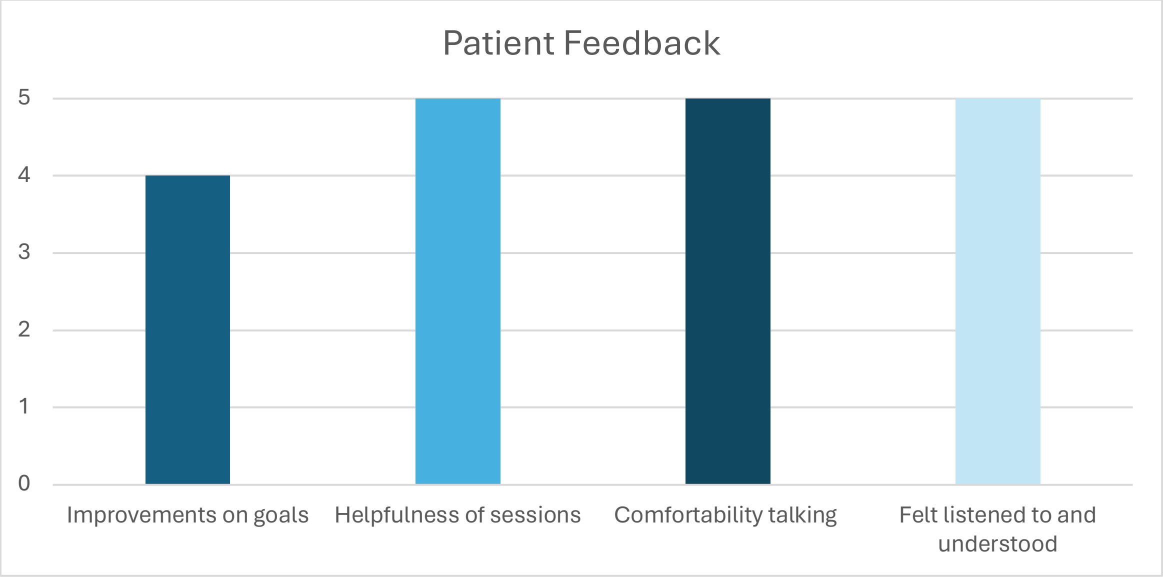
Developing my reflections

Initially I made my own subjective reflections within a reflective journal following each of the sessions I had with Margo. I later built on these reflections within clinical supervision. Throughout the delivery of this intervention, I was fortunate enough to receive support from both my clinical supervisor and the module lead of the psychological intervention competency at Staffordshire University. This enabled me to share and gain feedback on my formulation and session plans and engage in a guided reflective practise with a more experienced practitioner. Within supervision sessions I reflected on my therapeutic interactions with Margo alongside my own accompanying experiential processes.

I also felt it was important to understand how the sessions had gone from Margo's perspective. Therefore, in addition to collecting intervention outcomes, I also sought feedback from Margo pertaining her perceptions of the therapeutic relationship, my practise, and her progress throughout the therapy. To do this, I created a brief feedback survey on Google Forms. The questions were answered on a five-point Likert scale and Margo's answers are illustrated in Figure 1 below. I also asked Margo to qualitatively expand on these answers. Within the relevant sections of this commentary, I will paraphrase and reference Margo's responses detailing how they informed my reflections.

Figure 1.

Patient Feedback



Building and maintaining rapport

Something that I had to consider carefully, particularly during the early stages of the intervention, was how I could gain Margo's trust and establish a rapport. When I first met Margo, she presented as being guarded and somewhat resistant to psychology. As mentioned in the case study, to build trust and rapport I engaged in techniques from motivational interviewing, specifically; expressions of empathy via active and reflective listening and a non-judgemental approach in the hope that this would improve Margo's trust and willingness to disclose sensitive issues, concerns, and feelings (Tahan & Patrice, 2012). It appeared that these strategies were successful as within her feedback Margo commented:

> *'Chloe immediately put me at ease with her warmth, I felt heard and seen and safe enough to be vulnerable and honest without judgement'* and *'I really wasn't expecting to be able to open up and be honest about my problems and difficulty, but you drew everything out of me so easily because of your manner - you put me at ease and gained my trust in a way no one ever has before'.*

From prior interventions I have learnt the importance of spending time on building rapport, rather than rushing into the main interventional work. Spending time to build rapport with Margo benefitted me later in the intervention as it allowed me to challenge Margo when she was being avoidant of questions or tasks (i.e., identifying and asserting her needs). As we had rapport built, I was able to address this in quite a direct way and utilise a downward arrowing technique to explore her underpinning core beliefs that were preventing her from asserting her needs with family members. Margo reflected that this resulted in realisations of what was subconsciously driving her behaviour. I think adopting a direct approach is something I would have struggled to do when I first started working clinically and so demonstrates how my confidence and ability to build a strong foundational rapport with patients has developed. Within her feedback Margo stated, '*she gently but effectively challenged me and yet still validated me'*. I suspect that if we had not built our rapport, it would have been difficult to challenge Margo without making her feel defensive. This highlights how the therapeutic alliance has an important influence on intervention outcomes (Fluckiger, Del Re, Wampold & Horath, 2018) as had I not been able to challenge Margo's thoughts and behaviours, it is likely that the intervention would have been limited in impact.

Time Keeping

Once a rapport was built Margo was very talkative. Our sessions were scheduled to last for 50 minutes, but on occasions lasted up to 80 minutes. I tried to keep our sessions focussed by agenda setting at the beginning of the sessions and gently interrupting using phrases such as 'can I just pause you there, I would like to go back to …', however this often-had limited effect and the sessions still overran. I think my own anxieties about appearing dismissive or having a negative impact on rapport resulted in me not being as assertive as needed. Unfortunately, I later realised that this meant that I was modelling the opposite behaviour to which I was trying to teach Margo (i.e., assertiveness and having personal boundaries). I recognise this is an issue that is important to address, particularly as my caseload is likely to increase once qualified.

Multi-Disciplinary Team Working

Whilst Margo was an inpatient on the PMP I was able to benefit from sharing my formulations and progress with members of the MDT at weekly ward rounds. This was helpful as their feedback enabled me to expand upon my own formulations. For example, an issue highlighted by Margo's team was that she was increasingly resistant to the concept of pacing. One of the roles of a psychologist in physical health settings is to facilitate a psychosocial understanding of patient behaviour and distress to members of the MDT (Maddison, 2020). The knowledge gained from ward round enabled me to explore Margo's beliefs about pacing within our sessions to understand the problem from a psychological perspective. Margo expressed a lot of sustain talk and explained that she felt pacing was unsuitable for her due to her fatigue and POTS symptoms, and that her concerns regarding this were not being heard or understood by some members of the team.

Based on the extensive research supporting pacing for chronic pain and from my experience working with other chronic pain patients, I knew that Margo would likely benefit from pacing. Therefore, I wanted to challenge Margo's beliefs and encourage her to give it a try. However, I knew this needed to be done in a tactful and gentle way and I was particularly conscious of not engaging in the 'righting reflex' which would have resulted in further sustain talk or insincere agreement (Easton, 2021). Consequently, I again employed techniques from motivational interviewing. This included, expressing empathy for her concerns and the barriers she is facing, rolling with resistance, developing discrepancy between her current behaviour (boom and bust) and her goals and values, and reflecting ambivalence (McCarley, 2009). I also related her resistance back to our initial formulation and her struggles with self-compassion.

Based on Margo's eventual shift to change talk and feedback from Margo herself, I felt these techniques worked well. Reflecting on our interactions Margo explained that in the past she had engaged in insincere agreement with practitioners due to fear of judgement, however she felt that she could respond truthfully within our sessions, thus allowing her space to reflect on her own ambivalence.

Once Margo started being more open to change, this allowed her occupational therapist to work with her to develop personalised pacing plans that helped to increase her self-efficacy in engaging in pacing. By the end of the intervention Margo reported that she had started to implement pacing and had realised the importance and benefit of doing so. To me, this highlighted the benefit of multidisciplinary team working as Margo's progress with pain management likely would have been limited had each discipline of been working individually.

Evaluation of the intervention

Although there was a thorough range of evaluation tools used within this intervention, I felt I missed opportunities to measure important components of the intervention quantitatively. For example, it would have been useful to measure illness related shame as this was something that I believed was a key psychological factor underpinning the presenting problem. Within the literature it has been recommended to measure illness related shame within compassion focussed interventions, to understand whether the therapy works by reducing illness related shame, or whether outcomes such as psychological distress are moderated by other factors (Maddison, 2020). Furthermore, assertiveness training was a key aspect of the intervention, yet this was not assessed quantitatively. In hindsight, it would have been beneficial to collect these measures, but I was also mindful of not overloading Margo with questionnaires.

Conclusion

In summary, this intervention was extremely rewarding to deliver, and I enjoyed supporting Margo to build her confidence in asserting her needs and challenging her inner-critic voice. This was one of the last interventions that I delivered within my two-year placement at RNOH, and it has been interesting to reflect on the skills I have developed throughout the duration of my placement. With the support of my clinical supervisor, I have become confident in using communication styles such as motivational interviewing to build rapport and instigate behaviour change, alongside a variety of therapeutic approaches such as compassion focussed therapy. Nevertheless, there is always room for improvement and engaging in reflective practise has highlighted areas for growth and development.

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3.3 Individual Remote Intervention Case Study

Introduction

This case study outlines an Acceptance and Commitment Therapy (ACT) based psychological intervention that was remotely delivered via telephone as part of my role as a trainee health psychologist within the pain psychology department at the Royal National Orthopaedic Hospital (RNOH). Taking place between September 2021 and April 2022, the intervention span across 13 sessions. The patient, who will be given the pseudonym Sophia was referred to the Clinical Health Psychology department by her RNOH consultant orthopaedic surgeon. The referral stated that the 28-year-old woman required support with 'low mood and stress' relating to her chronic pain and shoulder injury that occurred following a car accident in 2015. The subsequent sections of this case study will outline the process of assessment, formulation, planning, delivery, and evaluation of the intervention.

Assessment

The first part of my assessment involved a clinical interview which served multiple purposes including obtaining information from the patient to inform the formulation and intervention plan, as well as building rapport, setting an agenda, and managing expectations for both the assessment and potential future sessions (Hilsenroth, Peters & Ackerman, 2004). In line with recommendations advocating a person-centred, biopsychosocial approach to chronic pain (NICE, 2021; Pomarensky, Macedo & Carlesso, 2022), within the assessment I asked the patient about her physical, psychological, and social functioning and how these things were both affected by her pain and had an impact on her pain. This gave me a broad overview of the patient's pain and life context and an initial understanding of the scope and nature of the presenting problem. As the assessment was conducted by telephone, I was especially conscious of building rapport with the patient. To do so, I adopted a Motivational Interviewing communication approach applying the OARS framework (open questions, affirming, reflective listening and summarising) (Rosengren, 2017). This will be reflected on further in the accompanying reflective report.

Figure 1 below details the information I obtained from conducting the assessment.

Figure 1. *Case Description*

Case Description

Background:

Sophia's pain started following a road traffic accident in 2015. The accident resulted in an injury to her shoulder and ribcage leading to chronic pain. Her current diagnoses are:

- Right thoracic costovertebral instability
- Right superior medial pole scapular crepitus with snapping scapular

Her consultant orthopaedic surgeon is seeking a further spinal opinion and has recommended physiotherapy alongside psychological support.

Sophia feels like there are still lots of unknowns in relation to her injury. She described herself as being 'on a mission to find a diagnosis for the last 6 years', which has included spending money on private healthcare for further investigations and opinions. Unfortunately, Sophia feels that nobody has been able to give her a clear diagnosis or plan for treatment.

Psychological Factors:

Sophia reflected that immediately after her injury she maintained a positive outlook and was hopeful about the future. However, now she describes herself as struggling to have a positive outlook on life particularly if there is nothing that can be done for her pain. Before her pain, Sophia described herself as having dreams and ambition, whereas now she feels as though she is just trying to get through the day. She feels that her pain has forced her to stop doing all of the things that were once important to her such as dance, drama and driving and consequently she feels as though she has lost her identity and independence. Barriers to reengagement in dance and drama include concerns regarding no longer being able to perform at the same level as before and thus being perceived negatively by others which Sophia anticipates would be too emotionally painful. Instead, Sophia is waiting until she finds a fix for her pain before returning to these activities.

Sophia reflected that her current coping strategy is to avoid being alone with her thoughts and to engage in distraction strategies such as listening to audiobooks or watching television. Previously she has found meditation helpful but is struggling with this currently.

At the age of 15 Sophia engaged in cognitive behavioural therapy in relation to childhood abuse from her father, and whilst at university she had 3 months of counselling. However, she felt that she was not in the right place to make the most of it at the time.

Social Factors:

Sophia is currently living with her ex-partner. She had moved out prior to covid but had to move back in with him due to financial reasons during the pandemic. Their relationship is amicable, and her ex-partner wishes to work on their relationship, however this is not what Sophia wants. She feels stuck within this situation and unable to move forward due to her physical limitations.

Sophia no longer speaks to her father who was abusive towards her as a child. She has a good relationship with her mother and sister, but they live 3 hours away, so she does not see them often.

Prior to her injury Sophia described herself as a very social person. However, since her

Clarifying the intervention Approach

I used the information obtained from the assessment to decide which psychological approach would be most suited to Sophia. Within the remits of my training and skillset, I felt ACT would be the most appropriate approach. Namely, it was evident that Sophia had a low degree of psychological flexibility and that her attempts to control and fix her pain alongside her avoidance of difficult emotions had resulted in her putting her life on hold. This had led her to lose touch with her values which was contributing to her psychological suffering. Furthermore, ACT has been recommended by the National Institute for Health and Care Excellence (NICE) (2021) in their most recent guidelines for the management of chronic pain due to its reported efficacy across a wealth of trials (e.g., Feliu-Soler et al., 2018; Gloster, Walder, Levin, Twohig & Karekla, 2020).

Quantitative Assessment Measures

In addition to the clinical interview, I also administered quantitative assessment measures for Sophia to complete. Table 1 below details my rationale for choosing each of the measures alongside Sophia's scores and my interpretations.

