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i. ACKNOWLEDGEMENTS

Before you embark on the next 300 or so pages that comprise the biggest portion of my life for the last five years, I would like to take this opportunity to express my deepest thanks to those that have played a role in supporting me throughout my Doctorate journey.

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iii. ABSTRACT

Cara Salt, Professional Doctorate in Health Psychology, 2025

This portfolio showcases the work I have completed whilst undertaking the Professional Doctorate in Health Psychology, part-time, at the University of Staffordshire. The portfolio is divided into five chapters, representing the five core competencies of Health Psychology:

1. Professional Competence in Health Psychology

2. Advanced Research Methods

3. Consultancy in Health Psychology

4. Teaching and Training in Health Psychology

5. Psychological Interventions

My proficiency in each of these competencies is demonstrated via research manuscripts, case studies and reports, documenting the work undertaken. In addition, reflective reports detail my continued professional development, and what I have learned from the opportunities and experiences gained while completing my doctorate. The work was completed through my employment, firstly, with a private, third sector neurorehabilitation organisation, and secondly with Nottingham University Hospitals NHS Trust. However, in accordance with course guidelines, the opportunity for my Consultancy competency was sourced outside out my employment. The introduction provides further details on the content of each chapter and competency.

iv. INTRODUCTION

This portfolio exhibits the work I have completed towards the Professional Doctorate in Health Psychology qualification at the University of Staffordshire, throughout 2020 to 2025. I was employed in two separate part-time placements throughout this period. Primarily, a private third sector neurorehabilitation organisation (the name of this organisation, has been redacted for the purposes of the Portfolio), from October 2020 to December 2021. Subsequently I was employed as an Assistant Psychologist in the Burns Service at Nottingham University Hospitals NHS trust (NUH), and worked here until I completed my doctorate in January 2025. These roles provided me with a range of public and private sector healthcare experiences and allowed me to complete the competencies detailed in this portfolio.

Chapter 1: Professional Competence in Health Psychology

Chapter 1 is comprised of a reflexive report, which describes my journey along the doctorate. The report details key learning points, experiences and opportunities that have shaped my continued professional development as a Trainee Health Psychologist. It includes two sections, with the first describing how I met each of the five core competencies, and the second reflects on my development of the wider skills needed to practice as a qualified Health Psychologist. The reflexive report contains evidence and support from the reflective diary kept throughout training, and additional relevant documents and information.

Chapter 2: Advanced Research Methods

Chapter 2 is comprised of three research manuscripts. Firstly, a quantitative study investigating what impact viewing scald prevention campaign materials has on the knowledge, attitudes and beliefs of parents/caregivers of young children. Secondly, a qualitative study exploring parents/caregivers of young children’s views on paediatric burn injury prevention materials in the UK using focus groups. Finally, a systematic review exploring if burn injury prevention interventions change people’s psychological constructs (what people know and how people think). Each manuscript is accompanied by a reflective commentary, which details insights into the decision-making process of each research project, alongside what I learned, and my experiences of conducting the research.

Chapter 3: Consultancy in Health Psychology

Chapter 4 details a consultancy case study, aimed at establishing the clinical need for a Health Psychology service within a private sector 10-bed acquired brain injury rehabilitation unit. The case study describes how the opportunity was approached, and how the consultancy work was developed, delivered and evaluated, alongside how I maintained a working relationship with the client. The case study also details the contract that was developed and adhered to throughout the project.

Chapter 4: Teaching and Training in Health Psychology

Chapter 4 is comprised of a case study which describes how I planned, developed, delivered and evaluated five teaching sessions, all of which were under the theme of ‘Applied Health Psychology’. The focus of the teaching sessions was: An Introduction to Health Psychology, Understanding Pain Management: The Role of Health Psychology in Applied Settings, Developing Psychological Interventions: Traumatic Brain Injury, The Impact and Experience of Long-Term Conditions: Illness Representations, Self-Management and Coping and Applied Health Psychology: Techniques for Managing Anxiety Symptoms, The Mind-Body Link. The learner groups for each session varied but were comprised of sixth form and college students, final year BSc Psychology students, MSc Health Psychology students, Paramedics, Emergency Medical Technicians, Emergency Care Assistants, and Community First Responders. The case study is accompanied by an evaluation of the teaching programme, including feedback from learner groups, and supported by reflections from my reflective diary.

Chapter 5: Psychological Interventions

The final chapter details two case studies of two separate psychological interventions. The first case study details the opportunity, planning, development, delivery and evaluation of a smoking cessation intervention, tailored to account for a traumatic brain injury, conducted with a single individual, face to face. The second case study details a Compassion Focussed Therapy intervention aimed at helping an outpatient cope with, or reduce distress associated with a range of difficulties following their burn injury. This intervention took place with a single individual, remotely (online). Both case studies are accompanied with a reflective report, detailing the decision-making process behind the interventions, alongside any challenges, problem solving and learning opportunities.

Table 1.

A table depicting dates of completion for each competency.

Competency	Date of Completion
Professional Competence in Health Psychology	January 2025
Advanced Research Methods:	
Quantitative Manuscript & Commentary	January 2025
Qualitative Manuscript & Commentary	January 2025
Systematic Literature Review & Commentary	June 2024
Consultancy in Health Psychology	June 2023
Consultancy Contract	June 2022
Teaching and Training in Health Psychology	June 2022
Psychological Interventions:	
1:1 Face to Face Intervention & Commentary	June 2021
1:1 Remote Intervention & Commentary	June 2024

CHAPTER 1: PROFESSIONAL COMPETENCE

Professional Competence Reflexive Report

Background

This report details my development and reflections on becoming a Health Psychologist. During training I experienced two distinct placements. Firstly, as a Personal Programme Assistant, delivering neurorehabilitation in the community to clients with a traumatic brain injury. Secondly, as a National Health Service (NHS) Trust Assistant Psychologist for a Burns Service. In both placements, Health Psychology was either a new concept, or one that was not well understood. This meant I was in a fortunate, but challenging, position to promote Health Psychology and learn where, and how it could be applied to each service. This allowed me to develop skills and experiences relevant to Professional Doctorate in Health Psychology competences and Health Psychology practice.

Throughout both placements, I kept a reflective diary, based on Gibbs's (1998) reflective cycle to document and reflect on my development throughout Stage 2 training. This report will firstly detail my learning and reflections for the work I submitted for each of the core competences in addition to other opportunities that arose. The second section of the report will detail broader reflections and learning gained throughout training, including communication skills, and professional skills and guidelines outlined by the British Psychological Society (BPS; 2021) and Health and Care Professions Council (HCPC; 2016). Excerpts from my reflective diary will be used to evidence my health psychology training professional development and throughout this report I will also reflect on my engagement in and plans for continuing professional development.

Section One: Core Competencies

Professional Competence

The development of professional competence involves the trainee gaining enough experience to obtain the skills to work autonomously and ethically as a practitioner psychologist. This involves an understanding of legal, ethical and professional standards, possessing good communication skills, and understanding a range of systemic and organisational issues that may arise during their career (British Psychological Society, 2020). Stage 2 training required me to engage in reflective practice, a process of critically thinking about experiences and situations to support ongoing learning and development (British Psychological Society, 2020). To record my experiences and development, I completed a reflective diary, maintained monthly, annual reports and engaged in regular supervision. I found the process of both written and spoken reflection cathartic. It enabled me to step back from my initial emotional reactions to challenging experiences, and proactively learn from the situation, fostering both personal and professional growth. I feel that reflection is an activity which comes naturally to me, and I intend to continue using and developing this skill throughout my career as a Health Psychologist to further enhance my professional competence.

Advanced Research Methods

Through supervision discussions about the potential role of health psychology within my burns service placement, I decided to focus all elements (systematic review, quantitative research, qualitative research) of my doctoral research on burn and scald injury prevention. This is an area that interested me and was relevant to my placement. The systematic review, submitted to the journal Burns, explored the impact of burn injury prevention interventions on psychological constructs, such as knowledge and beliefs. However, this was my second attempt at completing a systematic review as it became apparent that my first review question was not refined enough and subsequently became unmanageable following the database searching stage. As I had no prior experience of conducting a systematic review, this was a steep learning curve and highlighted the importance of careful scoping and planning around how broad or narrow the review's focus will be. However, on reflection, developing two PROSPERO Protocols meant that I gained an in depth understanding of what to consider, and where to anticipate difficulty when designing a review question. When synthesising and interpreting the results, my confidence related to my understanding of statistical analyses made this process challenging. Additionally, the heterogeneity of the included papers meant that I found synthesising the evidence difficult. Overall, I would feel confident in my ability to design a future review but feel that interpreting and synthesising data is an ongoing learning need, especially if I was conducting a data synthesis approach, such as meta-analysis, which I have yet to have experience of.