Table 1

Quantitative Assessment Measures

Measure	Rationale for using	Score	Interpretation
7-item Acceptance and Action Questionnaire II (AAQ-II) Bond et al., (2011).	This is one of the most cited measures of psychological flexibility and has been psychometrically tested. An increase in psychological flexibility is one of the primary aims of ACT interventions.	32/ 49	A higher score indicates lower psychological flexibility, with scores 24 and over being associated with symptoms related to psychological distress. Sophia's score totalled 32 confirming my thoughts that she had a high degree of psychological *in*flexibility thus suggesting that an ACT intervention focused on increasing psychological flexibility would be appropriate.
Pain Disability Index Pollard (1984)	This is a widely used instrument to measure pain-related disability. One of Sophia's goals	33/ 70	Higher scores reflect higher interference of pain with daily activities.

	was to feel less restricted by her pain.		Sophia’s score of 33 indicates a moderate level of pain disability.
Hospital Anxiety and Depression (HADS) (Zigmond & Snaith, 1983)	HADS is a measure of anxiety and depression which focuses on non-physical symptoms so that it can be used for individuals with significant physical ill-health. Although the intervention was not necessarily focused on reducing symptoms of anxiety or depression (in line with an ACT approach), it was hoped this may be a secondary outcome.	Anxiety: 12/ 21 Depression:11/21	Scores indicate the following: • Scored less than 7 = non-cases • scores between 8-10 = mild cases • scores between 11-14 = moderate cases • scores between 15-21 = severe cases Sophia scored 12 for anxiety and 11 for depression indicating a moderate level of both anxiety and depression

Defining the Intervention Goals

When stating her therapy goals Sophia initially presented with negatively framed emotion-focussed goals such as ‘I want to stop feeling frustrated, anxious and depressed about my condition and pain’. However, Harris (2019) highlights the importance of using behavioural goals within an ACT intervention as emotional goals can reinforce the emotional control agenda. To help Sophia reframe her goals in more behavioural terms synonymous with the ACT concepts of vitality, values, and committed action I asked her to consider what things she would start engaging in or do differently if all the aforementioned emotions were no longer a problem for her. From this question she developed the below goal:

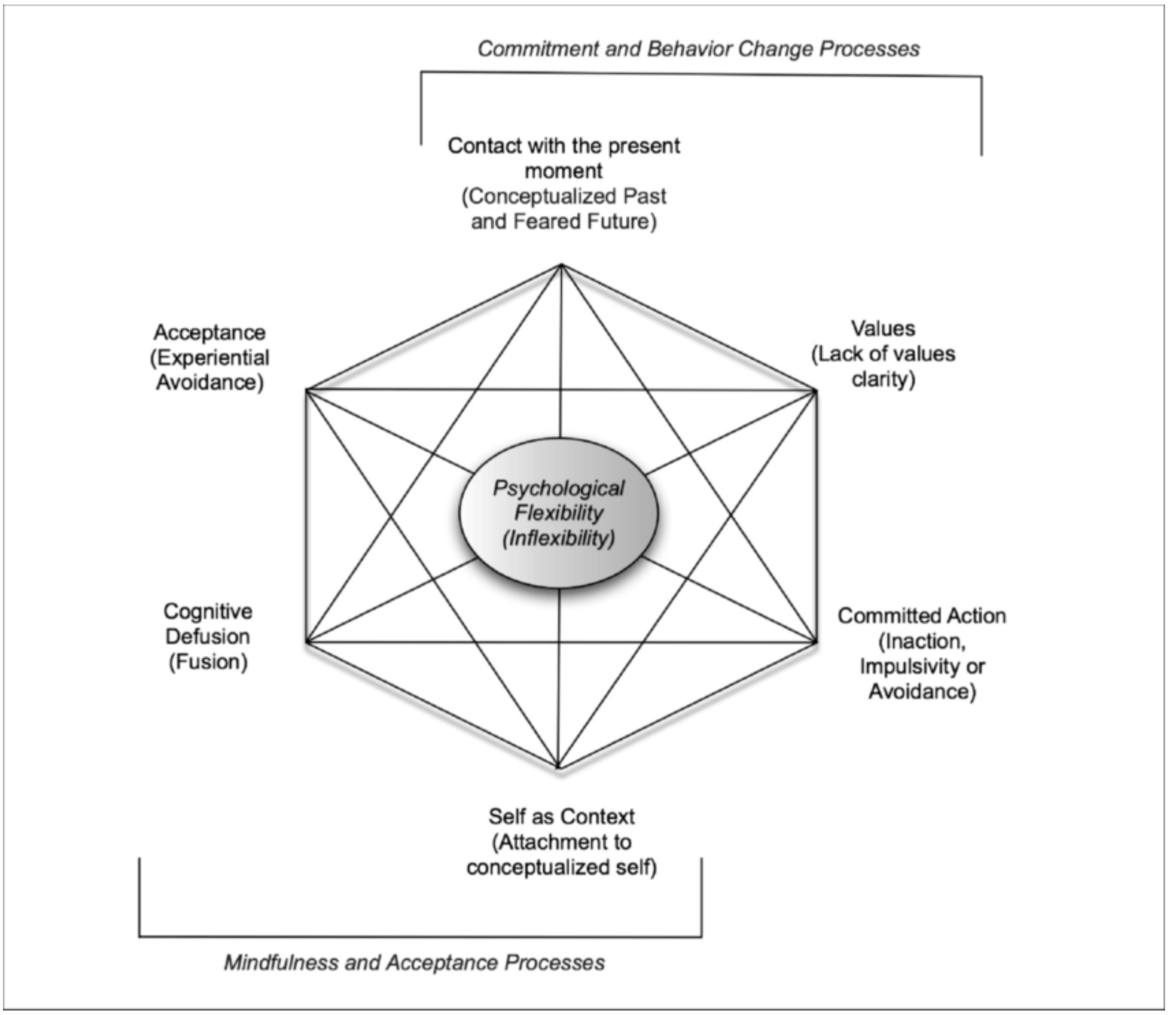
> *To no longer see my injury as a barrier to participating in activities I enjoyed before my injury (e.g., dance, drama, socialising).*

Case Formulation

Formulation refers to the collaborative process between the clinician and the client of attempting to understand the origins of the client’s difficulties drawing upon the clinician’s knowledge derived from theory, research, and clinical experience in addition to the client's expertise of their lived experiences (Johnstone, 2018). In this case, I used my knowledge of ACT to understand Sophia's presenting problems through the lens of psychological flexibility. Psychological flexibility is a central premise of the ACT approach and refers to an individual's ability to act in line with their values by approaching experiences in an accepting and non-judgmental way so that their internal thoughts and feelings do not result in values inconsistent behaviours (Scott & McCracken, 2015). The hexaflex and inflexahex can be used as tools to aid formulation. The hexaflex breaks down psychological flexibility into 6 core interrelated processes (contact with the present moment, values, committed action, self as context, cognitive defusion and acceptance) whilst the inflexahex represents the 6 contrasting interrelated processes which contribute toward psychological *in*flexibility (see figure 2 below).

Figure 2

The Hexaflex and inflexahex model of ACT for psychological flexibility and inflexibility (Prevedini, Presti, Rabitti, Miselli, & Moderato., 2011).



As the AAQ-II indicated that Sophia had a high degree of psychological inflexibility I used the inflexahex as a formulation tool. Figure 3 below is a diagrammatic representation of how the information obtained from Sophia within the assessment maps out onto each of the 6 core processes of psychological inflexibility alongside any motivational factors that I identified.

Figure 3

Formulation of Sophia's Presenting Problems Mapped onto the Inflexahex

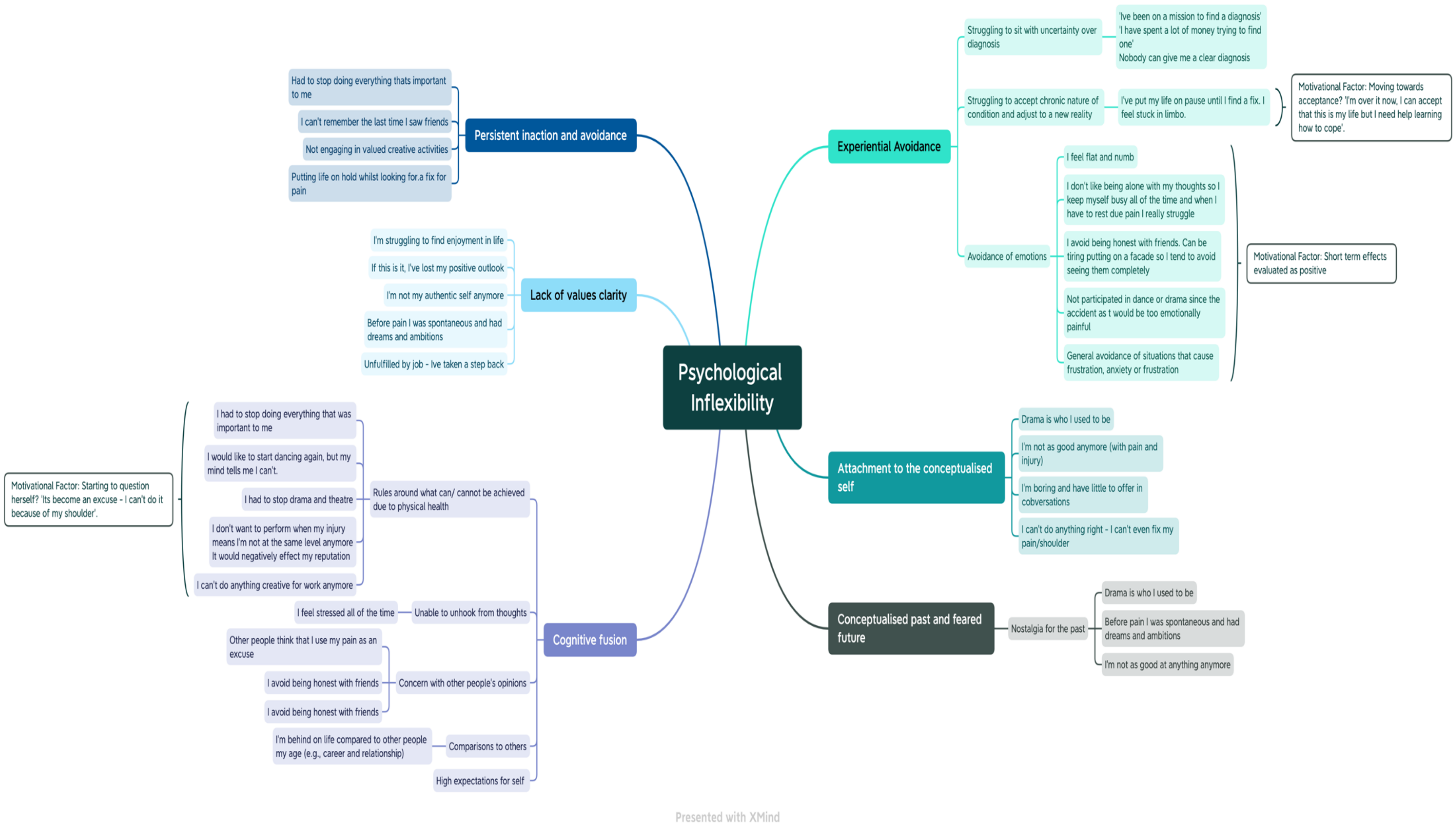


Figure 4

Written ACT Case Formulation

Written Formulation

From the assessment it was apparent that Sophia felt stuck and unable to move forward with her life. Evidently, Sophia was finding it difficult to ***accept*** the chronic nature of her pain/ injury and was investing a lot of energy into finding a fix whilst putting her life on hold until she found one. Throughout Sophia's account she continuously referenced her life before the accident **(*conceptualised past*),** talking favourably about her values of creativity and self-expression through the modality of dance and drama in which she was part of a close-knit community **(*values*).** Unfortunately, Sophia felt that she was no longer able to engage in these value-driven behaviours due to ***fusion*** with beliefs that her injury meant she could no longer perform at the same level anymore and her reputation would be negatively affected by doing so ***(attachment to the conceptualised self).*** In an attempt of ***experiential avoidance*** Sophia had not danced or acted since her injury as she stated it would be too emotionally painful to do so and consequently had not seen many of her friends in several years. Avoidance of her friends was also underpinned with ***fusion*** to the belief that she was 'behind on life' and would have 'little to contribute to the conversation' ***(attachment to the conceptualised self)***. This belief was largely related to her career, as she was currently working in a sales job in which she felt unfulfilled and over worked (triggering flare ups) but remained in due to her expectation that she could not work in the creative field whilst in her current physical state **(*feared future)***. Furthermore, to avoid anxiety and low mood, Sophia seldom allowed herself downtime **(*experiential avoidance)***, resulting in a boom bust cycle with her chronic pain ***(unworkable action)***. Seemingly, Sophia's behaviour was overwhelmingly influenced by her attempts to avoid uncomfortable thoughts and feelings which had resulted in her losing touch with her values and her own identity. This was aptly summarised by her statement 'I don't feel like I am my authentic self anymore' ***(lack of values clarity).***

Sharing the formulation

As the formulation is a collaborative process (Johnstone, 2013), I wanted to share it with Sophia in a way in which she was an active participant and felt able to contribute her own insights. I was also conscious that ACT can be quite jargon-heavy, so I decided to use the ACT matrix as it is a lay-friendly and visual tool suitable for sharing the basic concepts of my formulation (Polk et al., 2016). I emailed the ACT matrix to Sophia before the session so she could have access to it as we discussed it within the session. We went through each quadrant of the matrix, and I asked Sophia to share her thoughts before I offered my interpretations based on the formulation. Although I think this exercise could have worked better in person or via video, as I had previously sent the diagram to Sophia, she was still able to follow along. I believe that using the ACT matrix to share my formulation helped Sophia to start the process of creative hopelessness and acceptance as she could identify how her thoughts, feelings and behaviours were taking her away from her values.

Treatment Plan

Based on the formulation, I devised three ACT consistent treatment goals which I believed were fundamental to Sophia achieving her goal of 'not feeling limited by her condition and reengaging in activities she previously enjoyed'. ACT aims to change individuals' relationships with their thoughts, feelings, and physical sensations through mechanisms of acceptance, mindfulness, committed action and values-based behaviour change strategies (Wynne et al., 2019). Therefore, each of the treatment goals tied into these core processes. From the treatment goals, I made a rough plan of intervention techniques that I anticipated using to work towards each one. ACT uses a variety of intervention techniques including experiential exercises, mindfulness skills, metaphors and values-guided behavioural interventions (Harris, 2006), and I ensured that I used a range of these within my plan for the intervention.

Table 2 below outlines my rationale for each treatment goal alongside the intervention techniques I planned to use. The intervention techniques will be discussed in further detail in the subsequent section.

Table 2
Treatment Goals and Potential Intervention Techniques

Treatment Goal	Rationale	Potential Intervention Techniques
1. For Sophia to understand that control is the problem	Sophia approached her pain by desperately trying to find a fix. Despite being unsuccessful in doing so for the past 6 years, Sophia continues to put her life on hold (e.g., career, dancing, drama, relationship, and socialising) whilst searching for answers. Consequently, for Sophia to be able to move towards her goal of engaging in loved activities again it was integral for her to accept her pain and understand that her current approach is causing further suffering.	• Join the DOTS exercise • Primary and secondary pain diary • Tug of war with a monster metaphor
2. To reconnect Sophia with her values	During the assessment Sophia stated, 'I am not my authentic self anymore', which signified to me that she had lost touch with her values. This is common among patients with chronic pain when they neglect valued activities in service of controlling their pain and has been fittingly termed as values illness (Dahl & Lundgren, 2016).	• Values compass • Values based goal setting • Problem solving barriers • The choice point
3. For Sophia to adopt a less judgemental and more flexible approach to the conceptualised self, past and future	One of the main barriers that was preventing Sophia from moving towards her values and goals was a strong attachment to rigid mind-scripts about pain and her conceptualised self. Mind-scripts include thoughts and rules aimed at protection from further pain and typically contribute toward a life characterised by pain avoidance and a lack of valued action (Dahl & Lundgren, 2016). Examples of the mind-scripts that Sophia presented with were 'I can't do anything creative with my pain', 'I can't do dance or drama with my pain as I won't be as good anymore and my reputation will be affected', 'I can't do anything right, I can't even fix my pain' and 'I'm boring now'.	• Identifying pain rules • Naming the story • Thought observer • Leaves on a stream • How would you treat a friend exercise

Delivering the Intervention

I saw Sophia for a total of 13 sessions over 8 months, with sessions lasting between 45- 60 minutes. The frequency of sessions varied from weekly, to monthly. At the beginning of the intervention, I was seeing Sophia on a more frequent basis, but this was tapered off towards the end of the intervention to allow Sophia to develop self-efficacy in her ability to implement techniques herself.

Structure of the sessions

To ensure consistency, I maintained a similar structure for each of the sessions as detailed below:

1) Check in on how the patient had been getting on since our last session
    - Review of homework if applicable
    - Reflections on instances that Sophia had found difficult or had been able to approach using principles discussed within prior sessions.
2) Setting an agenda for the session
3) Main intervention work
4) Summarise session and set any homework

Content of the Intervention

The table below summarises the intervention work I completed in relation to each of the treatment goals.