My qualitative research explored how parents/caregivers of young children viewed child scald prevention materials (e.g. posters, videos) developed by the BBA and Children's Burns Trust (CBT). I found developing and conducting my qualitative research project the most enjoyable. However, there was some difficulty recruiting the numbers I needed, possibly due to the large time burden and no incentive (Houghton et al., 2020). Additionally, some of the focus groups were not as interactive as I hoped. The interactivity is the main strength of focus group methodology (Roller & Lavrakas, 2015), and the main reason I chose this approach. This may have been due to my inexperience at facilitating group discussions. However, this experience allowed me to develop skills around facilitation and how to prompt participants to engage in group discussion. I analysed the data using Reflexive Thematic Analysis (RTA) (Braun & Clarke, 2006; Clarke & Braun, 2013; Braun & Clarke, 2021; Braun & Clarke, 2023), which was chosen as it was coherent with the research question. However, some focus group discussions touched on concepts such as age and generational differences. A Discourse Analysis (DA), such as Foucauldian DA, could have provided valuable context by examining participants' language and views through a social or societal lens (Khan & MacEachen, 2021). This may have generated some interesting findings about wider societal views on burn prevention and demonstrates the importance of making campaigns accessible across different ages, cultures and socioeconomic groups.

Finally, my quantitative project, explored the extent to which viewing child burn prevention materials developed by the BBA and CBT impacted parents/caregiver's knowledge and psychological constructs (such as attitudes). I found this a challenging and frustrating experience. However, I gained some unique and valuable experience. For example, I was successful in winning a student elective funding award from the Scar Free Foundation, a charity which funds medical research aimed at preventing or improving scar free healing. This elective award meant I was able to offer an incentive for participation, which facilitated recruitment and allowed me some time off placement to focus on the project. This was essential as it was evident that both my knowledge of, and self-efficacy around statistical research were lacking. It was highlighted in supervision, and by those around me that there may be an additional need here. As a result, I accessed the university Student Inclusion Team who, following assessment, advised that I have dyspraxia, which has clarified a lot of my experiences and led to some extensive reflection. As expected, data analysis was difficult and presented many challenges and learning opportunities. For example, I learned that the ceiling effect observed in some non-significant variables indicated that the lack of significant differences could not be attributed to participants' exposure to the study materials. Further research would be needed to clarify the impact on these variables. Therefore, while I now have greater understanding of some statistical analyses, I am aware this is an ongoing need.

To disseminate findings from my systematic review and qualitative research project, I submitted abstracts to the International Society for Burn Injuries (ISBI) and BBA joint annual medical symposium. I was successful and was offered the opportunity to present a poster of my review, and an oral podium of my qualitative project at the conference. The organisers also encouraged me to submit the review for publication in the Burns journal due to the high quality of the abstract. I have since submitted this manuscript and I have had positive feedback from reviewers who described the review as ‘well-constructed’ and ‘an interesting systematic review that brings together the somewhat disparate and limited literature’. The limited feedback from reviews, I believe, demonstrates I upheld high professional standards throughout my research, and I am currently in the process of amending the review to accommodate their feedback.

While I had previously disseminated findings from my review to my NHS Trust Clinical Psychology department via their annual research morning, the experience of presenting my review poster at the ISBI/BBA conference was anxiety inducing, but valuable. It was my first experience of presenting at a conference outside of my workplace or university setting. The audience was, however, relatively small and provided a supportive environment, offering valuable experience in presenting within a more manageable setting. However, the oral podium for my qualitative presentation was far more challenging, the audience was bigger and more formal than the poster, and while I had managed to control my anxiety leading up to it, I found the last-minute anxiety an aversive experience and aim to further develop my anxiety management skills.

For my quantitative project, I have disseminated the findings of the study to the Scar Free Foundation in the form of a report, the BBA and the CBT, I also plan to submit this project to Burns and I am in the process of developing the manuscript. Since completing the report, The Scar Free Foundation asked for my reflections on their student elective award, which they disseminated on their social media. Overall, I really enjoyed the process of disseminating all of my research, as alongside feeling proud, it allowed me to experience conducting research within new organisations, and how to network and communicate psychological ideas, concepts and conclusions effectively to specialist, and non-specialist audiences.

Consultancy

My consultancy project arose from communications between my first placement, [redacted] and [redacted], a neurorehabilitation organisation (the names of my first placement, and Consultancy Client's organisation have been redacted for the purposes of the Portfolio). [redacted] invited me to attend their multidisciplinary team (MDT) meetings and produce a report aimed at establishing the clinical need for a health psychology service in their organisation. Central to the consultancy process is teamwork, with excellent communication and interpersonal skills required (Roodhooft & Van den Abbeele, 2006). To be successful, a consultancy project relies on timely action and feedback (Lippett & Lippett, 1986). However, this was problematic throughout the project. For example, there were lengthy delays between the client(s) providing verbal consent to the scope and content of the work and providing written documentation (such as signing the contract). As a result, I had to frequently revise timeframes for the work. However, I felt protected by my contract, which had stipulated actions I could take in the event of not receiving communication from the client(s) within a certain timeframe.

Unfortunately, the limited communication from the client(s) continued, despite my efforts to think on my feet, problem solve and provide opportunities for collaboration. I reflected on the process of how attempts to maintain the client and consultant relationship often left me feeling like I was conducting a piece of work as a solo party. Whilst this allowed me to demonstrate working autonomously as a Trainee Health Psychologist, it also felt challenging. For example, the primary client would sometimes ask intermediate clients, who did not have detailed knowledge of the project and contract, to communicate with me. Resultingly, I was sometimes put into unpredictable situations by being asked to go beyond the scope of what was agreed, such as recommending treatment plans for complex clients I had not met. Supervision helped me communicate that I could only act within my competency, and I learned about the importance of setting boundaries when developing a consultancy project, to protect both parties (Dawson-Shepherd et al., 2013). I feel more confident and competent in negotiating these boundaries, and writing up any future contracts, as I know now to consider a broad range of potential difficulties that may arise during the consultancy process. I have reflected on how including specific clauses and conditions around communication and providing feedback is important to ensure the best quality work. While I have not yet used any of my consultancy skills since completing the competency, if I was to undertake future consultancy work, I would want to facilitate collaboration. This would help me feel more assured that both parties feel the goals and objectives of the project are being met.

Teaching and Training

For my teaching and training competency, I gained experience of designing, delivering and evaluating a range of online (during the COVID-19 pandemic), and in person teaching sessions. My teaching sessions covered a range of applied health psychology concepts (e.g. Developing Psychological Interventions; Traumatic Brain Injury and Applied Health Psychology; Techniques for Managing Anxiety Symptoms. *The Mind-Body Link).* Teaching sessions were delivered to a range of audiences including Sixth Form/College students, BSc Psychology students, MSc Health Psychology students, Paramedics and other Emergency Care workers. The teaching and training competency was one of the earliest competences I began working on in my Stage 2 training, as such, much of the concepts were new to me. Reflecting on this competency, while I was anxious about public speaking, particularly in person, I felt that this anxiety was manageable across both online and in-person settings, which I have made sense of using the four stages of confidence model (Janse, 2020). As teaching was new to me, I was not aware of what I did not know, so felt more confident. Now I have developed deeper insights into my professional development, I am more aware of what I don't know, which makes me more anxious around my ability.

While progressing this competency, I learned the importance of adapting sessions to an audience's learning needs, and ability to engage with the teaching sessions (Farrow, 2003; Grant, 2002). I found Farrow's (2003) five LIGHT principles helpful when developing the sessions to ensure the content was accessible. Supervision also prompted me to consider that some students may have additional learning needs such as dyslexia, and as some of my slides were busy in design, colour and amount of text, they may not be able to engage with the content. It is important that reasonable adjustments are made for learning difficulties (Equality Act, 2010), and I amended my slides and future learning materials accordingly. Following the completion of this competency, and numerous subsequent experiences of delivering training, developing materials and speaking publicly, I can identify multiple areas where my earlier teaching session materials could be improved to promote accessibility and engagement, reflecting how my skills have grown throughout Stage 2 training.

Psychological Interventions

The first intervention I delivered was an in-person, smoking cessation intervention at the start of my training, with one of my [redacted] clients, who had a traumatic brain injury, and required an interpreter, making the intervention more complex (Hanft-Robert et al., 2023; O'Cathain et al., 2019). I had no previous experience of assessment, formulation or delivering psychological interventions, and felt very unsure of the process. Reflecting on this intervention, I found the lack of structure combined with my inexperience challenging. For example, I knew broadly what the purpose of assessment was, but there were no existing assessment procedures in place at [redacted], meaning I had to develop my own assessment procedure, informed by existing literature. My inexperience also meant I felt like sessions were a casual chat rather than psychological work, and this led me to question if I was ‘doing it right’. Due to the complexity of my client, I learned about the role of flexibility (e.g. providing breaks in sessions to allow for fatigue), consequently, the intervention provided foundational skills in establishing rapport and highlighted the importance of a client centred approach. These foundational skills increased my confidence when delivering my remote, Compassion Focussed Therapy (CFT) intervention within my Assistant Psychologist post in an NHS burns service. I liked how this intervention felt more structured. I used standardised outcome measures, I had more intensive guidance from supervision, and my supervisor would regularly attend sessions and provide feedback. As a result, unlike my first intervention, I was not questioning if I was ‘doing it right’, instead it felt more formal, which I preferred.

However, delivering an intervention within the NHS meant the flexibility I enjoyed in my first intervention was more limited, as I would only have an hour per session, which I found tricky to manage in comparison to my half-days at [redacted]. Additionally, CFT was new to me, and I had to learn, retain and deliver a lot of new information in a very short space of time, which I have never experienced before. Finally, while uncomfortable, my supervisor observing and proving feedback on sessions was essential, as she was able to identify clinical areas for improvement. For example, trying to make sense of client’s issues using formulation and being able to sit with discomfort (the clients and my own) in some more challenging exercises, rather than encouraging avoidance. I feel this competency provided me with essential ‘soft’ skills and a thorough understanding of psychological theory, interventions and associated skills, which I am keen to continue to develop in the future. Indeed, I feel I have developed on the learning points identified by my supervisor in my subsequent CFT interventions and feel I am now able to utilise a variety of models to formulate client’s presenting issues. I am also able to notice when anxiety and avoidance arises in myself, and can now acknowledge it, but not let it influence my behaviours.

Section Two: Professional Skills

Developing and maintaining legal, ethical and professional standards

Ethics and professional standards are pivotal to all areas of practice and research across any psychological discipline, including Health Psychologists (Michie, 2004). Indeed, following professional and ethical standards is important to protect both the practitioner, and clients, and can help protect and guide both parties when difficult and/or novel situations occur (British Psychological Society, 2021). Throughout my research, I have adhered to ethical and professional standards, primarily by ensuring all my projects were reviewed by the University of Staffordshire Ethics Board prior to recruitment and making amendments where recommendations were made. Where ethical guidance was not clear to me (e.g., right to withdraw procedures, and confidentiality when conducting focus groups), I utilised supervision, and background reading to ensure my decisions were transparent and adhered to ethical standards. I have also completed relevant training to develop to knowledge in this area, which provided additional detail around ethical considerations such as informed consent and data collection, and is something I plan to continue to refresh, especially if conducting larger scale research in the future.

Aside from research, legal, ethical and professional standards also helped safeguard myself, and my clients when working clinically. For example, a client disclosed intent to harm another person during a routine screening appointment. Initially, I thought the client was joking, but I felt the need to clarify to ensure that I was acting ethically. I informed them I would need to disclose this to my supervisor, as it breached the confidentiality clause of risk to harm. The client reacted aggressively to this, and I felt very out of my depth, ultimately the police were contacted and safeguarding put in place. While this interaction was incredibly complex, unpleasant and unpredictable I can reflect on how legal, ethical and professional standards helped me act appropriately and accordingly and protected both my professionalism and potentially prevented risk of harm to others.

Communication skills in differing contexts

Stage 2 training identified a learning need around adapting academic language to a variety of contexts. For example, while progressing my advanced research methods competency, supervision helped me identify that I tended to use complex psychological language when communicating with participants/patients. Initially, I therefore found it difficult to ensure that the language I used was appropriate for the audience, however, my training has offered numerous opportunities to develop my ability to tailor my communications to diverse audiences. For instance, I adapted complex CFT concepts into an accessible "three circles" formulation for use with patients, prepared summaries of therapy progress and outcomes for general practitioners with limited psychological knowledge and created both an academic report and a lay summary for the Scar Free Foundation as part of the elective award. To ensure my language was appropriate for a lay audience, e.g., participants who requested a summary of research findings, I used health literacy principles to use clear language and define more complex terminology (Kripalani & Weiss, 2006). For example, instead of ‘self-efficacy’ I would say ‘a person’s belief in their own abilities’. As a result, I feel much more confident and competent at ascertaining when lay language is needed, and how to communicate complex concepts to different audiences.

In addition to developing my written communication skills, attending conferences, research mornings, hosting teaching and training sessions and public speaking has helped develop my verbal communication skills. Despite repeated exposure to public speaking, I get progressively more nervous each time, however, I understand this may be a symptom of my increased awareness of the further development needed in communication skills, combined with my naturally self-critical and anxious nature. Indeed, while this is something I am still developing, I feel that training has provided me with practice, guidance and exposure to experiences such as attending medical conferences which has developed both my verbal and written communication skills and confidence.

Providing Health Psychology Advice and Guidance to others

Being a Trainee Health Psychologist working within an NHS Clinical Psychology department led me to realise that there is a limited understanding around the role of Health Psychology, compared to other psychological professions, such as Clinical Psychology, even amongst other healthcare professionals (Hilton & Johnson, 2017; Kaplan, 2009). I found that this was the case for some members of the MDT, and conversations around this led me to network with a Health Psychologist working within a Clinical and Neuropsychology setting for a military rehabilitation hospital. They asked me to deliver a talk to the team (comprised of clinical psychologists, neuropsychologists, assistant psychologists, physiotherapists and occupational therapists), explaining Health Psychology training, competences, and to share information about my roles and experiences. I opened the talk by asking the audience about their understanding of Health Psychology. Responses ranged from no prior knowledge to familiarity with topics like health promotion campaigns, such as those aimed at increasing cancer screening uptake. Following delivery of the talk, feedback highlighted that the team were surprised at how versatile health psychology could be, and one of the team members subsequently arranged a meeting with me to discuss Stage 1 and 2 training in more depth and shared that they were considering applying in the future.

Additionally, across both placements, I was presented with a variety of opportunities to provide health psychology advice and guidance within my clinical practice. For example, using psychological theories and models to help neurorehabilitation clients understand why they may be finding it difficult to engage in behaviours such as smoking cessation, or educating patients on the burns unit about drug and alcohol use following a burn injury. Both these examples demonstrate how I was able to give health psychology advice and guidance to help clients make sense of complicated thoughts, emotions and situations to come to an informed decision or plan around their care. I found this very rewarding as working holistically, from a biopsychosocial approach (Engel, 1977) allowed for patients comprehensive needs to be addressed. I also hosted monthly Assistant Psychologist Reflective Practice sessions at my NHS placement. These reflective practice sessions involved inviting Health and Clinical Psychology trainees, alongside the assistants to talk about clinical cases, research or therapeutic models and allowed us to reflect on challenges we had faced in post. I feel that in the above examples, I was able to effectively engage the audience and transfer health psychology information, and I plan to use health literacy principles in the future to communicate complex health psychology information to a range of audiences.

Team-working skills, including issues around development and maintenance of appropriate boundaries, confidentiality issues, and an understanding of team leadership

All Psychologists, including Health Psychologists, typically work within an MDT team in clinical settings to plan and co-ordinate effective patient care (British Psychological Society, 2020). My initial placement MDT was comprised of largely occupational therapists and physiotherapists. I found the teamwork within this role quite challenging, as I worked largely autonomously, and sometimes only contacted the programme lead for each client a couple of times a month. The team were not familiar with Health Psychology which had associated positives and negatives. Firstly, this meant I had many opportunities to identify and promote where my knowledge and competence as a Trainee Health Psychologist could help clients achieve their rehabilitation goals (i.e., increasing physical activity, smoking cessation). However, the teams' limited awareness of health psychology training, coupled with the infrequent and distant teamworking meant I often felt out of my depth, and isolated. I would receive little guidance around rehabilitation plans from the MDT. On reflection, this may be attributed to the teams' limited understanding of health psychology, considering me as the 'expert' and therefore, fully competent, rather than a Trainee. This reflection was supported by the similar experience of being asked to act outside of my competency when delivering my Consultancy project. Highlighting to me how tricky, but essential, it is to maintain boundaries when working within a team who may have a limited understanding of Health Psychology.