Table 3

Summary of intervention techniques delivered throughout the intervention alongside their associated treatment goals

Treatment Goal	Overview of Intervention Technique	Reflections
1) For Sophia to understand that control is the problem.	**Join the DOTS exercise** Join the D.O.T.S is an exercise that asks patients to consider what strategies they have used to get rid of difficult thoughts, feelings, sensations, memories etc. Specifically, it asks patients to think about what **D**istraction methods they use, what things they may **O**pt out of, what **T**hinking strategies they use and any **S**ubstances or other **S**trategies they use to avoid or get rid of unwanted thoughts and feelings. The second part of the exercise involves asking the patient to reflect on how successful the strategies are in the short and long term and what the cost of the strategies has been. I adapted this exercise to have more of a specific focus on pain, (e.g., I encouraged Sophia to think about the difficult thoughts and feelings that came up as a result of her pain).	• Overall, Sophia engaged well with this exercise and was very reflective and open to considering the negative long-term implications of her current approach. • I made a point of validating Sophia's attempts to control her pain through statements such as 'it's understandable that you have tried so hard to fight your pain and I can see why you thought some of these things might have helped you'. • Due to telephone delivery, I used the worksheet as a conversation guide rather than filling it in. In hindsight I think it would have been good for me to fill in the worksheet and send it to Sophia after the session so that she had it for reference.
	Primary and secondary pain diary I asked Sophia to complete an adaption of Dahl & Lundgren (2006) clean and dirty pain diary. Dahl and Lundgren (2006) refer	• Sophia engaged well with this activity in session and was able to identify a pain chain (e.g., initial

	to physical pain as ‘clean pain’ and any reactions to the physical pain as ‘dirty pain’. I felt that the terms clean and dirty could be perceived as having moralistic connotations. Therefore, I decided to adapt the exercise and refer to it as primary and secondary pain. I also added a further column to the table for Sophia to identify whether the secondary pain referred to mental scripts, avoidance behaviours or values illness.	symptoms -> the way her mind responds to the symptoms -> escape and avoidance behaviours ->long terms choices and impacts)
	Tug of war with a monster metaphor I introduced this metaphor to Sophia to demonstrate that letting go of the struggle with her pain and accompanying emotions may be a more workable action than continuing to fight against them.	• Sophia gave a description of how tiring this experience was for her and she related herself to the metaphor by saying that she often felt that her thoughts and feelings consumed her until she gave in and fell into the pit. • It also opened a conversation about the difference between letting go/acceptance and giving in which led on well to values-based work.
	Evolution of the human mind metaphor I wanted to normalise Sophia’s previous attempts to control her pain and suffering and thus used this metaphor to highlight the evolutionary and protective mechanisms of her behaviour.	• I think this helped to reassure Sophia and ensure that I was taking a non-judgemental, non-blaming approach.
2) To reconnect Sophia with her values.	**Tamar Pincus pain and me video and discussion** To begin the conversation around values I asked Sophia to watch a Tamar Pincus video (pain and me) which highlights the importance of fully engaging with life despite the pain. I asked Sophia to reflect on the video and answer the following questions:	• I found the video useful to facilitate a conversation around values and develop a clear rationale as to why a value-driven life is important. • Many of the things Sophia mentioned she would like to be doing

1) If you weren't so focussed on your pain, how would you behave differently? 2) When you are 80 looking back on your life, what things will you wish that you did more of and what things will you wish you spent less time doing? (This is a variation of the attend your own funeral exercise)	were things she did prior to her injury. Identifying this lead on well to conversations regarding what barriers she faced in relation to working towards these.
We discussed how by focussing so intently on her pain her world had become smaller as she had neglected other aspects of her life in service of her pain.	
Values life compass I also asked Sophia to complete the values compass exercise. I then asked her to pick the top 3 life domains that she would like to focus on. She chose personal growth, work, and leisure, and we explored her values within these domains in further detail.	• This exercise was helpful in helping Sophia to identify her satisfaction with different life domains and the incongruence between where she is currently and where she would like to be.
Values based goal setting I began by explaining the difference between values-based goal setting and traditional goal setting. As a form of committed action, I asked Sophia to set short term goals in between sessions to 'challenge' some of her mind-scripts and work towards her values, explaining that although the intrusive thoughts are still likely to be there her behaviour does not necessarily have to be guided by them. Examples of her short-term goals throughout sessions included meeting up with friends she had not seen in years and being open with them about her current situation and feelings, looking/applying for jobs within a creative field, looking into dance and drama classes and disclosing her injury at a job interview.	• Sophia needed quite a lot of guidance to translate her values into goals. • She reported that it was a helpful exercise that helped to give her guidance and clarity on how to move forward in her life and help relieve the feeling of 'stuckness'.

In later sessions I also worked with Sophia to develop some long-term and medium-term values-based goals.	
The choice Point I introduced Sophia to the choice point as a metaphor for being guided by her values in life and to help her identify any anticipated barriers to doing so.	• Sophia reflected that she thought this would be a useful metaphor to use as she makes choices throughout her day. • We were able to use this as a tool to discuss anticipated barriers to value concordant behaviour, which then led onto conversations about which tools she could use to overcome them in an ACT consistent manner.
Assertiveness training Throughout the intervention it became clear that a barrier to Sophia moving towards her values was a deficit in assertiveness skills. For example, Sophia had applied for and received an interview within the creative field. She disclosed some of her concerns about the job (e.g., what if it's too physical for me?) and throughout the conversation it became clear that she had no intention of disclosing her pain and shoulder injury at the interview due to fear of negative evaluation from the interview panel. We discussed how this would be classed as an away move on the choice point as it was value inconsistent and had not served her positively in prior roles. Sophia reflected that in the past she had never even considered mentioning her injury at the interview due to rigid beliefs, but that she could see the benefits of doing so.	• This was a rewarding session to deliver as Sophia described it as a light bulb moment that helped her to identify some of the vicious cycles she had been engaged in previously (e.g., concealing her health needs). • Sophia was proactive in co-creating the script for her interview and said that although she was nervous to do so, she planned to disclose her injury at the interview. • Reflecting after the interview Sophia stated that she felt much less nervous about starting the job as she had been honest from the get-go.

	We worked together to script, and role play the conversation she planned to have at the interview. Sophia stated this increased her confidence and resultantly she managed to discuss her health needs within the interview. Fortunately, this was positively reinforced when Sophia was successful in getting the job.	
3) For Sophia to adopt a less judgemental and more flexible approach to the conceptualised self, past and future.	**Identifying pain rules** The first step was to help Sophia identify her pain mind-scripts and the influence they had on her behaviours and psychological suffering. At this stage it was also important to normalise and help Sophia understand the function of these mind-scripts. To do so I referred back to the evolution of the human mind metaphor. This uncovered some of her beliefs about 'not being able to work in a creative field with pain', 'not being able to perform as well with chronic pain', 'my friends will think I should be better by now, I should have fixed myself by now'. We discussed what this had led to e.g., not applying for jobs she enjoys, working in unfulfilling jobs, isolation, feeling unfulfilled, limited, and stuck. This opened a conversation regarding the impact that pausing her life until the pain is fixed has had. It also allowed me to introduce acceptance and the idea that although the pain may be chronic that doesn't mean that other areas of her life need to be neglected. Sophia reflected that acceptance would give her a better quality of living, stop her feeling isolated and as though she wasn't moving forward with her life.	• This was a beneficial activity to do with Sophia. Although it seemed obvious to me from the formulation of the pain rules that she had, it was evident that this exercise was necessary to highlight them to her.
	Identifying the inner-critic voice Sophia had a strong inner-critic voice that often presented as her making upward social comparisons to others and setting unrealistically high standards for herself. A lot of the work we did	• I think that this was one of the most helpful intervention components. Sophia's inner critic and lack of self-compassion were major barriers

together was to help her identify this and the impact it was having on her pain (e.g., pushing past the pain). We spoke about this within the context of the 'naming the story' exercise and Sophia identified a recurrent 'I'm not good enough' story. This then led onto conversations around defusion from this story (see below).	preventing her from moving toward her goals
Self-compassion A lack of self-compassion was identified as a barrier to Sophia moving towards her values early in the interview and consequently self-compassion was a key theme that was interwoven throughout most sessions of the intervention. We continually related self-compassion back to other elements of the ACT model that we had covered including defusion from self-judgement, values and acceptance/ making room for difficult thoughts and feelings. We completed several self-compassion exercises including Sophia listing the qualities of an ideal best friend and then reflecting on how many of these qualities she could apply to her relationship with herself. A further exercise we completed was addressing the standards that Sophia sets for herself and defining what 'good enough' looks like. As Sophia enjoyed journaling, a regular activity she engaged in as homework was to reflect at the end of each day and list her positive qualities and how they had been demonstrated throughout the day.	• Although Sophia was able to identify her inner critic voice, she struggled to reappraise it though a more self-compassionate lens. • Self-compassion exercises were set as homework activities and Sophia engaged in them through journaling exercises.
Defusion exercises Initially I introduced Sophia to defusion using the 'hands as thoughts exercise', encouraging her to look 'at' her thoughts rather than 'from' her thoughts so that they had less of an influence on her wellbeing and behaviours.	• Some of the more experiential exercises (e.g., hands as thoughts) were hard to do over the phone as I had no visual feedback as to whether she was understanding my

Across several sessions, I introduced Sophia to multiple other defusion and grounding exercises and metaphors such as naming the story exercise, the 'thought observer exercise', the 5,4,3,2,1 grounding technique and the sushi train metaphor. As homework I encouraged Sophia to practice each of these defusion strategies in between sessions and to reflect on which she found most beneficial.

instructions or even following them at all.

- Defusion as a concept seemed to require more buy in than some of the other ACT concepts that we covered. I could tell from Sophia's tone of voice that she was sceptical about how they could help her. Although I can see the value of defusion exercises I was quite nervous about explaining them to Sophia as I was worried that they could come across as undermining the intensity/ seriousness of her thoughts. Perhaps my apprehension could have fed into Sophia's scepticism. Over time Sophia began to see the value of defusion which highlights the importance of the experiential aspect of ACT.
- In hindsight it would have been useful to give Sophia a reflective tracking sheet to monitor each time she used a defusion strategy and how effective she found it. This would have been beneficial information for

	me and may have created more buy in from herself.
Mindfulness exercises Later in the intervention I also went through more formal meditative defusion exercises with Sophia such as leaves on the stream. This helped her to identify her self-judgements and limiting beliefs that were barriers to moving towards her values. Rather than trying to push them away, the exercise encouraged her to notice them with curiosity and let them pass in their own time	• As initially Sophia found it very difficult to sit with her thoughts and feelings I waited until about halfway through the intervention before introducing meditative exercises. • Sophia engaged well with this exercise and mentioned that it was similar to mindfulness exercises she had done in the past. Towards the end of the intervention Sophia reported that she had started a regular mindfulness practice again.

Ending the intervention

For the final session, I revisited the ACT matrix (from the initial sharing the formulation session) with Sophia. She found it much easier to fill in the values and behaviours moving towards values section this time around and we used this to reflect on what she had taken away from the intervention. We also discussed how the behaviours moving towards values section represented a toolkit of strategies to guide Sophia in the direction of a more fulfilling life. Across the closing session we reflected on the following questions.

- What progress do you feel you have made towards your goals?
- What have you taken away from the sessions?
- How do you plan to maintain the changes you have made?
- Are there any barriers you anticipate getting in the way of you maintaining progress?
- How might you address these barriers? (If-then planning)

Finally, after the final session I wrote a discharge letter that was sent to Sophia, her referrer and her G.P. This letter served multiple purposes, namely informing her referrer and G.P. about her progress, but I also wrote it in a way that Sophia would be able to use it as a resource to refer to and remind herself of the concepts and strategies that we had covered within sessions.

Evaluating the intervention

Although I only formally evaluated the intervention through quantitative measures at its close, I was continually evaluating the intervention throughout by obtaining feedback from Sophia about her progress towards her goal and keeping my own reflections. Table 4 below outlines the feedback I received from Sophia concerning each of the goals, alongside my reflections on her progress.

Table 4

Summary of the patients and my reflections on the intervention

Goal	Feedback from Sophia	My Reflections
Treatment Goal: For Sophia to understand that control is the problem.	• 'I've realised that I was telling myself that too many things were off limits' (s13) • 'I've been able to take a step back from my emotions and I can sit with things… I accept it now' (S13) • 'I'm now allowing myself to be in silence' (S13)	• Sophia was able to identify her pain rules and the deleterious long-term impacts of them. • She was also able to identify her primary and secondary suffering and 'pain chain'. • Sophia grasped the concept that trying to control her emotions through emotional avoidance was an unworkable action and was later able to confront her emotions through activities such as journaling and mindfulness exercises.
Treatment Goal: To reconnect Sophia with her values.	• 'I'm now doing things that are authentically me'(s13)	• Sophia identified values in relation to the life domains of work and education, relationships, personal growth, and leisure. • Sophia set short-term, medium-term, and long-term goals in relation to these domains. • She also took up a regular journaling practice of reviewing her values and how she has been working towards them. • The last section of this table identifies some of the ways Sophia started to behave in line with her values.

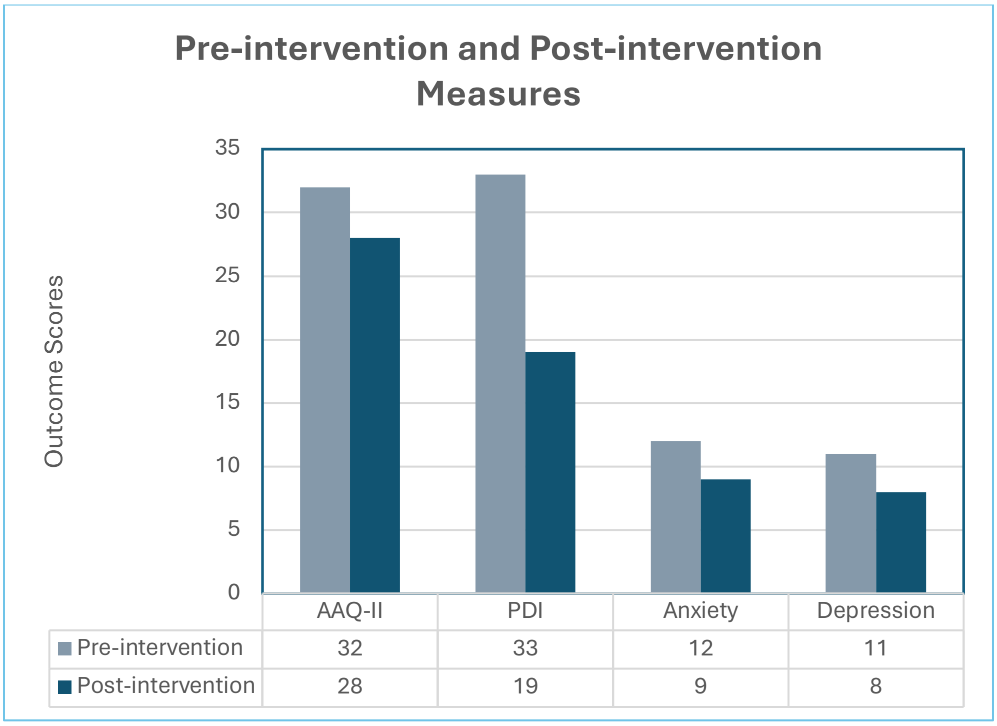
Treatment Goal: For Sophia to adopt a less judgemental and more flexible approach to the conceptualised self, past and future.	• ‘This has helped me to identify unhelpful patterns I’ve fallen into’ (S7). • ‘It’s opened my perspective. I never would have considered mentioning my injury at a job before’(S7). • ‘I’ve started to feel more hopeful about the future’	• Sophia was able to notice she had high expectations for herself and acknowledge when she started to think in this way. • Throughout the intervention Sophia reported being more open with her friends and not comparing herself to others so much. • Sophia was able to disclose her injury during her job interview. This was pleasing to hear as it demonstrated that Sophia had been able to challenge some of her beliefs about pain and what it meant for her life.
Overall Patient Goal: To not feel limited by her condition and to reengage in activities she previously enjoyed.	• ‘I’ve been doing so much socialising, almost every weekend. My ex even said that he’s seen a whole new side to me… that I’ve had a confidence boost’ (S9). • ‘I’ve seen such an improvement. I’m proud of how far I’ve come. In my old job I was so unhappy, but now I am doing something that I value within the creative field’ (S9) • ‘I’m now going to the gym and feeling comfortable lifting weights’(s13) • ‘I have a fight in me now. It’s different to before, I want to do things despite the pain’ (S7) • ‘My whole list of what I said I wanted to do in the first session I have managed to achieve. I felt like my shoulder was a barrier, now it’s about how to work with it’ (S9)	• Throughout the intervention there was evidence to suggest that Sophia was starting to no longer feel limited by her condition. • One of the first steps Sophia took was to start socialising again. • She also reported that she had been going to the gym and attending yoga and Pilates classes. • In the last session of the intervention Sophia also mentioned that she had insured herself on her partner’s car so that she could start driving again. This is something she had not done since her initial accident and demonstrated huge progress towards her overall goal. • Another major turning point for Sophia was that she applied and was successful in getting a job within the

	• ‘Planning to look for some dance classes to attend. I’m still nervous but I’ve stopped worrying about my level of performance (s13). • ‘If 8 months ago I saw myself now, I would be like wow how did I get to that point’ (S13) • My main take away has been that I need to live my life how I want to live it (S13).	creative field – something that she had previously written off as being impossible post injury. • Although Sophia did not attend any dance classes during the intervention, she reported that she had researched some in her local area and that it was one of her post intervention goals.