In my second placement I primarily worked within a burns MDT comprised of medical and nursing staff, alongside allied healthcare professionals. Although I was not in a leadership role, my supervisor in this placement was the burns service lead. I had the opportunity to observe how her interpersonal skills, expertise, and deep understanding of the clinical population positively influenced staff and ensured that psychology was highly valued within the MDT. I am aware through conversations and wider reading, that psychology can be neglected within medical MDTs, where more traditional medial models are often employed, rather than a holistic, biopsychosocial approach (Deacon, 2013; Engel, 1977; Rohleder, 2012). However, my supervisor's development of the service, and team leadership ensured the psychology team could engage with the MDT weekly, maintain a good working relationship with nursing and medical staff, and helped medics and nurses have a clear understanding of what the services remit.

For example, my supervisor ensured that nursing and medical staff received regular psychosocial training. I was given the opportunity to co-deliver one of these sessions, and from group discussions and feedback, felt the team had a sound understanding of common reactions following a burn, how to handle distress, and awareness of when to refer to us, or psychiatry services, if more appropriate. I am wary that in the future, I may not always have such a positive team-work experience. However, in this event, I feel I have learned a lot of skills about how to implement psychology into an MDT and how to facilitate good working relationships.

Service User and Carer Involvement utilised within health psychology training

Involving service users or carers within healthcare can improve the quality of healthcare delivery (NHS England, n.d.). While working in burns, I was responsible for conducting a bi-annual patient feedback report. This involved contacting patients who had accessed our service and providing them with an opportunity to share feedback on what they felt went well, and suggestions for areas where the service could be improved. Giving people a voice in relation to their psychological care yielded some valuable insights that we may not have otherwise been aware of. For example, we realised some patients had been given the expectation that they would be seen by the psychology service before they were discharged from the hospital. This was not always within our remit and patients should not have been given this expectation. Additionally, patients highlighted the importance of a range of remote and in person delivery methods to facilitate their engagement in sessions (Mind, 2021). Obtaining this feedback meant that we were able to implement changes to the service (e.g., offering patients a choice of delivery methods as a standard procedure) to continually make improvements.

In the early stages of developing my qualitative research idea, my supervisor recommended liaising with a participant/patient advisory group (PAG), a way of engaging patient and public involvement (PPI) who have lived experience in the research area. PPI can offer valuable insights into how the research can be developed and delivered (Arumugam et al., 2023) and may also be able to highlight or identify concerns that may have otherwise been overlooked. Indeed, that was the case for my initial qualitative research idea which was to interview inpatients on the burns unit to explore their reflections of the event that led to their burn and identify any patterns across their understandings, beliefs, or behaviours. The PAG identified that while medics ask broadly around how the burn was sustained, my research had the potential to imply guilt or blame. They also highlighted that if I was interested in researching prevention, my sample should not be comprised of individuals who had already sustained a burn. While this feedback was frustrating and difficult to hear, it also made a lot of sense. It ultimately helped me to shape a new research question, keeping their feedback in mind, and subsequently, I plan to continue involving PAGs in research and service development to help improve outcomes.

Understanding around organisational systemic issues

Given the distinct nature of my two placement organisations - an NHS Trust and a private third sector organisation – I have a detailed understanding of organisational and systemic issues relevant to the practice of Trainee Health Psychologists. Firstly, within my initial placement, there were no Health Psychologists in the team, and many health psychology concepts were unfamiliar to them, this is a common experience, as Hart et al. (2023) found that while the number of Health Psychologists employed in public health and healthcare settings is growing, overall, it remains limited. Their findings suggested that this was due to a knowledge deficit about health psychologist' roles, training and competencies, alongside perceptions around preserving other disciplines within psychology. Hart et al. (2023) suggested the competencies and skills of Health Psychologists within an MDT should be showcased, and having open conversations with stakeholders to encourage collaborating with trainees, for example via consultancy, could reduce barriers. During this first placement, I had open conversations and joint supervision with course staff and placement staff. I also showcased how my training, competencies and skills could be applied to the field via presentations to third sector stakeholders and via the proposal for my consultancy work with [redacted].

Secondly, working within the NHS involved navigating funding constraints, strict guidelines, and standard operating procedures, which could present challenges to delivering psychological care. For example, although we were able to secure additional funding to expand my role to cover two half days in paediatric burns, alongside adults, this post had its limitations. Indeed, one of the most challenging of these limitations was the barriers to paediatric burns psychological support. As this was a new post, many of the nursing staff were unfamiliar with burns psychology and would often make inappropriate referrals (e.g., following typical psychological reactions, such as crying). To address this, we delivered training to nursing staff around common psychological reactions following a burn and developed and implemented a set of criteria to help guide referrals. This ensured that referrals were appropriate and that patient expectations were managed in addition to ensuring the appropriate and efficient use of resources. Additionally, in some unfortunate circumstances, paediatric patients may need further surgery, such as amputation or reconstructive plastic surgery due to their injuries. Our funding did not stretch to children admitted under plastics, or amputation, and typically these cases were more emotive. It was challenging to manage the distress and frustration of the team when we were unable to provide support to people the team felt needed it the most. For me this really highlighted the impact of limited funding and resources on our ability to deliver quality, holistic, continued care (British Medical Association, 2024). I've learned how organisational/systemic issues may influence a psychologists' role. For example, they may be responsible for developing new policies and procedures, and/or required to train, debrief and support the wider MDT making establishing good working rapport essential.

Need for engagement in continuing professional development

Continued professional development (CPD) refers to the process of frequently gaining, and building on new knowledge, skills and experience (British Psychological Society, n.d.). CPD can be gained in a variety of ways, ranging from accredited CPD short courses, attending conferences, talks or training, and self-directed study such as reading articles (Health and Care Professions Council, 2017). For all Psychologists, including Trainees, and Qualified Health Psychologists, CPD is an essential part of their role to ensure that professionalism and competence is maintained, and knowledge, skills, capability and personal qualities are developed (Gray et al., 2008). Throughout training, I ensured I engaged in a wide variety of CPD opportunities. Firstly, as previously mentioned, I kept a reflective diary throughout training, to reflect on CPD I have engaged in and critically evaluate what I had learned from each experience and identify further areas for development. I have also attended a number of accredited courses and attended, and presented at, numerous conferences. These experiences helped me develop new and build on existing therapeutic, research and general professional development skills, and helped me identify ongoing learning needs. CPD, along with reflective practice, has been one of my favourite aspects of training, I find it enjoyable to learn new skills and cathartic to record, write up and reflect on my experiences. Engaging in CPD and reflective practice helped me identify and work towards learning needs, network with new people, and open new avenues of interest for future study. It has helped me develop the skills and confidence needed to progress my core competences (Michie et al. 2004). It goes without saying that I am looking forward to future CPD opportunities, and I plan to continue frequent reflective practice throughout my career.

My personal development as a professional Health Psychologist

My competence and confidence have grown throughout Stage 2 training. It is interesting to reflect on how, in my first year of training, I would rely heavily on supervision to guide me. I was very unsure of decision making, and hesitant to progress anything without first seeking reassurance. As I gained more skills and experience, my self-efficacy improved, I was able to problem solve more effectively and able to make informed autonomous decisions. I have gained experience of working with and contributing to wider teams, but also autonomously, using legal and ethical guidelines to inform my actions. Throughout all these settings, I have gained experience in managing challenges, setting and maintaining boundaries. Alongside communicating health psychology concepts in areas unfamiliar with the discipline and using legal and ethical guidelines alongside supervision to guide me and reflect on the more difficult situations. I also started my training towards the end of the COVID-19 pandemic, and witnessed how our course, like every course up and down the country, adapted and evolved to incorporate hybrid working and facilitate a sense of connectedness and teamwork in the absence of physical togetherness.