I also formally evaluated the intervention through quantitative measures. Sophia completed each of the initial assessment measures before attending her last session. A reduction was seen across all measures indicating a decrease in psychological inflexibility, pain related disability, anxiety, and depression (see figure 6). The biggest difference was seen in pain-related disability. This was unsurprising as a big part of the intervention was focussed on encouraging Sophia to have more flexible beliefs about her pain and her conceptualised self/future and helping her to understand that her attempts to control and fix her pain were restrictive and disabling. A reduction in psychological inflexibility was also seen suggesting that Sophia had adopted psychological skills to help her stay rooted in the present moment and be able to make decisions based on deeply held values rather than as a reaction to difficult thoughts and feelings. Unlike many other therapy modalities ACT is not primarily concerned with a reduction in symptoms as it postulates that it is our attempts to get rid of unwanted private experiences/symptoms that results in psychological suffering. However, interestingly symptom reduction is often seen as a by-product of the therapy (Harris, 2006). This is supported by the outcome measures of the current intervention as moderate differences were seen in both anxiety and depression, demonstrating that emotional symptom reduction was a positive secondary outcome of the intervention.

Figure 6

Post Intervention Outcome Measures



	AAQ-II	PDI	Anxiety	Depression
Pre-intervention	32	33	12	11
Post-intervention	28	19	9	8

Conclusion

To conclude, the considerable progress made by Sophia over the course of the intervention demonstrates the utility of an ACT based intervention in facilitating meaningful behavioural and psychological improvements for a patient with chronic pain. On a personal level, I found it extremely rewarding to observe Sophia reengaging in activities that she had believed to no longer be possible and to hear her reflect ‘if eight months ago I saw myself now, I would be like wow how did I get to that point’. Moving forward, I hope to be able to build upon the skills and knowledge I have gained from delivering this intervention to support future patients to live a fulfilling and meaningful life despite their chronic pain.

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3.4 Individual Remote Intervention Reflective Report

Introduction

This reflective report accompanies the case study of a 13-session ACT-based intervention delivered by the telephone. Although at the outset of the intervention I had experience offering short-term psychological support (typically 3 sessions) to patients on the pain management programme at RNOH, the case study details one of the first longer-term outpatient psychological interventions that I delivered. I was excited by the opportunity to have the space to develop a more detailed formulation and treatment plan and work with the patient (Sophia) over a longer period. Throughout the intervention I kept a reflective journal so that I could learn from my experiences. The remainder of this report is structured around the key themes that came up within my reflections: the use of an ACT approach, the therapeutic relationship, remote delivery and evaluating the intervention.

The use of an ACT Approach

When working with chronic pain patients I have found myself drawn to using an ACT approach. When previously adopting a CBT approach with chronic pain patients I have often found it difficult to help them reframe their thoughts about pain and their health as they are mostly legitimate concerns. At times I have felt that taking a ‘thought reframing approach’ could come across as insensitive and undermining to the patient’s very real worries. On the contrary, ACT does not try to reduce or change thoughts and feelings, but rather enable people to do the things that matter in their life in the presence of these thoughts and feelings (Feliu-Soler et al., 2018). From my experience, taking this approach with chronic pain patients helps them to feel understood and validated which is beneficial to the therapeutic relationship and overall treatment outcomes. From the first assessment session with Sophia, it was clear that an ACT approach would likely be beneficial to her due to her pervasive efforts to fight against the pain including avoiding thoughts of pain, avoiding other people, seeking further medical investigations, and not engaging in valued activities.

As I am inexperienced in delivering ACT interventions, I decided to use the ACT Core Competency Rating Form (Luoma, Hayes & Walser, 2017) as a self-supervision tool to monitor the fidelity of my intervention with the treatment principles of ACT. This was a beneficial resource that aided my self-reflections. I think I was able to meet most of the therapeutic competencies within the developing willingness and acceptance, defining valued directions and building patterns of committed action constructs. For example, throughout the intervention, I felt I was able to consistently highlight to Sophia the unworkable action of both her emotional and behavioural control strategies and instead encourage her to adopt a perspective of willingness. I was also successful in helping Sophia to identify her valued life directions and an action plan of how to move towards them alongside perseverance to keep commitments even in the presence of perceived barriers.

However, I think I could work on aspects relating to the 'getting in contact with the present moment' construct. Although I was able to help Sophia identify when she was drifting into a past or future orientation, I could have done more to help her develop skills to bring her back to the present moment. Admittedly, I think it was perhaps fusion with some of my own thoughts and anxieties that prevented me from doing this. For example, I personally struggle to engage in formal mindfulness exercises, and as a result I fused with thoughts such as 'feeling like a hypocrite' if I was to include mindfulness within the intervention or worrying that 'Sophia might not find it helpful'. Consequently, I avoided the discomfort of experimenting with mindfulness exercises meaning that I did not do as many as may have been beneficial for Sophia, thus making myself remote from my values as a therapist.

In future sessions, I plan to challenge myself to incorporate more mindfulness within the intervention by adopting the session structure proposed by Harris (2006), detailed below:

1) Mindfulness exercise
2) Review of previous session
3) Agenda
4) Main interventions
5) Homework

Starting the session with a mindfulness exercise would set the tone for experiential working and provide the patient with space to practise mindfulness skills which are an important aspect of the contact with the present moment component of the hexaflex.

The Therapeutic Relationship

Building Rapport

The therapeutic relationship is an important component of any intervention with positive correlations between therapeutic alliance and therapy outcomes being found (Fluckiger, Del Re, Wampold & Horath, 2018). Something that I thought went well from the outset of the intervention was the rapport I built with Sophia. I adopted a Motivational Interviewing communication approach utilising the OARS framework (open questions, affirming, reflective listening and summarising) (Rosengren, 2017). By using these techniques, I was able to demonstrate understanding and empathy towards Sophia and ensure that my interpretations of Sophia's experiences were accurate by allowing her the opportunity to feedback on my reflections and summaries. For example, Sophia would respond with statements such as 'that's hit the nail on the head' or 'that's exactly how I feel'. This was particularly important as in the initial session Sophia explained that she had not felt listened to and heard by other healthcare professionals in the past.

Therapist self-disclosure

An issue relating to the therapeutic relationship that I have frequently reflected upon and used clinical supervision to discuss is the contentious issue of therapist self-disclosure (Gibson, 2012). It has been proposed that the use of self-disclosure techniques can have positive effects on patients' perceptions of the therapist such as viewing them as warmer and more approachable, thus resulting in them feeling more comfortable with their own self-disclosure (Noyce & Simpson, 2018). From an ACT perspective, therapist self-disclosure is viewed favourably if used appropriately and judiciously to model aspects of the ACT model (Harris, 2019).

In hindsight, I could have made use of self-disclosure techniques to model the ACT approach in relation to my aforementioned anxieties about using formal mindfulness. For example, to model defusion I could have said 'I am noticing my mind making unfair judgements that you might not find mindfulness exercises helpful even though I have little evidence to base this on'. This would have exemplified to Sophia the act of looking *at* thoughts, rather than *from* them and had I then gone on to continue with mindfulness exercises it would have demonstrated acting in line with values rather than acting upon uncomfortable thoughts and feelings.

Remote Delivery

Research has shown promising outcomes for the use of telephone-based psychological therapy across a range of psychological conditions, with comparable outcomes to face-to-face delivery (Irvine et al., 2020). However, given the obvious differences between face-to-face and telephone delivery, several factors need to be considered to ensure that the quality of care is not compromised. Within their paper, Luxton et al., (2014) outline key considerations concerning the delivery of remote psychological assessments, however many of the points they raise apply to the delivery of the entire remote intervention. The table below summarises some of the key considerations raised by Luxton et al., (2014), alongside my reflections on their relevance to the intervention I delivered to Sophia.

Table 1

Considerations for delivery of a remote psychological intervention

Consideration	Impact on intervention	How I addressed this
Loss of non-verbal information (e.g., body language, facial expressions, physical functioning)	▪ Sophia became tearful in the assessment. I would not have known this if she had not said. ▪ It was hard to determine Sophia's physical functioning. ▪ When working in person it is easier to determine the patient's pain level throughout the session (e.g., via grimaces and fidgeting)	▪ I paid close attention to non-visual cues such as hesitancy or a change in tone of voice. ▪ I would use questions such as 'tell me how talking about that has made you feel' or 'I sensed some hesitancy in your response, tell me what that was about' to check in on the patient's emotional state. ▪ I was also aware that the patient was missing out on non-verbal information from myself. Therefore, to demonstrate active listening I relied on verbal demonstrations e.g., using statements such as 'yes', 'I see', 'that makes sense' in response to the information she gave. Furthermore, I explained to her in the initial session that I would be taking notes to explain for any pauses whilst I was catching up with notes ▪ I used more verbal questioning to determine the patient's physical functioning level. ▪ I made a point within the assessment of reassuring the patient that if they needed to take a break throughout the session to stretch and move around, they were more than welcome to do so.

		▪ I also hoped that as Sophia was in an environment of her choice that she felt comfortable to place herself in a comfortable position and move around when necessary.
Suitability of patient’s remote location (e.g., privacy)	▪ Sophia attended the sessions from a variety of locations (home, work and from her car). ▪ Within certain sessions, Sophia raised issues relating to work colleagues and her ex-partner (whom she still lives with). At times I wondered who else was within earshot of our conversations and whether this impacted on the patient’s disclosure of information.	▪ Luxton et al., (2014) recommend working with the patient to plan a time that was free of any potential disruptions. However, I was limited in how flexible I could be with times/ dates for appointments due to working hours and managing a case load of other patients. ▪ At the start of sessions, I asked Sophia if she was in an environment where she felt comfortable speaking freely in. ▪ Given the increase of people working from home, I also felt it was important to reassure Sophia of the suitability of my own location. For example, I would say I am going to put you on loudspeaker so that I can take notes, but I am in a private office.
Technology Issues (e.g., signal)	▪ For most sessions the signal/ audio quality was fine. However, a couple of the sessions were affected by poor signal. ▪ At times this resulted in words being cut out of sentences which could have impacted understanding of the whole sentence. ▪ When technological issues were persistent within a session it was frustrating for both parties involved and	▪ When words were cut out of sentences, I asked Sophia to repeat the part I had missed to ensure understanding. Likewise I think she felt comfortable enough to ask me to do the same.

	could have impacted Sophia's motivation to engage.	
User Acceptance	▪ Due to the ongoing impact of the Covid-19 pandemic, at the time of Sophia's referral, outpatient psychology sessions at RNOH were being delivered remotely (excluding patients with extenuating circumstance where remote delivery was not appropriate).	▪ All patients were given the choice between videoconferencing or telephone appointments. In this instance Sophia opted for telephone appointments as she felt they were more accessible and practical for her during the working day. ▪ User acceptance is also applicable to the therapist. Due to the pandemic, I am used to delivering therapy remotely.

Evaluating the Intervention

In hindsight, I think it would have been beneficial to collect quantitative measures throughout the intervention. This would ensure that I had a good understanding of the impact that the intervention was having throughout. Upon reflection, it could have also been useful to use a pain-specific measure of psychological flexibility such as the Chronic Pain Acceptance Questionnaire (CPAQ) (McCracken, Vowles & Eccleston, 2004). However, McCraken & Zhao-O'Brien (2010) found that general psychological acceptance as measured by the AAQ-II can explain variance in patient functioning independent of pain-specific factors. Perhaps for intermedial measures, it may have been useful to collect measures specific to each of the constructs of psychological flexibility (e.g., the Mindful Attention Awareness Scale (Brown & Ryan, 2003), or the Chronic Pain Values Inventory (McCraken & Yang, 2006)). This could have helped me to understand which specific intervention techniques were beneficial to different aspects of the hexaflex model. However, I was conscious of over-measuring and the burden this may have on Sophia in terms of her pain and fatigue levels, alongside her motivation to engage in the therapy.

Conclusion

To conclude, delivering this intervention and reflecting upon it extensively both in and on action provided me with an excellent opportunity to develop my clinical skills in delivering ACT interventions to patients with chronic pain. One of my main learning points has been the importance of embodying and applying ACT to myself as a therapist. By doing so it will help me to identify when my own anxieties are causing me to neglect certain aspects of the ACT model in my delivery of interventions and enable me to rectify this from a perspective of psychological flexibility. Although there were some additional challenges faced due to telephone delivery, this intervention demonstrates that they can be overcome, and favourable intervention outcomes can be achieved. I am looking forward to acting upon the lessons I have learnt from this intervention when working with future patients and I plan to continue attending relevant Continuing Professional Development (CPD) training and events to further develop my therapeutic skills.

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Chapter 4: Consultancy in Health Psychology

4.1 Consultancy Case study

Introduction

Consultancy is defined as "a formal relationship where one party seeks help from another, the consultant's role being to facilitate the process whereby both the consultant and client arrive at a mutually acceptable solution" (Earl & Bath, 2004, p. 230). Although consultancy is used across a range of disciplines, the unique knowledge and skill set of Health Psychologists means that consultancy work is particularly applicable to the Health Psychology field. This reflective case study will outline a piece of consultancy that I conducted in 2022 for a UK university. When conducting the consultancy, I followed the iterative approach outlined by Earll and Bath (2004), which involves the following steps: 1) assess requests for consultancy, 2) plan the work and negotiate the contract, 3) establish, develop and maintain working relationships with clients, 4) conduct and monitor the consultancy, and 5) evaluate the impact of the consultancy. Accordingly, the remainder of this case study will be structured around these key issues.