Summary

Stage 2 training provided me with a wealth of experience and opportunities, both within and outside of my placements which expanded my knowledge and skills, but also my self-efficacy. I feel that training also led me down a path of personal discovery of who I am. I gained new insights into why I am the way I am, and the reflective skills I have gained, while incredibly useful for my psychological career, will also continue to help me make sense of personal conundrums. I want to continue working with NHS patients, within physical health, and plan to undertake the Clinical Psychology Doctorate. I feel this, alongside my Stage 2 training, will allow me to have a niche understanding of both complex psychological concepts underpinning health, and illness, alongside the techniques to help people manage any distress this may bring.

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CHAPTER 2: ADVANCED RESEARCH METHODS

2.1 Quantitative Research Project Manuscript

Investigating the impact of child scald prevention materials on psychological factors linked to burn prevention.

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Abstract

Introduction: Behaviour change theories, such as the Theory of Planned Behaviour (TPB) and the Health Belief Model (HBM), have been used to inform prevention campaigns. However, it is not currently known what impact scald prevention campaigns have on constructs from these theories. This study aimed to explore the impact of viewing child scald prevention materials on parents/caregivers in relation to theory constructs. *Methods:* Parents/caregivers (n=109) of a child(ren) aged five years or under were recruited through social media platforms. Questionnaires measuring scald prevention knowledge, constructs of the TPB and HBM and intentions to engage in scald prevention behaviours were completed via Qualtrics at three time points: before and immediately after viewing child scald prevention materials (previously used in UK campaigns in 2023); and two weeks later. Repeated measures analysis of variance (ANOVA) and Friedman tests were conducted to explore changes over time. Attitudes and cues to action (perceptions of having received messages around prevention behaviours) were removed from the main analyses due to poor reliability. *Results:* Scald prevention knowledge and perceived susceptibility of their child sustaining a scald increased immediately after viewing the materials and this was maintained at follow up. Perceived barriers to engaging in scald prevention behaviour reduced after viewing the materials but this was maintained at follow-up. Subjective norms perceived expectations/pressures from other people to engage in prevention behaviours) increased after viewing the materials, and this was maintained at follow up. There was no change in perceived behavioural control (self-efficacy around prevention behaviours), perceived severity of child scalds, perceived benefits of engaging in scald prevention behaviours or intentions to change prevention behaviour after viewing the materials. *Conclusion:* Child scald prevention materials recently used in the UK may be effective in improving parent/caregiver knowledge and perceived risk of scalds in their children. They may also reduce perceived barriers to engaging in scald prevention behaviours. However, the materials did not alter intentions to change prevention behaviours.

However, this finding should be interpreted with caution and further research with a larger sample size is needed.

Keywords: Paediatric, burn, injury, prevention, theory of planned behaviour, health belief model

Highlights

- Viewing burn prevention materials improved knowledge and some constructs of the HBM.
- Viewing burn prevention materials had no impact on behavioural intentions.
- Future research should aim to clarify the role of the HBM and TPB in regard to paediatric burn prevention.

1. Introduction

Scald injuries account for between a third to half of all burn injuries in high- and middle-income countries globally (Delgado et al., 2002; Forjuoh, 2006). Prevalence of scald injuries in the UK is similar, with children under five years of age in particular accounting for 50–80% of all childhood burns (National Institute for Health and Care Excellence; NICE, 2023). Indeed, in the UK, 7,335 children sustained a burn requiring hospital treatment in 2022, and scalds from hot drinks accounted for 60% of burns in children aged three years or under treated at accident and emergency departments (Children's Burns Trust, 2023a; 2023b). Children are at an increased risk of sustaining burns and scalds due to their limited cognitive awareness of the dangers (Bennett, et al. 2020) and because their skin is thinner than adults, resulting in quicker and more significant burns from hot liquids (Bennett et al. 2020).

Burns, including scalds, come with lifelong physical and psychological challenges which can impact quality of life, including pain, scarring, repeated surgeries, depression, anxiety, appearance concerns and post-traumatic stress disorder (PTSD) (Dauber et al., 2002; Deniz & Arslan, 2017; Jain et al., 2017; Jeschke et al., 2020; Logsetty et al., 2016; Moi et al., 2016; Shepherd, 2015; Stone, et al., 2016; Suluhan et al., 2023; Van Loey, 2020; Wiechman et al., 2001). Therefore, scalds are an important public health issue due to the consequences they can have for children and their families, the cost to the National Health Service and their preventability (Shah et al., 2013). Due to this, charitable organisations such as the Children's Burns Trust (CBT) and the British Burn Association (BBA) have developed and circulated a range of child scald prevention campaigns, aimed at raising awareness in parents/caregivers and reducing the prevalence of scalds in young children.

Theories of behaviour change have long been used to facilitate positive behaviour change; theories propose key psychological constructs that are known to influence health behaviours. For example, Ajzen's Theory of Planned Behaviour (TPB; Ajzen, 1991) states that whether an individual engages in any behaviour is predicted by their intentions to engage in the behaviour (e.g., 'I intend to put hot saucepan lids out of reach of my children'). In turn, intentions are determined by three components: the extent to which and individual holds positive or negative views about performing the behaviour (attitudes); whether they perceive that important people, such as family members, would approve or disapprove of them performing the behaviour (subjective norms); and the extent to which they believe in their ability to perform the specified behaviour (perceived behavioural control).

Alternatively, Rosenstock's Health Belief Model (HBM; Rosenstock, 1974) states that people are more likely to engage in health or injury prevention behaviours if they: view themselves as capable of engaging in the behaviours (self-efficacy); perceive the risk of sustaining the injury is higher (perceived susceptibility); believe the consequences of an injury on their lives would be severe (perceived severity); hold beliefs that they have something to gain, such as reduced likelihood of sustaining an injury (perceived benefits); and believe that the prevention behaviours present few challenges or negative side-effects (perceived barriers) (Champion & Skinner, 2008; Rosenstock, 1974).

Both the TPB and HBM have been used across health promotion and injury prevention campaigns (e.g., bicycle helmet and car seatbelt use; Lajunen & Räsänen, 2004; Şimşekoğlu & Lajunen, 2008). For example, Quine et al. (2001) developed an educational intervention based on the TPB to increase helmet use when cycling in British adolescents. They found that the intervention increased behavioural intentions, subjective norms and perceived behavioural control and had a positive impact on helmet wearing at five-month follow up.

Previous research has explored the role of the HBM on injury prevention more generally in young children. For example, Poorolajal et al., (2013) found that injury prevention knowledge, alongside the HBM constructs of perceived severity, perceived barriers, cues to action, and self-efficacy were found to be important predictors of mothers' behavioural practices regarding general household injury prevention (e.g., falls, burns, and poisonings) in children under five years. Similarly, Moridi et al. (2021) developed a six session, virtual general household injury prevention intervention for mothers of child(ren) under five. Findings suggest the educational intervention was effective at improving perceived susceptibility, severity, perceived benefits, self-efficacy and cues to action in mothers. Additionally, Cao et al. (2014) developed a HBM informed intervention to reduce a range of injuries, including burns, in school aged children. They reported mixed findings, with perceived benefits and perceived severity having the strongest impact on health beliefs, followed by perceived susceptibility and cues to action. However, perceived barriers were reported to have no significant impact on health beliefs. This more general child injury prevention research suggests that HBM constructs may be useful in explaining child injuries but that further research is needed.

With regard to child burn prevention specifically, a limited amount of research has utilised the HBM in relation to parent/caregiver behaviour. In a randomised control trial, Tajiki et al., (2021) delivered a burn injury prevention intervention based on the HBM (Rosenstock, 1974) to mothers of young children and found increases in both burn prevention knowledge and all constructs of the HBM. This study suggests there is a relationship between HBM constructs and improvements in knowledge. However, it is worth noting, perceived barriers also increased following the intervention, the study did not discuss why this may have been the case, but some suggestions could be that mothers were more *aware* of potential barriers, or that they personally *feel* there are more barriers to engaging in burn prevention.

In relation to studies that have explored the role of the TPB on preventing injuries in young children, Amini et al. (2021) delivered a four-session TPB informed general household injury prevention intervention to mothers of young children. They found the intervention had a positive effect on mother’s injury prevention behaviours and all TPB constructs except subjective norms. Finally, Jiang et al. (2023) found the TPB explained parents’ use of car seats in China, with more positive attitudes towards child safety seats, higher subjective norms and higher perceived behavioural control being associated with greater behavioural intentions to use car seats. This suggests that the TPB may be useful in explaining injuries in children. Mentrikoski et al. (2019) claimed to be the first to apply the TPB, alongside burn and fire safety knowledge, to the area of adolescent fire risk behaviours (such as playing with lighters or using accelerants). Mentrikoski et al. (2019) conducted focus groups with adolescents to develop, and explore the feasibility, reliability and validity of a TPB questionnaire, exploring the TPB constructs of attitudes, subjective norms, and perceived behavioural control. The questionnaire was then applied to a wider sample of 222 adolescents, and it was found that the TPB components of attitudes and subjective norms were significant predictors of adolescents’ behavioural intentions to engage in fire risk behaviours (accounting for 38.3% of the variance). However, Mentrikoski et al. (2019) found that perceived behavioural control was not a significant predictor of behavioural intentions, and recommended that further research was needed to clarify the role of perceived behavioural control in fire risk behaviours to inform the development of future burn prevention campaigns. However, the TPB has not yet been applied to the area of burns in young children.

Despite child scald injuries being a considerable public health concern within high- and middle-income countries, there has been limited research that has used behaviour change theories to investigate the impact of scald prevention materials/campaigns. There is also limited research that has investigated if/how these behaviour change theories may be influence parent/caregiver behaviours that could lead to burns in children under their care. No study to date has collectively investigated the TPB and HBM in these areas. The current study aimed to investigate the impact of UK child scald prevention materials on constructs of the TPB and HBM in parents/caregivers of a child(ren) aged five or under. Increased knowledge about the impact of burn prevention materials in relation to these behaviour change theories could inform the development of future materials so they are likely to be more effective in reducing behaviours that may put children at risk of scalds or other burns.

It was hypothesised that viewing child scald prevention materials would:

a) Increase scald prevention knowledge in parents/caregivers immediately afterwards,
b) Sustain increased scald prevention knowledge measured two weeks later.
c) Lead to positive changes in TPB and HBM constructs immediately afterwards.
d) Lead to sustained positive changes in TPB and HBM constructs two weeks later.
e) Increase parents/caregivers' intentions in to engage in scald prevention behaviours immediately afterwards.
f) Sustain increased parents/caregivers' intentions in to engage in scald prevention behaviours two weeks later.

2. Methods

2.1 Design

A repeated measures design with three waves of questionnaire data collection was used: before viewing the scald prevention materials (T1); immediately after viewing the scald prevention materials (T2); and two-weeks later (T3). Dependent variables were scald prevention knowledge and TPB/HBM constructs: attitudes towards engaging in scald preventative behaviours, subjective norms, perceived behavioural control, perceived susceptibility, perceived severity, perceived benefits and barriers to engaging in scald prevention behaviours, cues to action and behavioural intentions to engage in scald preventative behaviours.

2.2 Participants

Participants were eligible to take part if they were aged 18+ years, fluent in English, a parent, grandparent, caregiver or guardian of a child(ren) aged five years or younger, able to access the internet, never had previously sustained (or had a child who sustained) a burn injury requiring hospital treatment, never had experienced (or had a child who experienced) a serious house fire, and were not working in a burns care or burns related service.

These criteria were developed due to most scalds occurring in children aged under five (Children's Burns Trust (2023b). Additionally, the research had a focus on burn injury prevention targeted at learning from people who have not previously sustained a serious burn injury. Therefore, people who have previously sustained a burn injury, or were close to someone who had, would likely vary from the target population and would not align with the scope of the research. Additionally, people who have experienced a burn or fire may find the topic upsetting, and those who work in a burns care related service would likely be more aware of burns prevention and not represent the views of the general public.

One hundred-nine parents/caregivers completed measures at T1. Most were female (n=97; 89.0%), 11 were male (10.1%) and one identified as trans male (0.9%). Ages ranged from 22 to 74 years (mean age: 38.7 years) (Table 1). On the MacArthur Scale of Subjective Social Status (Adler, 2007) as an indicator of socioeconomic status, the mean score was 6.5 (range: 3-10), indicating an average socioeconomic status. Parents most often had one child aged five years or younger living at home (n=57; 56.4%), with 40 (39.6%) having two children and 4 (4%) having three children aged five years or younger living in their household. Eight (7.3%) participants were caregivers and had no children under five years living at their home. These were either grandparents or caregivers through occupation. Almost half of parents/caregivers reported being educated to Bachelors (undergraduate degree) level (n=45; 41.3%), and 21 (19.3%) reported being educated to Masters (postgraduate degree) level.

Figure 1 displays a flowchart of retention rates. The overall retention rate from T1 to T3 was 46.8%., with the exception of ‘knowledge’ which was 45.9%. Analyses revealed that older participants (*p*=.02) and those with higher socioeconomic status (*p*=.04) were significantly more likely to be retained in the study.

2.3 Measures

T1 Measures

Demographic questionnaire: This collected information about the participants gender, age, ethnicity, number and age(s) of child(ren) living in the household, educational, socioeconomic, employment and relationship status.

MacArthur Scale of Subjective Social Status – Adult Version (Adler, 2007). This is a single-item measure of a person’s perceived rank, from lowest (1) to highest (10) relative to others in their group, which can be adapted to the target population’s community. Participants completed this according to their current socioeconomic position within the UK (Adler, 2007).

Dependent Variables (Measured at T1, T2 and T3)

Scald Prevention Knowledge Questionnaire

Scald prevention knowledge was assessed using fourteen items, measured on a dichotomous scale. Questions comprised of statements around preventing scalds within the home, based on information contained in the four burn prevention materials used in the study (e.g., ‘I should always turn pan handles away when cooking'). Response options were either 'true' or 'false'. Seven items had 'true' as the correct response and seven items had 'false' as the correct response. The minimum score was zero and the maximum score was 14. Higher numbers of correct responses indicated increased scald prevention knowledge.

Theory of Planned Behaviour and Health Belief Model Constructs

TPB and HBM constructs were measured using a 24-item questionnaire. Parents'/caregivers' attitudes (e.g., 'I think using a hot water bottle is very important/ very unimportant') (Alpha=.151) , subjective norms (e.g., 'My family expect me to turn pan handles away when on the hob') (Alpha=.711), perceived barriers (e.g., 'It can be hard to check the expiry date on the hot water bottle') (Alpha=.720), and cues to action (e.g., 'Scald injury prevention messages have a big impact on me') (Alpha=.451), were each measured using three items. Perceived behavioural control (e.g., 'It's entirely up to me whether I use a using hot water bottles or not') was also measured over three items, however, two of the items were combined due to low Cronbach's alpha (Alpha=.128), and due to the two items having a moderate correlation (r= .431, p< .001). This resulted in an Alpha .513. However, attitudes and cues to action were removed from the main analysis due to their poor internal consistency (Alpha=.151 and Alpha=.451, respectively).

Perceived susceptibility (e.g., 'Scald injuries can easily happen within the home') (Alpha=.756), perceived benefits (e.g., 'Engaging in scald prevention behaviours can avoid scald injury') (Alpha=.661) and anticipated severity (e.g. 'Scalds can lead to a scar') (Alpha=.745) were each measured using two items. It is recommended that general language be used to assess behavioural intentions for what may be perceived as not socially desirable behaviours (Parker et al., 1992). Therefore, the items used to measure behavioural intentions were worded more generally (e.g., 'I am likely to engage in behaviours to prevent my child(ren) from getting scalded, at least once over the next three months') (Alpha=.914).

Semantic differential scales are a commonly used and effective way of assessing psychological constructs, such as attitudes (Heise, 1970). Participants rated their responses to each item using a semantic differential scale from 'Very important' to 'Very unimportant' for attitudes towards scald prevention behaviour. Likert scales from ‘Strongly disagree’ to ‘Strongly agree’ were used for the remaining constructs on sliding scales ranging from zero to 100. A mean score was generated for each TPB/HBM construct for use in analyses. Higher scores indicated a positive impact on TPB/HBM constructs, for example, more positive attitudes towards scald prevention behaviour, or stronger behavioural intentions to engage in prevention behaviours. The exception was the measurement of perceived barriers, where lower scores indicated a positive impact on parents/carers.