Assessment of Request for Consultancy

Consultancy opportunities may arise from the consultant approaching a client or, on the contrary, a client approaching the consultant (Newton, 2010). My consultancy request came from a psychology lecturer based at a UK university, who for the purpose of anonymity has been allocated the pseudonym Hazel. Hazel taught on the university's MSc Health Psychology course and led on the Professional Development in Health Psychology module. Prior to the consultancy request, one of Hazel's students had been in contact with my workplace requesting advice about health psychology careers and training. I agreed to speak to the student as I had the most current knowledge of training routes and had more time capacity in comparison to the qualified psychologists in the team. In addition to tailored advice via email, I also shared with the student PowerPoint slides from a lecture that I had previously delivered to a different university on Health Psychology training routes. With my permission the student had shared the slides with her MSc cohort peers and lecturers (including Hazel). A couple of weeks later (18.05.21), I received an email from Hazel asking if I would deliver a guest lecture on her module in the next academic year regarding my Health Psychology journey and the available training routes.

Identifying the clients

When conducting a piece of consultancy, an important initial step is to identify relevant clients, as different types of clients likely have differing needs and influence over the consultancy project (Steed, 2004; Newton 2010). A client is defined as anyone who benefits from, is impacted by, or is involved with the consultancy process. There is typically more than one client involved in a project and clients can be individuals, committees, organisations or groups (Michie, 2001). Utilising Schein's (1997) model I identified four types of clients involved within my consultancy (see table 1 below). This helped me to understand the needs of each client and is an analysis that I would implement again in future consultancy projects, particularly if they are large scale/ complex projects with multiple beneficiaries involved.

Table 1

Types of Clients based on Schein's (1997) model

Client Type	Definition	Application to Case Study
Contact Client	The individual(s) who first contacts the consultant with a request, question or issue.	The module lead (Hazel) • Hazel was the first person to contact me requesting the consultancy service and was involved in all meetings regarding consultancy deliverables
Intermediate Client	The individual(s) or groups who or which get involved in various interviews, meetings and other activities as the project evolves.	Programme lead • Involved in meetings regarding discussion and negotiation of the contract and consultancy deliverables
Primary Client	The individual(s) who ultimately own the problem or issue being worked on: typically, the ones who pay the consulting bills or whose budget covers the consultation project.	The university • The organisation that is paying the consultancy fee
Ultimate Client	The community, total organisation, an	The students

	occupational group, or any other group that the consultant cares about and whose welfare must be considered in any intervention that the consultant makes.	• They are the target audience of the consultancy deliverable.

Clarifying the question and assessment of feasibility

As Hazel's initial request was relatively vague, I followed up with some brief questions via email (e.g., clarification of proposed delivery date and the content that she would want me to cover in the lecture). Hazel replied explaining that the planned date for delivery would be in April/May 2022 (open to negotiation) and that a similar structure/ content to the lecture I had previously delivered to a different university would be suitable. As the proposed delivery date was 10-11 months away, Hazel suggested we discussed further details in the new year. I agreed to this but was also conscious of not committing myself to the project until I had been able to fully assess the request. Upon reflection, I should have sought further clarification/ drawn up a contract at this early stage so that I had certainty regarding whether the consultancy would take place, and clarity regarding the consultancy timeline. Hypothetically, if I was working as a consultant more regularly and taking on multiple projects this would have also aided my understanding regarding the feasibility of taking on other projects around a similar time.

January came around and I had not yet heard from Hazel, so I emailed her to ask whether she still required me to deliver the consultancy service. When she replied stating "yes", I arranged a scoping meeting to take place via Microsoft Teams. The purpose of this meeting was to seek clarification on factors both relating to the consultancy process (e.g., point of contact/ methods of communication, deliverables, timelines and payment), and the teaching session itself (e.g., personal learner factors and the teaching context; Barattucci, Pagliraro, Cafangna & Bosetto, 2017). As the consultant it was my responsibility to make sure I had all the necessary information required to implement the consultancy effectively (Block, 2000). I prepared by creating a check list of questions and reflecting on what I could offer to the client and what I perceived the client wanted from me (Block, 2011). Having already completed the Teaching and Training competency I felt relatively confident going into the scoping meeting. I came away from the meeting feeling that I had a good understanding of the client’s needs and expectations of the consultancy services to be delivered and noted them down as follows:

- For me to develop a presentation on ‘Stage 2 training routes in Health Psychology’ which will form part of the University’s Professional Development in Health Psychology module on the Masters in Health Psychology programme. The presentation should cover the following topics:
    - Stage 2 Health Psychology training routes
    - An overview of the Professional Doctorate in Health Psychology at Staffordshire University
    - An overview of each of the five core competencies within the Professional Doctorate (psychological interventions, consultancy, teaching, research, and professional skills)
    - My reflections on my stage 2 training experiences thus far
- For me to send Hazel the presentation PowerPoint slides via email prior to delivery of the presentation.
- For me to deliver the presentation via Microsoft Teams at 9am on Wednesday 27th April 2022. The presentation should include time for questions at the end and the total session should last no longer than 1 hour.
- For me to provide the attendees of the presentation with my Staffordshire University email address to allow the attendees the opportunity to ask further questions confidentially.

Having completed a similar task before, I felt that I had the necessary skills, knowledge and experience to work within my professional boundaries whilst completing this consultancy, thus adhering to relevant ethical codes of conduct (Health and Care Professions Council, 2018; British psychological Society, 2018). As advised by Earll and Bath (2004), I also felt that the consultancy objectives were specific, measurable, achievable, realistic, and timely.

Planning and Negotiation of the Consultancy

In addition to considering the client's needs and expectations it is also important to consider the consultant's own needs (Cope, 2003). Collaboratively with the client we came to an agreement on the timeline for the project that suited both parties (e.g., date and time of the lecture and an agreement that a hard copy of the lecture slides needed to be submitted prior to the session). We also discussed payment for the consultancy services. As the university had a standard flat fee for guest lecturers, this process was relatively simple. However, it was negotiated that although the delivered lecture would only be one hour in length, I would be paid for a total of two hours to accommodate the preparation of the presentation and answering any questions that I received via email from students post presentation. As the client was unable to cover travel expenses, we also agreed that I would deliver the presentation remotely via Microsoft Teams to minimise costs to myself.

Following conclusion of negotiation discussions, I explained to the client that for the purpose of my Professional Doctorate I would be putting together a consulting agreement and contract and I summarised the sections that this would include. Hazel explained that she would need to seek advice from the programme lead (the intermediate client) prior to signing the contract. Unfortunately, there were then delays in hearing back from the clients due to staff illness, and when I did hear back from them, they explained that the contract would need to be reviewed by the university's legal team, thus resulting in further delays. I arranged a meeting with both the contact client and the intermediate client to discuss any of the concerns that they had about the contract before I began writing it in preparation for them presenting it to the legal team.

This was my first experience of writing a contract, so I sought advice and feedback from my academic supervisor. One of the things that we discussed was relating to intellectual property. I decided that as it is possible I may deliver this lecture again to a different university, I would specify within the contract that the client would be granted non-exclusive use of intellectual property, but that the use of the intellectual property by the client will not be restricted in any manner. This would mean that I could reuse my slides with different clients in the future. Furthermore, due to the delays I had experienced, I was only able to request 1 working days' notice for termination of the agreement. Although this was unavoidable, I would avoid stipulating such a short notice period in future contracts where possible as it could result in unnecessary and unpaid work being completed.

Establishing, Developing and Maintaining Working Relationships with the Clients

Establishing Relationships

According to Jamieson and Armstrong (2010), the most favourable consultancy outcomes occur when there is an engaged client-consultant relationship. I was conscious of this from the outset of my interactions with the client. According to Cope's (2010) model, my relationship with the contact client would be categorised as a 'warm front' as the client approached me about the consultancy, however I did not know the client personally. In this situation Cope (2010) advocates the importance of a socialisation strategy (i.e., creating a flow of conversation that allows understanding of the client and vice versa). I followed these recommendations and in the initial scoping meeting I asked the client questions about herself, and we were able to connect on shared research interests and mutual contacts before moving into the specialisation approach in which we discussed details of the consultancy project (Cope, 2010).

Maintaining Relationships

To maintain the consultancy relationship, I ensured I made regular communication with the contact client providing her with updates. This was particularly important as this piece of work was conducted entirely remotely. Most of our communications were via email, therefore I tried to maintain a consistent email thread with clearly titled subject lines for ease of reference for both myself and the client. However, there were some challenges in maintaining regular reciprocal email contact and at times, I think I was overly conscious of being polite and not 'pushy', which resulted in me not sending reminder/ follow up emails when they would have perhaps been helpful.

Given the nature of the consultancy I undertook, according to Schein's (1999) model of the consultancy relationship I fulfilled the 'expert role' as I was working independently and collaboration with the client was limited. Although within the literature it has been argued that this type of relationship neglects the human aspect of consultancy and is unlikely to empower the client (Block, 2010; Earl & Bath, 2004), I felt that for this particular consultancy request this was the most appropriate approach. For example, I had been asked to deliver a presentation as an ‘expert of my own experiences’, providing reflections and insights into stage 2 Health Psychology Training. Therefore, I felt that adopting the ‘expert role’ was in line with the client’s expectations of the consultancy. Nevertheless, taking into account criticisms of the ‘expert role’ I did attempt to incorporate collaboration where appropriate (e.g., taking time to understand the client’s needs and asking for feedback/ desired amendments to the presentation slides).

Conduct and Monitor the Consultancy

As this was a relatively small-scale consultancy project my implementation schedule was fairly simplistic. I created a rough timeline based on how long it has taken me to complete similar projects in the past. Nevertheless, there were interruptions to my anticipated schedule due to delays in the contract being signed. For example, given that there was over 10 months from the initial request to the delivery date, I had hoped to start preparing the first deliverable (the presentation slides) further ahead of time than I did. However, this was not possible as I was holding out for the contract to be signed before starting the work. Unfortunately, in the end, I had to begin work on the consultancy and deliver the session without the contract being signed as the client’s legal team did not get back to them in time. Although this is not an ideal situation, I could not wait for the contract to be signed as I would not have had sufficient time to prepare the presentation slides and I did not want to let the client down when it was beyond their control. I also had confirmation that I would still be paid for the services.

As aforementioned there were occasions in which my emails would go unanswered for an extended period of time, due to staff sickness or leave. The delays in communication impacted the timeline of the consultancy project. Therefore, although I recognise the importance of flexibility to accommodate stressors faced by the client, in the future I would consider having a discussion with the client regarding expected response times and communication of annual leave and documenting these within the contract.

The closing stage

Due to the 'recency factor' it is important to manage the exit from the consultancy carefully to ensure the client is satisfied with the closing service and to increase the likelihood of future consultancy contracts being offered to the consultant again (Cope, 2010). Newton (2010) proposes that having clearly defined deliverables and well managed client expectations makes the closing stage of consultancy easier. According to my contract, the end of the consultancy was signalled by '*completion of the services, subject to earlier termination as provided in this agreement*'. However, the last service within the contract was listed as:

> '*The Consultant will provide the attendees of the presentation with their Staffordshire University email address to allow the attendees the opportunity to ask further questions confidentially*'.

In hindsight, this was an ambiguous closing service as in theory, a student could email me many weeks/months following the delivery of the session. Whilst I did not mind this, in the future I would aim to have more clarity around the closing service (i.e., a specific date or a definitive task) to reduce the likelihood of client dependency occurring past the consultancy period (Cope, 2010).

Evaluate the Impact of the Consultancy

The final stage of Earll and Bath's (2004) consultancy process is to evaluate the impact of the consultancy. In this instance I felt the most appropriate measure of impact was client satisfaction. Initially after completing the consultancy Hazel gave me positive verbal feedback and offered to expand on this with written feedback. However, I did not hear back from her for some time. Therefore, I created a Google Forms survey for her to complete consisting of Likert scales and open text responses. To reduce burden on Hazel, I kept the survey brief and asked her to reflect on the key areas of the consultancy. Hazel responded positively rating the maximum score of 5 with regards to her satisfaction for each question. In particular, she commented on my professionalism and communication style, in addition to her satisfaction with how I met the discussed deliverables. Cope (2010) suggests that this final stage of the consultancy is the optimal time to 'look forward' to future consultancy opportunities with the client. I did not have to present a pitch for this as Hazel contacted me after the delivery of the session asking me if I could continue to contribute to the module for future cohorts.

Upon reflection, it would have also been beneficial to collect feedback from the ultimate clients (i.e., the students). This would have helped me to assess the impact of the consultancy project, which is something I could have reported back to the client to highlight my influence on the organisation as a consultant (Cope, 2010). Nevertheless, Hazel informed me that she had received feedback from the students stating that they had found the session beneficial and I received comments of appreciation from the students in the chat function at the close of the session.

I also made my own reflections regarding the consultancy process (see table 2). Based on recommendations from Cope (2010), when completing my reflections, I referred to questions outlined in the after-action review (AAR) to identify learning points and areas for improvement.

Table 2.

Reflections on the consultancy process

Consultancy Stage	**Key reflections and Learning Points**

Consultancy Request	• I was excited to receive a paid consultancy request and feel that I conveyed this enthusiasm to the client within my email response, without agreeing to anything before fully assessing the consultancy request.
	• Although the anticipated delivery date for the consultancy was 10-11 months away, it may have been beneficial to organise a scoping meeting and finalise a contract at this early stage. This would have:
	    • Facilitated planning
	    • Resulted in earlier clarity regarding the consultancy requirements and expectations
	    • Given greater security that the consultancy was going ahead
	    • Meant that I could start working on the deliverables sooner
	    • Reduced the impact caused by delays to the contract being signed

Scoping Meeting	• I felt the scoping meeting was a success and I left with a good understanding of the client's needs (as reflected in the client feedback). • I was well prepared for this meeting (e.g., I had a checklist of questions and had an idea of what I could offer in relation to the client's initial brief). This likely contributed to the success of the meeting. • I felt that it was also beneficial that the scoping process was undertaken via a meeting rather than email correspondence as this allowed the opportunity to build rapport and clarify responses, thus reducing the likelihood of misinterpretation. Therefore, when doing a piece of consultancy in the future I will try to ensure that the scoping process is conducted either face to face or through a video-conferencing platform. • I could see the importance/ rationale for using an initial socialisation strategy for a 'warm-front' client as recommended by Cope (2010) as this set the foundation for a good working relationship.
Negotiation	• My client was flexible and accommodating of my needs. However, there were university regulations and policies that she had to follow in relation to signing the contract which complicated things. • Negotiating a budget for the current project was relatively straightforward as the university offered a standard hourly fee, however this is something I would need to consider carefully for future projects.