The questionnaire was developed by the authors. Its development was informed by Mentrikoski et al. (2019) and guidance provided by Ajzen (2002, 2005) was used to inform scoring approaches and response formats. As the current study included constructs from both psychological theories, care was taken to ensure the survey was not too long as to increase attrition. Indeed, lengthy surveys measuring knowledge, and attitudes can cause participants to lose interest, drop out, or answer falsely to speed through the survey (Sharma, 2022). Therefore, we restricted the items per construct from two to three.

2.4 Materials

Scald prevention materials

Participants were presented with four burns prevention materials (posters and infographics) to read/view. These were developed by the British Burn Association (BBA) and the Children’s Burns Trust (CBT) in 2023 and are in the public domain. These materials were aimed at parents/caregivers with the aim of preventing household scalds in children.

2.5 Pilot study

A pilot study was conducted with four adults, who met the study inclusion criteria. The pilot study was conducted to explore the accessibility and time burden of the questionnaires, and to ensure they were understandable. Pilot participants completed the scald prevention knowledge and TPB/ HBM questionnaires pre and post viewing the four scald prevention materials, however they did not complete the follow-up stage as the sample would be too small to test for attrition. The questionnaires completed by the pilot population were timed on Qualtrics. Following completion of the questionnaires, the researcher contacted pilot participants by the email address they provided and offered a choice of dates and times in which to attend a maximum 45-minute-long video call on Microsoft Teams. During the video call, the pilot participants were asked open ended questions to explore their views on the accessibility and useability of the questionnaires. No significant issues were highlighted, however, participants identified some minor formatting issues and asked for clarification when they were being asked to complete the questionnaire at the post-viewing stage, as due to the questionnaires being identical, they were unsure if they had been redirected to the beginning.

2.6 Procedure

The study was approved by the host university's ethics committee (ID: SU_23_100). Participants were recruited via a study advert that was posted on online platforms including, Instagram, X (formerly Twitter), LinkedIn and Facebook. Relevant charities, organisations and influencers were also contacted and asked to circulate flyers to their audiences, and local communities (e.g. supermarkets, playgroups, leisure centres and a synagogue) were contacted for permission to recruit parents/ caregivers in person. Potential participants were required to read the participant information sheet informing them of the research procedures. Following this, eligible participants provided consent via Qualtrics. Participants were also instructed to create a unique personal ID code using details such as digits of their phone number and birth year. This code was used to link the questionnaires together at each time point.

Following completion of the consent form, participants were asked to complete the demographic questionnaire and were also asked to provide their email address, in which they would receive an email from Qualtrics containing a link to the final questionnaire at two weeks follow up. After entering their demographic details, participants were automatically presented with the T1 questionnaires. Following completion, participants were presented with four scald prevention materials with instructions to read through/view them. Participants then immediately completed the

T2 questionnaires. Following completion, participants were thanked for their time, and a participant debrief sheet was provided. Participants who completed the T2 questionnaires were contacted two weeks later by email and prompted to complete the T3 questionnaires. Following completion, participants who had opted in were entered a prize draw to win a shopping voucher. They were also provided with the participant debrief form again.

2.7 Data analysis

A power analysis was conducted using G*Power3 (Faul et al., 2007) to determine how many participants would be required to achieve sufficient power. Using a power level of 0.80, a medium effect size (d=0.5) and an alpha level of 0.05, as recommended by Cohen (1988, 1992), it was determined that a minimum of n=60 participants would need to complete questionnaires at all the three time points. The attrition rate of longitudinal public health research varies depending on study duration (Gustavson et al., 2021) but is typically higher for online survey research (Hochheimer et al., 2019). Therefore, it was aimed to recruit n=100 participants to allow for 40% attrition, due to the study follow-up being a short period, but also allowing for its online survey design.

Data were cleaned in preparation for analysis, with duplicate participants being removed. It was mandatory to complete all items in each questionnaire. Therefore, there was no missing data. Data were analysed using IBM SPSS (Version 26).

Descriptive statistics were used to explore the demographic data. Attrition was examined using independent t-tests. Normality assumptions for the DVs were assessed through visual inspection of histograms and z-scores in addition to skewness, kurtosis and sphericity tests (Ghasemi & Zahediasl, 2012; Oztuna et al., 2006). Data were deemed normally distributed if the histograms were bell-shaped and displayed symmetry, and skewness and kurtosis fell within ±3 (Tabachnick & Fidell, 2001). Outliers in the data were identified as those with a z score of ±3.29 (Tabachnick & Fidell, 2001).

As outliers were identified and indices of normality suggested that the assumptions required for a repeated measures ANOVA had been violated, Friedman tests were conducted to explore differences in scald prevention knowledge, subjective, perceived behavioural control, perceived susceptibility, perceived severity, perceived benefits, and behavioural intentions across the three time points. Where significant main effects were found, Wilcoxon Sign-Rank tests were used for post-hoc pairwise comparisons, with Bonferroni correction applied. Transformations were not possible due to the skewed distributions of the data. Repeated measures ANOVAs were conducted to explore differences in perceived barriers across the three time points, with Bonferroni post-hoc tests applied to determine where differences were found when the overall effect was statistically significant. It was anticipated that all variables would increase in direction across T2 and T3, except for perceived barriers, which was anticipated to decrease across T2 and T3. Adjusted p-values are reported in accordance with one-tailed hypothesis testing.

3 Results

Table 2 provides descriptive statistics for each variable across the three time points, in addition to main effects, statistical values and significance levels.

3.1 Knowledge

A Friedman's ANOVA revealed that scald prevention knowledge significantly changed over time ($\chi^2(2) = 31.72$, $p < .001$, w = 0.11). Post-hoc analyses demonstrated a significant increase in knowledge from T1 (Mean Ranks [*MR*] = 1.49) to T2 (*MR*= 2.26, $p < .001$), and from T1 to T3 (*MR*= 2.25, $p < .001$), however, there was no significant difference between T2 and T3 ($p = .50$). Therefore, parents'/caregivers' scald prevention knowledge increased after viewing the prevention materials, and this was maintained at follow-up, supporting hypotheses a) and b).

3.2. HBM and TPB Constructs

A Friedman's ANOVA found that the perceived susceptibility of their child sustaining a scald changed significantly over time ($\chi^2(2) =13.06$, $p = .001$, w = 0.04). Post-hoc tests revealed a significant increase in perceived susceptibility from T1 (*MR*= 1.65) to T2 (*MR*= 2.17, $p = .013$) and from T1 to T3 (*MR*= 2.19, $p = .010$).

There was no significant difference between T2 and T3 ($p = .50$). Therefore, parents'/caregivers' perceived susceptibility of their child sustaining a scald increased immediately after viewing the materials and this was maintained two weeks later, which supports hypotheses c) and d).

A Repeated Measures ANOVA identified a significant main effect of time on perceived barriers to engaging in scald prevention behaviours ($F(1,50)=6.70$, $p < .001$, $\eta p^2=.118$). Post-hoc comparisons revealed a significant decrease in perceived barriers from T1 (M=40.10, SD= 29.59) to T2 (M= 26.64, SD= 26.79, $p < .001$), however, there we no significant differences betweenT1 and T3 (M=31.13, SD= 27.77), when Bonferroni correction is applied ($p = .46$), or T2 and T3 ($p = .327$). Therefore, parents/caregivers perceived fewer barriers to engaging in scald prevention behaviours after viewing the materials, supporting hypothesis c) however, this was not maintained two weeks later, rejecting hypothesis d).

A Friedman's ANOVA found that the was a significant main effect of time in subjective norms (perceptions of expectations/pressure from significant others around engaging in scald prevention behaviours) ($\chi^2(2)$ =5.45, $p = .033$, w = 0.002). However, post-hoc pairwise comparisons, adjusted for Bonferroni correction, did not reveal any significant differences between timepoints ($p > .05$). This suggests that the observed main effect may reflect small differences spread across conditions that were not detectable in individual comparisons.

There were no significant differences after viewing the prevention materials in parents'/caregivers' perceived severity of child scald injuries ($p = .120$, w = 0.01), perceived benefits of engaging in scald prevention behaviours ($p = .115$, w = 0.01), perceived behavioural control (self-efficacy about engaging in prevention behaviours) ($p = .159$, w = 0.02), or intentions to engage in scald prevention behaviours ($p = .252$, w = 0.004).