Writing the contract	• This was the most daunting aspect of the consultancy process as I had no experience in writing a contract. Due to my inexperience, it was useful to refer to previously written contracts and seek guidance from my supervisor. When writing contracts post doctorate, it would be beneficial to seek legal advice. • Upon reflection, I can see the importance of having a definitive end date or task that marks the close of the consultancy. My end deliverable was too ambiguous.
Planning the consultancy	• This was a fairly small-scale consultancy project, so it was relatively easy to plan. However, a key learning point is to allow more time for the reviewing and signing of the contract, particularly if it is not a standard procedure for the client. • The client requested that a copy of the presentation was sent to her ‘prior to the delivery of the session’ but did not stipulate a definitive date. I kept this open as it allowed me more flexibility but in future it may be beneficial to specify a date for all deliverables to aid planning and ensure all parties are on the same page.
Delivering the consultancy	• I felt the delivery of the consultancy deliverables went well and was well received by the contact client and ultimate client. I felt I met each of the specified deliverables within the contract and the session was the required length and covered the required content. The students were well engaged throughout the session and expressed their appreciation at the close of the session.
Establishing and managing relationships	• I communicated with both the contact client and intermediate client and felt that I developed a good rapport with them both. They were supportive and accommodating clients but at times there were delays in response times due to staff illness or leave. Throughout the consultancy I sought supervision and reflected on how to specify my needs/ timeline assertively as I tended to not be direct enough.
Evaluating the consultancy	• It was beneficial to gain feedback from the contact client and she commented that the Google Forms survey aided this process by helping her to reflect on all aspects of the consultancy. • It would have also been better to receive feedback sooner after the deliverable was delivered to ensure accuracy. • In the future, I would aim to collect formal feedback from the ultimate clients to aid my own reflections and demonstrate the impact of the consultancy to the contact, intermediate and primary clients.

Conclusion

Due to my lack of experience in conducting consultancy projects, I was initially uncertain about the consultancy process. Nevertheless, I felt the consultancy was an overall success and I was pleased to be invited back by the client to deliver the consultancy again next year. The biggest learning point was around contract writing and negotiation, and the importance of allowing adequate time for this process to account for unforeseen circumstances. I enjoyed exploring the consultancy literature and learning about the importance of relational skills and strategies to manage the client-consultant relationship and applying this to my practice. I particularly appreciated the freedom and autonomy to manage my own time that consultancy offers and would indeed consider taking on more consultancy projects in the future. I am certain that the lessons I have learned from conducting and extensively reflecting on this project will no doubt benefit me when completing future consultancy projects.

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4.2. Consultancy contract

CONSULTING AGREEMENT

THIS CONSULTING AGREEMENT (the "Agreement") dated this ____day of __________, ______

BETWEEN:

CLIENT	CONSULTANT
(CONFIDENTIAL)	Chloe Mitchell (Trainee Health Psychologist) Staffordshire University, Stoke on Trent, England, ST42DF

1. BACKGROUND:

1.1. The Client is of the opinion that the Consultant has the necessary qualifications, experience, and abilities to provide Services to the Client.

1.2. The Consultant is agreeable to providing such Services to the Client on the terms and conditions set out in this Agreement.

1.3. This consultancy work will be written up as a case study for the consultancy competency of the Professional Doctorate in Health Psychology and this contract will solely be used for the purpose of the Consultant achieving the requirements of the consultancy competency and will not be legally binding. A consent form with additional information is provided as a supplement to this consultancy agreement.

2. TERM OF AGREEMENT

2.1. The term of this Agreement (the "Term") will begin on the date of this Agreement and will remain in full force and effect until the completion of the Services, subject to earlier termination as provided in this Agreement. The term of this Agreement may be extended with the written consent of the Parties.

2.2. In the event that either Party wishes to terminate this Agreement prior to the completion of the Services, that Party will be required to provide 1 day's written notice to the other Party.

3. SERVICES

3.1. The Client hereby agrees to engage the Consultant to provide the Client with the following consulting Services (the "Services"):

- The development of a presentation on 'Stage 2 training routes in Health Psychology' which will form part of (CONFIDENTIAL INFORMATION) Professional Development in Health Psychology module on the Masters in Health Psychology programme. The presentation will cover the following topics:
  - Stage 2 Health Psychology training routes
  - An overview of the Professional Doctorate in Health Psychology at Staffordshire University

  - An overview of each of the five core competencies within the Professional Doctorate (psychological interventions, consultancy, teaching, research, and professional skills)
  - The Consultant's reflections on their stage 2 training experiences thus far
- The Consultant will deliver the presentation via Microsoft Teams at 9am on Wednesday 27th April 2022. The presentation will include time for questions at the end and the total session shall last no longer than 1 hour.
- The Consultant will provide the attendees of the presentation with their Staffordshire University email address to allow the attendees the opportunity to ask further questions confidentially.

4. DELIVERABLES AND ANTICIPATED MILESTONES

4.1. Anticipated Milestones (the 'Milestones') are shown below, and outline agreed dates for the completion of the consultancy deliverables

- The Consultant will send the Client the presentation PowerPoint slides via email prior to delivery of the presentation.
- The Consultant will deliver the presentation via Microsoft Teams on Wednesday 27th April 2022 9am.

5. TERMINATION

5.1. If either Party wishes to terminate this Agreement, that Party will be required to provide 1 day's notice to the other Party.

6. PERFORMANCE

6.1. The Parties agree to do everything necessary to ensure that the terms of this Agreement take effect.

6.2. The Consultant is not required to devote their whole time and attention to the affairs of the Client for the duration of this Agreement.

6.3. The Consultant shall deliver the Services remotely, either at home or from her place of work.

6.4. The Client and Consultant agree to give reasonable notice to the other Party for any period of holiday, sickness or other absence during which they are unable to perform their duties relating to the Services Outlined in this Agreement or if this is to impact the Agreement in any way.

6.5. Should the Client wish to amend the date that the Consultant shall deliver the presentation, written notice with at least 1 working day's notice is required.

7. COMPENSATION AND REIMBURSMENT OF EXPENSES

7.1. The Consultant will charge a flat fee of £46.51 for the Services (the ''payment'').

7.2. The Consultant will be paid within 30 days of completing the service.

7.3. The Consultant will not be reimbursed for any expenses incurred in connection with providing the Services of this agreement.

8. LIABILITY

8.1. The Consultant does not accept liability for any action taken by those in receipt of the Services outlined in this Agreement.

9. CONFIDENTIALITY AND ETHICS

9.1. Confidential Information (the "Confidential Information") refers to any data or information relating to the Client, whether business or personal, which would reasonably be considered to be proprietary to the Client that is not generally known and where the release of that Confidential Information could reasonably be expected to cause harm to the Client.

9.2. The Consultant agrees that they will not disclose, divulge, reveal, report or use, for any purpose, any Confidential Information which the Consultant has obtained to any person or persons, except to those stated below (section 9.4) or as required by law. The obligations of confidentiality will apply during the term of this Agreement and will survive indefinitely upon termination of this Agreement.

9.3. All written and oral information and material disclosed or provided by the Client to the Consultant under this Agreement is Confidential Information regardless of whether it was provided before or after the date of this Agreement or how it was provided to the Consultant.

9.4. This piece of work will be discussed with the Consultant’s academic supervisor at Staffordshire University and will be examined by both internal and external examiners at Staffordshire University. All names of both people and institutions involved in the consultancy project will be anonymised prior to the Consultant’s doctorate portfolio being published.

9.5. The Consultant will comply with the British Psychological Society ‘Code of Ethics and Conduct’ (2009) and the Health & Care Professions Council Standards of Conduct, Performance and Ethics (2012).

10. OWNERSHIP OF INTELLECTUAL PROPERTY

10.1. All intellectual property and related material (the ‘intellectual property’) that is developed or produced under this Agreement, will be the property of the Consultant. The Client is granted non-exclusive use of this intellectual property and the use of the intellectual property by the Client will not be restricted in any manner.

11. RETURN OF PROPERTY

11.1. Upon the expiry or termination of this Agreement, the Consultant will return to the Client any property, documentation, records, or Confidential Information which is the property of the Client.

12. NO EXCLUSIVITY

12.1. The parties acknowledge that this agreement is non-exclusive and that either Party will be free, during or after the term, to engage or contract with third parties for the provision of Services similar to the Services.

13. NOTICE

13.1. All notices, requests, demands or other communications required or permitted by the terms of this Agreement will be given in writing and delivered to the Parties of this Agreement as follows:

- (CONFIDENTIAL INFORMATION)
- Chloe Mitchell (Trainee Health Psychologist)
  Staffordshire University, Stoke on Trent, England, ST4 2DF
- Or to such other address as either Party may from time to time notify the other.

14. MODIFICATION OF AGREEMENT

14.1. Any amendment or modification of this Agreement or additional obligation assumed by either Party in connection with this Agreement will only be binding if evidenced in writing signed by each Party or an authorized representative of each Party.

15. ASSIGNMENT

15.1. The Consultant will not voluntarily, or by operation of law, assign or otherwise transfer its obligations under this Agreement without the prior written consent of the Client.

16. DISPUTE RESOLUTION

16.1. In the event that the Client or Consultant believes that the Services provided are in any way deficient, the Client or Consultant must notify the other Party in writing, clearly indicating and providing detail as to how the Services have been unsatisfactory. Any dispute that arises out of or in connection with this Agreement, will be attempted to be resolved by both parties to the best of their abilities through friendly consultation.

17. ENTIRE AGREEMENT

17.1. It is agreed that there is no representation, warranty, collateral agreement or condition affecting this Agreement except as expressly provided in this Agreement.

18. TITLES/HEADINGS

18.1. Headings are inserted for the convenience of the Parties only and are not to be considered when interpreting this Agreement.

19. GENDER

19.1. Words in the singular mean and include the plural and vice versa. Words in the masculine mean and include the feminine and vice versa.

20. GOVERNING LAW

20.1. It is the intention of the Parties to this Agreement that this Agreement and the performance under this Agreement, and all suits and special proceedings under this Agreement, be construed in accordance with and governed, to the exclusion of the law of any other forum, by the laws of the Country of England, without regard to the jurisdiction in which any action or special proceeding may be instituted.

21. SEVERABILITY

21.1. In the event that any of the provisions of this Agreement are held to be invalid or unenforceable in whole or in part, all other provisions will nevertheless continue to be valid and enforceable with the invalid or unenforceable parts severed from the remainder of this Agreement.

22. WAIVER

22.1. The waiver by either Party of a breach, default, delay or omission of any of the provisions of this Agreement by the other Party will not be construed as a waiver of any subsequent breach of the same or other provisions.

In witness whereof the Parties have duly affixed their signatures under hand and seal on _______ day of ____________________, ___________

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(CONFIDENTIAL INFORMATION)

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Chloe Mitchell (Consultant)

Chapter 5: Teaching and Training in Health Psychology

5.1 Teaching and Training Case Study

Introduction

This case study presents a total of five teaching sessions that I delivered to a range of learner groups from January to April 2021. The opportunities to deliver these sessions arose from discussions I had with contacts at Staffordshire University, De Montfort University, and the Royal National Orthopaedic Hospital (RNOH). Accordingly, participants of the sessions reflected a range of learner groups and consisted of undergraduate psychology students, stage 1 (MSc) health psychology students and health care professionals (HCP) from the Rheumatology Department at RNOH. The group sizes for each session ranged from 8-45 attendees and the length of the sessions ranged from 45 minutes to 2 hours. All of the sessions were linked under the broad theme of applied health psychology, with three of the sessions covering the role of health psychology in pain management and two sessions broaching the topic of stage 2 training in health psychology via the professional doctorate route. Table 1 summarises the key factors of each of the sessions. A particularly pertinent point to note is that all my sessions were delivered whilst national lockdown restrictions were in place due to the coronavirus pandemic. This meant that all the host institutions were utilising remote delivery for teaching and training sessions, presenting unique challenges and opportunities that will be discussed throughout the case study.

In designing my sessions, I followed a constructive alignment approach incorporating the 3P (presage, process, product) model (Biggs, 1996; Biggs, 1987). This approach suggests the teaching process should include; defining intended learning outcomes, designing learning activities that enable learners to meet these outcomes and finally, evaluation of the learner's ability to demonstrate the learning outcomes (Biggs, 1986). It argues that each of these three steps should be in alignment with each other to ensure that teachers can efficaciously guide learners throughout the learning process to meet the intended learning outcomes (Hailikari, Virtanen, Vesalainen & Postareff, 2021). The remainder of this case study will be broken down to outline how I assessed training needs, translated training needs into learning outcomes, designed my sessions and materials and assessed learner outcomes whilst considering the relevance and application of the 3 P model and constructivism.

Table 1. Summary of Teaching Sessions

Session number	**Learner Group**	**Number of participants**	**Focus of session**	**Duration**	**Mode of Delivery**
S1	Stage 1/ MSc Health Psychology trainees at De Montfort University	17	The Role of Health Psychology in Pain Management	120 minutes	Online via Blackboard Collaborate
S2	Undergraduate Psychology students at Staffordshire University	45	The Role of Health Psychology in Pain Management	60 minutes	Online via Blackboard Collaborate
S3	Rheumatology Consultants and Specialist Nurses at the Royal National Orthopaedic Hospital	12	The Role of Health Psychology in Pain Management	60 minutes	Online via Microsoft Teams
S4	Stage 1/ MSc Health Psychology trainees at De Montfort University	17	Stage 2 Health Psychology Training via the Professional Doctorate Route	60 minutes	Online via Blackboard Collaborate
S5	Stage 1/ MSc Health Psychology trainees at Staffordshire University	8	Stage 2 Health Psychology Training via the Professional Doctorate Route	45 minutes	Online via Microsoft Teams

Assessment and Identification of Training Needs

Understanding learner and training needs is a crucial step in the teaching process as not only does it ensure the session will be beneficial for the learners, but it also increases the likelihood that learners will be motivated and engaged in the learning process (Mahajan & Singh, 2017). The 3P model outlines two types of presage factors that are important to consider within a needs assessment: personal learner factors (e.g., prior knowledge, ability, and personality factors) and the teaching context (e.g., course structure, module objectives, assessment characteristics and the ethos of the teaching institution) (Barattucci, Pagliraro, Cafangna & Bosetto, 2017).

As a starting point, I referred to relevant professional guidelines such as the British Psychological Society, the Health and Care Professions Council and the Quality Assurance Agency for Higher Education. Whilst this was a good starting point to familiarise myself with factors relating to the teaching context, the guidelines were broad and could not account for learner factors and some contextual factors such as the specific requirements of each course/institution. Therefore, due to constraints around learner contact, I arranged preliminary meetings/discussions with session facilitators to gain an understanding of the learners learning needs. In preparation for these meetings, I created a checklist of questions referring to both types of presage factors.

All of the sessions delivered to university students (S1, S2, S4 and S5) were situated within a wider module and course. This meant that it was important for me to gain an understanding of the module so that I could ensure my session content aligned with the wider module outcomes and assessment methods, and that the material was not repeated. In contrast, session 3 was part of a monthly continuing-professional-development lecture series and so I had almost complete flexibility in session content. This made it crucial to decipher the personal learning needs of the session participants so that I delivered relevant and valuable training. This proved to be challenging as it was not clear who would be attending because the session was optional.

Finally, I clarified practical aspects (such as the length of the session, expected number of learners) and mode of delivery (e.g., which online platform) as well as asking about the typical approach and format of sessions to give me an insight into learners' expectations and their typical response to different teaching strategies.

Table 2. Identification of training needs (key considerations for each session)

Session	Information obtained	Implication for my session
S1	• Students were receiving a lecture in the morning about theories and assessment of pain • Typically, the students kept their microphone and camera off during sessions and were used to a traditional lecture format • Approximately 20 students would be attending	• My brief was to bring pain management to life using real life examples from my placement, whilst incorporating theory with regards to the use of psychology in pain management • Whilst students were used to a traditional lecture format, as they were a relatively small group, I could try to incorporate some small group activities
S2	• Students were receiving a lecture beforehand about psychosocial aspects of living with chronic pain and assessment of pain • Prior session was being delivered by a lecturer who had experience working with chronic pain patients • Approximately 60 students expected to attend the session • Module lead stated a preference for an interactive activity within the session	• To differ from the previous session, my lecture would focus on the pain management programme that I deliver within my placement. In particular it would focus on how this had been adapted for remote delivery due to the covid-19 pandemic. • As a relatively high number of students were expected to attend the session, I thought interactivity would best be facilitated by utilising small breakout rooms
S3	• Staff were unlikely to know about the differences between clinical and health psychology and may have limited knowledge about the relevance of psychology to pain management which could have implications on referrals to the department • Talks were part of a lunchtime CPD initiative and typically adopted a pedogeological approach in which participants were passive • Approximately 12 staff members would be attending	• I thought it was important to clearly define health psychology and highlight the differences between clinical, counselling and health psychology. • I wanted to incorporate an aspect of health psychology which could have practical applications for the clinicians. Due to its intuitive nature, I decided upon the COM-B model and outlined its application to chronic pain management making use of a rheumatology patient case study.

S4	• I was asked to deliver a session predominately focussing on the professional doctorate and my plan for fulfilling each of the competences • Students had an upcoming formative assignment about interprofessional education and multi-disciplinary team working, therefore, the module lead asked me to include relevant content in relation to this • Approximately 20 students would be attending	• Given that I was in the students position 2 years ago, I thought this session would be best pitched from a personal perspective. I also wanted to highlight this to students in the hope they might find the session more relatable and that I would be more approachable. • Remembering that approaching the end of the stage 1 training was quite a stressful time (e.g., worries about career prospects and how to get to the next step), I wanted to normalise these worries by being completely transparent about my journey onto the doctorate and challenges I faced along the way. • To accompany my explanation of why I choose the professional doctorate route I thought it would be useful to highlight some of the differences between different health psychology training options • To align with the student's formative assessment, I planned to weave in examples from my placement of multi-disciplinary team working
S5	• The session facilitator asked me to cover my experiences since completing stage 1 training; experiences on the doctorate placement; how I got there; what prior experiences helped me to secure my position; and any top tips for MSc graduates in terms of career progression • Students would be receiving talks from a PhD student and a graduate working in research before me, so my session needed to be specifically focussed on the professional doctorate route. • Approximately 7 students would be attending.	• As with the previous session, I pitched this from a personal perspective but focused more on my Stage 2 experience with examples from practice and less on multidisciplinary team working.

Translating Training Needs into Learning Outcomes

In line with the increasing popularity of constructivism, in the last few decades there has been a shift away from a teacher-focussed approach, in which the emphasis is on what information the teacher intends to impart; to a learner focussed approach where greater importance is placed on conceptual change and the skills learners will gain (Biggs, 2003). This paradigm shift corresponds with constructive alignment which situates the learner as an active constructer of knowledge guided by pre-existing schemas that that they bring to the learning experience (Biggs, 2003). Reflecting this, more recent research advocates the use of learning outcomes in place of learning aims (Allan, 1996). Despite the terms often being used interchangeably there is a notable distinction between learning aims and learning outcomes. Learning aims typically refer to broad statements of educational intent, whereas learning outcomes specify what the learner should be able to achieve following completion of the learning opportunities provided (Butcher, Davies & Highton, 2019). Not only do learning outcomes provide a framework for the teacher to work off, but they also develop learners understanding of what is expected of them (Mahanajan & Singh, 2017). In accordance with these recommendations, I translated the conclusions from my needs assessment into tangible and clearly defined learning outcomes, limiting the total learning outcomes to four per session in line with recommendations made by Kennedy (2006).

Bloom (1956) classifies learning into cognitive, affective and psychomotor domains across six different levels of learning: knowledge, understanding, application, analysis, synthesis and evaluation. In writing my learning outcomes I was mindful of Biggs (2003) who highlighted the importance of using action verbs that are linked to levels in Bloom's (1956) taxonomy. For example, 'appraise' and 'justify' reflect the higher order thinking skill of evaluation, whereas 'describe' and 'outline' relate to lower order thinking skills such as knowledge and comprehension.

My sessions differed in terms of the level of learning required and on the session topic/purpose. For example, sessions 4 and 5 were more of an overview and insight into my experiences of the professional doctorate designed to foster enough understanding within the students so that they conduct independent research into different doctoral programmes themselves. My learning outcomes were therefore based around the lower levels of learning (i.e., knowledge, understanding and application). In contrast the sessions on pain management required higher levels of learning (i.e., analysis, synthesis, and evaluation) as they were based on theoretical concepts that had important applications in a clinical setting.

Development of Teaching Sessions

I designed my teaching sessions to ensure that the learners were equipped with suitable knowledge and skills to achieve the learning outcomes. According to the 3P model, within the process stage there are three common approaches to learning that students adopt dependent on their motives for learning: surface, deep and strategic learning (Biggs, 1993). Entwistle (2000), proposes that a surface approach is where the learner passively engages in the material utilising low order thinking skills such as memorisation, with the intention of merely coping with the course requirements. In contrast, deep learning occurs when material is actively engaged with, and related back to previous knowledge, experiences, and conclusions in a critical manner. Finally, the strategic approach is driven by a motivation to achieve the highest grade possible, by tactically organising material and effort to learn relevant information in line with assessment requirements (Entwistle, 2000). A deep approach has been associated with higher levels of attainment and information retention and is consistently regarded as the preferred approach to learning within the literature (e.g., Biggs & Moore, 1993; Enwistle, Thompson & Tait, 1992, Smith & Colby, 2007), therefore within my sessions, I was actively trying to encourage learners to adopt a deep learning approach. Biggs (1993) suggests that the structure of knowledge base, learner activity, interaction with others and the motivational context promote deep learning:

Structured knowledge base: In line with Race (2001) who proposed that all teaching sessions should have a clear beginning, middle and end, all of my sessions began with an introduction to myself, the session outcomes and some informal agenda setting (e.g., when I would be happy to answer questions). The middle section consisted of delivery of the main content and any activities which typically followed the structure of defining key terminology, outlining relevant theory and research, followed by an activity to encourage learners to think about practical applications of the content. Finally, the end of the session was marked by a recap of the session and how learning outcomes had been met.

As all of my sessions were centred around my area of work (pain management) or my experiences on the professional doctorate, I was able to draw upon my existing knowledge base to inform session content. Additionally, I referred to journal articles and trusted websites to incorporate theory, policies and up to date research to ensure an evidence-based approach and that I covered key topical areas. Where appropriate, I also signposted learners to further resources including books, articles, websites, and videos.

I followed guidelines outlined by Farrow (2003) (see table 3) to design my PowerPoint slides and included videos created by external sources (e.g., YouTube and Manchester Change Exchange). Although slides were made available in advance for some of the sessions, for others they were not due to the session facilitators preferences. Where possible for future sessions I would aim to provide all learners with the slides in advance so that they can make notes on their preferred device/ using their preferred method.

I also considered how online delivery may affect the learner's ability to concentrate when formulating the structure of my sessions. Research suggests that it is harder to stay engaged for long periods of time when learning online, meaning that more regular breaks (whether that be in the form of activities or time away from the screen) are required (Bao, 2021). To account for this, within my sessions, I tried to incorporate frequent activities and discussion so that more didactic style teaching was broken up into small manageable chunks and I made sure I scheduled a 10-minute break for sessions that were over an hour in length.

Learner activity: For all my sessions, learners were used to a traditional lecture format which places learners as passive participants in the learning process (McAuliffe, Hargreaves, Winter & Chadwick, 2009). However, it is argued that lectures can be improved by incorporating a variety of strategies that encourage active participation (Doolittle, 1999). Since all my sessions were going to be delivered online, I had to consider the applicability of different learning activities in a virtual context. I was concerned that I would not be able to achieve the same level of interactivity as I would in face-to-face sessions. To address this, I decided to incorporate online breakout rooms where I sent small groups of learners to share their thoughts about a particular subject/ problem. They then returned to the main online space to discuss their solutions and ideas. I also used open-ended questioning to both check learners' understanding and to give them the opportunity to contribute to the sessions. In addition, I invited learners to ask questions throughout and at the end of the session. Whilst these strategies were helpful in some instances with certain learner groups (e.g., S1), I also experienced some challenges in incorporating these teaching strategies virtually (please see table 4 and evaluation for more details).

Table 3. Farrow's guidelines and their application to my teaching materials

Guideline	**Application**
Links • Obvious and direct links between all teaching materials and session content/ discussion	• My PowerPoint slides clearly linked to my verbal discussion within the sessions • I clearly introduced all of the videos that I used throughout the sessions and explained their relevance to previously covered content. • I also explained the relevance of any materials that I signposted students towards
Intelligibility • Easy to read and understand (sans serif font) • Simple language and short sentences • Necessary use of diagrams	• Where possible I avoided using complex language and if necessary, offered definitions and explanations for complex terms • I used concise sentences that I expanded upon verbally within the session • Where appropriate I broke up text with the use of diagrams and images • I used easy to read fonts in a large font size and a colour that was a clear contrast to the background (i.e., I avoided using red and green fonts for those who may have visual impairments).
General Style • Consistent style throughout to allow learners to focus on content rather than style	• For each session I used a consistent slide design and colour theme, making use of the Power point slide design function

Highlighting - Highlight key information (e.g., underlining, change of colour, change in tone of voice) to emphasise pivotal points	- I used bold to highlight important information such as key terminology and learning outcomes
Targeting - Material targeted towards learning needs	- The design of materials was informed by group need assessment and were designed to have maximum relevance to target group e.g., patient case studies for health care professionals, outline of theory and terminology for learners

Interaction with others: When teaching, it is important to consider both the teacher-learner relationship and the relationship and interaction between learners in the group, particularly in a virtual setting (Stone and Springer, 2019). Collaborative learning has been linked with benefits such as the development of higher-level thinking and communication skills, active engagement with material and an increased responsibility for learning (Laal & Ghodsi, 2012). However, I knew that online delivery had the potential to impair interactions between the group, especially as I was pre-warned by session facilitators that learners were likely to keep their cameras and microphones off throughout the session.

Having received informal training from my clinical supervisor about group dynamics in a learning environment, I was keen to implement the strategies I had learnt, but it was evident certain strategies to improve group interaction (e.g., seating arrangements) were not applicable in a virtual context. Nevertheless, I felt strategies such as encouraging group learner-led discussions and small group work were achievable virtually. Due to feedback from session facilitators that learners can be hesitant to speak up, I tried to create a safe learning environment in which learners felt comfortable to share ideas by introducing myself in a warm, friendly and relaxed manner and setting an agenda at the beginning of the session in relation to interaction (i.e., that I wanted the sessions to be interactive with group discussion and that learners could ask questions by posting in the chat or speaking aloud). I was also conscious of responding to learners’ questions and comments in a warm and constructive manner so that they and other learners felt that any perceived risk of speaking up was minimised.

Motivational Context: The andragogical model of learning (Knowles, 1984) highlights the importance of motivation in the learning process. Consequently, it is argued that a key role of the teacher is to highlight to the learner why something is important to learn and ensure learning activities are concerned with problems that have relevance to the learner's everyday activities (McAuliffe et al., 2009). This is something I thought about for all sessions, but a particularly pertinent example is the session that I delivered to health care professionals. Within this session to help explain the COM-B model I included a video which related it to health care professional's behaviour and asked them to apply the COM-B model to a patient case study modelled on a typical patient who may attend one of their Rheumatology clinics.

Assessing Learning Outcomes

According to the Quality Assurance Agency for Higher Education an assessment can be any processes that evaluate a learner's knowledge, understanding, ability or skills in relation to the set learning outcomes (QAA, 2006). As none of my sessions were being formally assessed, I utilised formative assessment methods, which were integrated within my learning activities. This served the benefit of allowing me to assess the learning outcomes whilst also encouraging learners to apply the taught information rather than just reciting it, which is important for deep learning to take place. A key aspect of formative assessment is providing learners with feedback, therefore after each of my learning activities I made sure to reflect on learners' answers in a constructive manner, which can also increase learners own confidence and motivation for learning. Making use of formative assessments also benefitted me as a teacher because when I integrated the assessment into the middle of the session it presented the opportunity to adjust the next part of my session accordingly (e.g., slow down the pace). I was also mindful of the fact learners (with the exception of S3) would later do a summative assessment, so I made sure to align my teaching outcomes with this assessment where possible.

Table 4. Learning activities/ assessment method used in each session

Session	Learning activity/ formative assessment method	Reflections
S1	Buzz Group via breakout rooms • In groups of 4, students were asked to apply the CBT hot cross bun model to different patient case studies • Groups to nominate a spokesperson to relay ideas upon returning to the main room	• Activity seemingly worked well. It was evident from the group discussion that students had focussed on the task and discussed in detail increasing the likelihood of deep learning • Received positive feedback from students via evaluation forms • Helped me to identify gaps in their knowledge and if the session was pitched at the right level • Perhaps for future sessions it would be helpful to drop into individual breakout rooms to check in on students as it would allow me to formatively assess more students (e.g., including those who are not comfortable speaking in the bigger group). • Overall, this was the most successful activity, although I think that may be more in relation to the group dynamic of this particular student group
S2	Buzz Group via break out rooms • In groups of 6 students were asked to think about one of the following: o Pros of an online pain management from a patient perspective o Cons of an online pain management programme from the patient perspective o Challenges of delivering online therapy from the clinician's perspective • Students were asked to have their ideas ready to discuss upon returning to the main room	• Students did not engage well with the breakout rooms e.g., many left and many of those that remained did not engage in discussion with each other (see evaluation for further discussion) • There were issues with students returning to the main room/ I was not confident in using Blackboard collaborate • The discussion upon return to the main room was flat and only a few students engaged via the chat function which limited my ability to assess learning outcomes • Students concluded they do not like break out rooms in large group settings

S3	Brain storming • Session participants were presented with a rheumatology patient case study and asked to conduct a COM-B analysis	• Limited number of participants engaged in the discussion. Most other participants had their cameras and mics off which is probably reflective of the typical pedagogical approach taken within these sessions • Was difficult to assess learning outcomes with limited engagement
S1, S2, S3, S4 & S5	Group discussions and active questioning • At relevant points I asked students for their thoughts and opinions on the previously covered content	• This was a good method for drawing out students understanding on specific elements of the session • Initially students were a little hesitant and gave short answers, but I was able to use probes to encourage them to think about the situation more deeply.
S1, S2, S3, S4 & S5	Question and answer • At intermittent points throughout the session, I checked in with students to see if they had understood and whether they had any questions	• Students were responsive to this technique and asked questions both verbally and via the chat function. • It gave the students the opportunity to direct the conversation towards what they were specifically interested in finding out • It was a good strategy to use to check that content was pitched at the right level and was being presented at the right pace for optimal understanding

Conclusion

Completing this case study has pushed me to deliver sessions to two learner groups that I had never taught before. Due to the pandemic, I was also required to deliver sessions remotely often using virtual platforms that I had not encountered previously. This meant that I had to be creative in the way that I translated my teaching strategies to account for the limitations of virtual delivery, which at times felt like a process of trial and error. Nevertheless, I have learnt a great deal from these experiences, which I will expand upon within the subsequent evaluation of my teaching sessions. Although I was initially nervous about this competency, I have accumulated a toolbox of skills that has enabled me to develop not only my confidence but also an enjoyment for teaching. Consequently, I already have some further teaching sessions lined up to deliver in the future.

5.2 Teaching and Training Reflective Commentary

Introduction

Evaluation is a key component of the teaching process (Morrison, 2003) and refers to a systematic assessment of both teaching and learning (Wilkes and Bligh, 1999). Hounsell (2009) proposes five key steps in the teaching evaluation cycle; clarifying motives and context, refining focus and timing, identifying sources of feedback, analysing, and interpreting feedback and generating an action plan based on feedback. I have structured the remainder of this report based on these five steps.

Clarifying motives and context

Within an educational setting there are both extrinsic and intrinsic motivations for evaluation. Extrinsic motivations are driven by institutions and their stakeholders for quality assurance purposes. However, as I was delivering one off sessions as a guest lecturer, my primary motivation was intrinsic in nature. On a personal level, as I was new to teaching it was crucial for me to evaluate my sessions to ensure that they were meeting the needs of both the learners and the course requirements. I also wanted to use evaluation of the sessions as a tool for self-development in which I could identify potential areas for improvement.

Refining Focus and Timing

My focus for evaluation was on aspects relating to my specific session content and delivery. I was primarily interested in how my session had contributed to the learner's knowledge, understanding and skills in relation to the learning outcomes, the quality of my learning materials (e.g., lecture slides), and the effectiveness of my communication skills and how these contributed to the overall learning experience of the learner. As I was only delivering one session within the module/ teaching series, I was restricted to collecting feedback immediately after the lecture. Nevertheless, this posed the benefits of being able to collect feedback from learners whilst their recall of the session was greatest and being able to address any issues promptly.

Identifying Sources of Feedback

To gain a balanced and comprehensive perspective, it is advantageous to use multiple sources of feedback when evaluating teaching (Siddiqui, Jonas-Dwyer & Carr, 2007).

To triangulate and increase the robustness of the feedback I received, I collected feedback across three formats: learners, peer observers and self-reflection.

Learner Feedback

Learner feedback is perhaps the most popular form of feedback used offering an insight from the 'learners eye view' (Hounsell, 2009). As my sessions were delivered virtually, for ease and consistency, I decided to use an online survey to collect feedback from session participants. To encourage uptake, I kept this survey brief and limited the questions to a total of five quantitative questions with room for qualitative elaboration for each one. Questions covered the following factors: understanding of the topic, interest, clarity and usefulness of slides, lecturer communication and overall satisfaction. I decided to keep the questions the same (other than key wording to reflect session content) for each of the sessions so that I could compare and see if any improvement had been made to different aspects of my teaching practise. I had variable response rates for each of the sessions, and disappointingly I had a very low response rate (1 participant) for the session delivered to health care professionals. This was a shame as it would have been useful to hear from their unique perspective as their training needs are likely to have differed significantly from learners in higher education.

Peer Observation

All my sessions were observed by a peer or session facilitator. As all my observers were experienced in offering teaching and training to the respective learner groups, this presented an ideal opportunity to capitalise on their expertise and receive feedback from a knowledgeable source. Although daunting at first, peer observations offer benefits such as increased self-awareness, increased confidence, exploration of different teaching strategies and increased interest in best practice for teaching (Bell & Mladenovic, 2008). Consequently, I asked all observers to provide feedback in a written or verbal format post-delivery of the sessions.

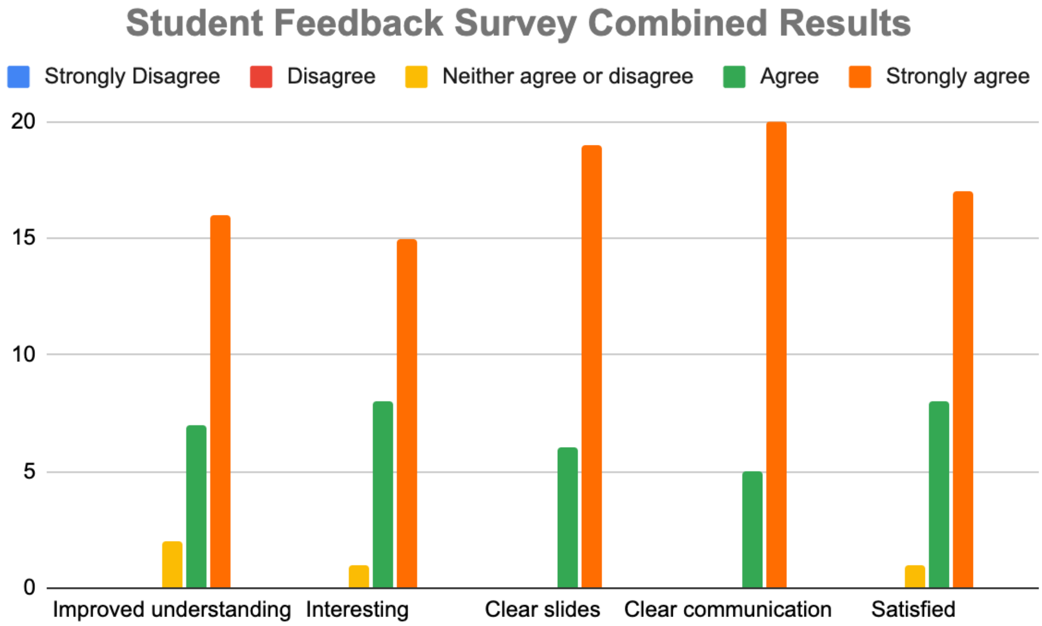
Self-Reflection

My final form of evaluation was self-reflection. As teaching in these settings was a new experience for me, I reflected on my sessions in detail using Gibbs (1988) reflective model, which assisted in a structured personal debriefing following each of the sessions. One of the sessions that I delivered (S3) was recorded, which allowed me to watch the session back to aid my reflections. After reflecting on each individual session, I was able to trial my conclusions and action plans in a form of active experimentation, as outlined by Kolb (1984) in his learning cycle.

Analysing and Interpreting Feedback

After each session and again following the completion of all sessions within the case study, I took time to review the feedback I had collated with an open and inquisitive approach. Feedback from peer observations offered rich and valuable qualitative data, that at times was a welcome boost to my confidence. Although this feedback given was detailed, most peer observers commented on only positive aspects. On reflection, it would have been helpful to provide observers with a template that included a question about things that could be improved for future sessions. Given their wealth of combined experience, I think if I had of approached the situation in this way, they could have offered me some valuable insights into how I could improve my teaching practise and some ideas and recommendations for future sessions.

As the learner feedback had a quantitative element, I was able to translate it into a visual format (see below for the combined feedback I received from all the sessions for each of the question topics covered). I found it helpful to visualise the learner feedback in this way and it allowed me to clearly see which aspects went well and which aspects could be improved. This will be reflected on further (in addition to the other forms of feedback) in the subsequent sub-sections of this report.



At times, peer observations and learner feedback differed to my own self-reflections in which I often tended to be critical, letting imposter syndrome get the better of me. To me this demonstrated the importance of having multiple sources of feedback to ensure a balanced perspective.

Successful Aspects

Despite my initial apprehension about delivering some of the sessions, the feedback I received from learners and peer observers alike was predominately positive. From this feedback, I was able to identify a few key strengths, namely, communication of information, creating a safe learning space and the clarity of session materials.

The element of my session that I received the most positive feedback on was the intelligibility of my verbal communication, with 80% of learners strongly agreeing and 20% agreeing that I communicated in a clear and easy to understand manner. In particular, learners made reference to the pace, language, clarity and engagement (e.g., 'The lecturer spoke clearly, did not rush, and used appropriate language' and 'Lecturer was very clear on transmitting the knowledge! Very engaging!'). This corroborated with statements from session observers who commented 'you communicated very clearly' and 'she was well-paced throughout and delivered the material confidently'.

Accounting for deficits in non-verbal communication aids online (e.g., body language and to some extent facial expressions), and in line with recommendations from Mahmood (2021) I considered how I could maximise the impact of my verbal communication. Bao (2021) suggests that it is important to slow down speech when delivering content virtually to ensure that learners can effectively capture key points. In preparation for my sessions, I utilised the 'rehearse with coach' feature on PowerPoint which provides feedback on pitch variation, speed, appropriateness of language, use of filler words and originality in comparison to the slides. This provided me with useful insight that whilst my speed was good, my pitch variation and use of filler words could use some improvement, which is something I have continuously tried to work on throughout the five sessions to ensure maximum engagement from learners.

Peer observers also commented on my ability to create a safe learning space in which learners felt able to openly express questions and ideas. For example, 'She engaged the learners well. Many of them asked questions and clearly felt comfortable to do so. Overall, the energy and engagement from learners was good.' and 'the session was navigated with confidence and warmth'. Creating a safe learning environment through a warm and friendly disposition was something that I was actively trying to promote throughout my sessions due to anecdotal prewarning's from session facilitators and peers that learners can be hesitant to engage in sessions delivered virtually. It was helpful to hear that this was a successful aspect from peer observers as due to the nature of virtual delivery, it was hard to collect incidental feedback and gauge learners' reactions as I could not pick up on facial expressions or body language cues, which at times was quite disconcerting.

A personal barrier that I had to overcome to promote dialogue between myself and the learners was feeling uncomfortable with a long wait time in between asking a question and receiving a response. This delay was heightened in a virtual format due to connectivity lags and learners opting to respond via the chat function. However, research indicates that a wait time longer than three seconds can be advantageous, resulting in learners operating at a higher cognitive level leading to the construction of more complex answers (Enwistle et al.,1992). Therefore, throughout my teaching sessions, I was conscious of giving learners an appropriate time to respond, which I think was reflected through positive learner engagement in dialogue.

A further aspect of my teaching that was rated highly was the quality of my teaching materials, in particular my lecture slides. Learners commented positively on the structure, clarity, and future usability of the slides. It was interesting to reflect on how my slides improved with each teaching session. Looking back, my latter slide sets incorporated more of the recommendations outlined by Farrow (2003) (e.g., intelligibility and general style). My initial slides were quite busy and information heavy, whereas my latter slides included a smaller quantity of text and more images and diagrams. This development was rewarding to see and was validated by 100% of learners strongly agreeing that the lecture slides were clear and useful for my final two teaching sessions in the series.

Additionally, I tried to use my slides merely as a reference point and to expand upon them in a discursive manner. I was pleased that this was picked up on by the learners (e.g., we were given a great amount of details aside from them) and observers (e.g., Chloe presented clear slides and elaborated fluently around these slides). Initially to achieve this I created elaborate scripts that accompanied the slides and attempted to memorise them before the sessions. Whilst this increased my confidence that I would have enough things to speak about and that I was well versed in the subject area, I noted within my self-reflections that this disrupted the flow of the session as I was trying to remember the order and full details of the content that I had prepared rather than focussing on things that were relevant to the discussion at that specific time. As my confidence increased throughout the series of teaching sessions, I became less reliant on a script and excessive preparation, and I feel this aided me in a more natural delivery.

Challenges/ Less Successful Aspects

One of the biggest lessons that I learnt throughout the creation and delivery of my sessions is that sometimes less is more in relation to content covered. In S1 and S2 particularly, I made the mistake of covering a wide breadth and depth of material, which resulted in me running out of time towards the end of the session. Upon reflection, I think my tendency to cover too much material related to my own insecurities about my competency (e.g., thoughts such as I must convey everything I know for them to regard the session as valuable) and also a fear that I would cover the content too quickly and run out of things to say. Enwistle et al., (1992) note that this is a common pitfall that lecturers can fall into. Rather, they propose that providing a 'map' of the subject area is a more beneficial strategy to adopt. For my last few sessions (S3, S4, S5) I tried to embrace this approach, and this became increasingly easier as my confidence developed. As aforementioned this shift was also mirrored in terms of content and description included on my individual slides. Initially, I was filling my slides with lots of detail and full sentences as I was worried that I would forget key points if they were not on the screen in front of me. However, as the sessions progressed and with encouragement from my supervisor the text on my slides reduced significantly for the latter sessions.

A further challenge that I experienced was incorporating interactive learning activities within the virtual teaching sessions. Despite having experience in both delivering and participating in virtual teaching sessions prior to delivering the sessions within this case study (via the pain management programme at my placement and as a learner on the professional doctorate), I think I was perhaps a little naïve about the level of interaction I would be able to elicit out of the learners and the incorporation of learning activities within my session had varying success.

I had a particularly disappointing response from a break-out room activity I incorporated into my session with undergraduate psychology learners. As soon as learners were sent to breakout rooms, they rapidly started to leave the session and those that remained did not engage with the activity or with each other, causing me some anxiety at the time. After discussing the reason behind this with the remaining learners it became clear that they were not comfortable with break out rooms due to it being a relatively large cohort of learners, with many of them being unfamiliar with each other. I spent a while reflecting on this instance after the session and questioned why learners felt this way in a virtual environment, but ordinarily small group activities are a common occurrence in seminar groups of many institutions with large cohorts. I also reflected on how this contrasted to my own experience of using break out rooms as a learner on the professional doctorate, which had been an overall positive experience that facilitated collaborative learning and group bond.

Furthermore, as I had received positive feedback on a similar activity that I ran with MSc learners (S1) I concluded the group dynamic is an important consideration to make when deciding upon appropriate learning activities. Had I of known the learner cohort better and seen them for more than one session, I would have been better able to assess this prior to trialling a learning activity via breakout rooms.

For my final two sessions, other than inviting learners to ask questions, I included no interactive activities. My reasoning for this was multifaceted and was partially due to time constraints but also due to an uncertainty of how I could incorporate an activity for the topic area. In hindsight I think this was a shame and resulted in these sessions aligning with pedagogy, which contrasted with my aim of adopting an andragogical approach that encouraged active and deep learning. For future sessions, I would consider including an activity where I split learners into small groups and ask them to discuss the potential benefits of each of the stage 2 training options or get them to discuss their post MSc plans/ steps they are going to take to reach their career aspirations. When the learners returned to the main room this could potentially open up more discursive conversation.

Generating an Action Plan Based on Feedback

Conducting an extensive evaluation into my series of teaching sessions has sparked several ideas of improvements I could make to the teaching process for future sessions. Something that I would devote much more attention to is the incorporation of interactivity. Through reviewing the literature and from my own personal experience as both a teacher and learner I have noted the importance of such activities in aiding the construction of knowledge, skills, and competence. Moving forward, I intend to disperse learning activities throughout my sessions more frequently. Now more than ever, technology is increasingly important in supporting learning and engagement and given that I was delivering sessions virtually I think I could have capitalised on available technology such as virtual quizzes and polls through technologies such as Padlet, Menti or Kahoot. My barrier to using these technologies was a lack of knowledge and confidence in how to use them, however I have identified that learning how to use these tools would be a worthwhile investment of time and I am looking forward to learning about them in upcoming doctorate teaching sessions so that I can incorporate them in future teaching sessions.

For future sessions, if possible, I think it would also be beneficial to assess learner needs from the learner’s perspective. The interest of my sessions received the lowest rating out of all the questions (60 % strongly agree, 36% agree 4% neutral). Perhaps if I had assessed learner needs via the learners in addition to the session facilitators this could have been improved. On reflection, I could have asked session facilitators to send out an online survey to learners before the session. I think this would have been particularly helpful for the sessions I delivered on stage 2 training as the learners are likely to be more aware of their learning needs and questions for such a session. Another strategy I could have used is a check-in with learners at the beginning of the session with regards to their expectations. This is something I routinely do in patient sessions and find it to be an effective tool. However, as teaching in an educational setting is a new experience for me, I was nervous that questions would come up that I had not prepared for or knew the answer to. Nevertheless, I think as my confidence grows this could be a strategy that I utilise.

In line with this, I think that the biggest lesson I have learnt throughout this process is to have confidence in my competence and ability. At times, my confidence was my biggest barrier to improving my sessions and resulted in safety behaviours such as creating busy information laden slides and a restrictive script to accompany the session, alongside avoidance behaviours such as not assessing learner needs directly with learners in the session. However, by pushing myself out of my comfort zone, I have learnt that I can think on the spot and adapt to the situation without relying on these mechanisms. Additionally, triangulating methods of assessment helped me to identify a strong inner critic voice that I need to be mindful of as it was not necessarily in alignment with the perceptions of others. I look forward to carrying these lessons forward into future teaching sessions that I deliver.

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