4 Discussion

The aim of this study was to investigate the impact of parents/caregivers viewing child scald prevention materials (posters, flyers), aimed at preventing household scalds in children, on knowledge and TPB/HBM constructs (Ajzen, 1991; Champion & Skinner, 2008; Rosenstock, 1974). Scald prevention knowledge, perceived susceptibility of their child sustaining a scald, and subjective norms increased after viewing the materials, and perceived barriers to engaging in scald prevention behaviour significantly decreased, as hypothesised. Viewing materials did not change perceived behavioural control, perceived severity of child scalds, perceived benefits of engaging in scald prevention behaviours or intentions.

The current study supports findings by Poorolajal et al. (2013) and Tajiki et al. (2022) that injury and burn injury specific interventions are effective at improving knowledge in parental populations. However, this is unsurprising when knowledge is a frequently explored construct within burn prevention interventions specifically (Salt et al., 2024). In addition, the current study found contrasting results to the existing literature. Regarding constructs of the TPB, previous literature by Mentrikoski et al. (2019) suggested that attitudes and subjective norms were indicators of adolescents engaging in fire risk behaviours, but that perceived behavioural control was not a predictor of engaging in fire risk behaviour. The current study also found that subjective norms were increased following viewing the scald prevention materials, alongside no impact on parent/caregiver’s perceived behavioural control nor intention to engage in scald prevention behaviour following viewing the scald prevention materials. It is important to note, however, that the literature by Mentrikoski et al. (2019) is a predictive study, rather than an intervention, so the results cannot be directly compared with the current study.

One interpretation of these mixed findings could be the limited application of the TPB to burn prevention literature, and a need for future research to clarify the role of this model on a variety of populations. Especially given adolescents may vary significantly in their subjective norms compared to parent/caregivers due to their perceived importance of their peers’ opinions, and poorer risk assessment (Ciranka & van den Bos, 2021). Additionally, it could be that the TPB may not be an appropriate model regarding burn and scald injury prevention behaviours, and further research may be needed to clarify if this is the case. Alternatively, it could be that parent/caregivers’ intentions to engage in scald prevention behaviours were not specifically tied to the materials used in the current study.

Regarding HBM constructs, the current study found viewing the scald prevention materials increased parent/caregivers perceived likelihood of sustaining a scald. This supports research by Cao et al. (2014) and Moridi et al. (2021) who found that, following delivery of their general household injury or burn injury prevention interventions, perceived susceptibility of mothers (Moridi et al., 2021) and school age children (Cao et al., 2014) increased. However, the current study found that viewing scald prevention materials had no impact on perceived benefits of engaging in scald behaviour, or the perceived severity of sustaining a scald. This contradicts Cao et al. (2014) and Moridi et al.'s (2021) findings where the interventions were found to increase these constructs. However, both papers delivered a longitudinal, educational intervention to their respective samples using a variety of techniques, such as lectures and booklets, which may explain why these interventions had more impact on constructs of the HBM.

Additionally, both Tajiki et al. (2022) and Poorolajal et al. (2013) found that perceived barriers played an important role in parent/caregivers injury prevention practices. Tajiki et al. (2022) reported a relationship between mothers' burn prevention knowledge and all constructs of the HBM (including their perceived barriers) following their intervention. Similarly, Poorolajal et al. (2013) found the HBM constructs of perceived severity, perceived barriers, cues to action, and self-efficacy were found to be important predictors of mothers' injury prevention behaviours. The current study found that viewing scald prevention materials was effective at lowering parents/caregivers perceived barriers to engaging in scald prevention behaviours immediately after viewing the materials, however, this was not maintained at two week follow up. This was also not translated into behavioural intentions. Indeed, the current study suggests that while viewing scald prevention materials had some impact on the TPB/HBM constructs of parents/caregivers, it had no impact on their intentions to engage in scald prevention behaviours in the near future.

4.1 Limitations

Some findings from the current study should be interpreted with caution. Variables where no significant differences were found over time (perceived behavioural control, perceived severity, perceived benefits and intentions to engage in prevention behaviour), were subject to ceiling effects prior to viewing the prevention materials, a common limitation of survey research (Groves, 2006). Therefore, the impact of viewing child scald prevention materials on these variables cannot be determined with confidence by this study and further study with larger sample sizes is needed. Indeed, the current research had a smaller sample size, and higher attrition than expected (53.21%, excluding knowledge which was 54.1%). A retrospective power analysis identified that the study was underpowered for variables where no significant main effects were found. It was initially aimed to recruit 100 participants, to allow for 60 to complete all three timepoints. Recruitment was concluded and data analysis began when 113 participants were recruited, and 57 participants had completed follow up. However, when data cleaning, duplicates were identified and removed, resulting in a total of 109 recruited participants, and 51 who completed all three timepoints. Decisions to stop recruitment was informed by estimating to see an effect size with the 57 participants already recruited. Therefore, the generalisability of the findings to the wider parent/caregiver population are limited.

Additionally, due to poor reliability, both attitudes and cues to action were removed from the main analyses. This highlights the lack of a standardised measure of the TPB/HBM in the area of burn and scald injuries. Future research could aim to develop a standardised measure of TPB/HBM constructs in more detail. Finally, the current research only included a measure of behavioural intentions, rather than behaviour change itself, and a follow-up period of two weeks. However, behavioural intentions are not always a good predictor of behaviour change (Faries, 2016), and it may be that two-weeks follow up is too short to observe any impact on behavioural intentions, or behaviour change. Further research should explore impact of scald prevention materials on actual behaviour change. Finally, a longer follow-up period would have been beneficial. It is possible that two-weeks is too short to observe any lasting impact that would be important for scald prevention, additionally, measures of behavioural intentions did not measure specific behaviours, as with the other constructs.

5. Conclusion

Sustaining a scald can cause lifelong scarring, pain, repeated surgeries and physical and psychological difficulties. Therefore, central to burns care, is preventing burns and scalds from occurring. This study investigated the impact of viewing recent UK child scald prevention materials on knowledge, TPB and HBM constructs in parents/caregivers. The findings of this research suggest that viewing scald prevention materials impacts positively on knowledge and some psychological constructs (e.g., perceived susceptibility and perceived barriers) that are known to impact behaviour. Due to the limitations of the current study, the practical implications of the results need to be interpreted with caution. The results suggest that materials may need refinement in order to be effective in improving other TPB/HBM constructs (e.g. perceived severity and perceived behavioural control), alongside behavioural intentions. Additionally, the current research focused on static, text-based prevention materials and didn’t explore alternative modes of communication, such as video or audio materials. Future research in this area is therefore needed.

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2.2 Quantitative Reflexive Commentary

Background and context

The concept for this quantitative research project was developed from reflections of working as a Trainee Health Psychologist within a clinical setting. My placement was in a National Health Service (NHS) Trust Burns Service, and initially, developing a quantitative research question was difficult, as I found myself overwhelmed by the many psychological avenues that research into burn injury can take. Originally, background reading around Health Psychologist Diana Harcourt's work in appearance concerns regarding visible differences appealed to me (Rumsey & Harcourt, 2004). However, on reflection, I felt crossing into the realms of researching psychological distress was more clinical focussed, and beyond my competencies as a Trainee Health Psychologist (Hilton & Johnston, 2017). Supervision helped me to think more holistically about where Health Psychology could fit within burn injury research, and I changed my scope from 'after' a burn to 'before' a burn.

Attending psychosocial special interest groups on placement made me aware that every year, October brings National Burns Awareness Day, a time when organisations such as the British Burn Association (BBA) and Children's Burns Trust (CBT) circulate information to the public aimed at preventing burn injury occurrence (British Burn Association, n.d.; Children's Burns Trust, n.d.). The area of prevention campaigns, as a form of public health communication, seemed like a perfect fit for Health Psychology, and I reflected upon how models such as the Theory of Planned Behaviour (TPB) (Ajzen, 1991) and the Health Belief Model (HBM) (Rosenstock, 1974) had been applied extensively to prevention research for public health, including mammography screening (Ritchie et al., 2021) and smoking cessation (Lareyre et al., 2021).

Due to their wide application in other areas of health promotion research, I was expecting the research regarding these models and burn injuries to be heavily saturated. However, when conducting scoping searches for my systematic review, I found that this was not the case, and developing a research question progressed quickly alongside my review. I knew from my placement, systematic review and qualitative project, that scald injuries in young children continue to be the leading cause of burn injuries in young children in the UK (Children's Burns Trust, 2023; National Institute for Health and Care Excellence, 2023), and that while there is a growing body of prevention campaigns aimed at this population, it is not yet known what impact this has in relation to the TPB and HBM. This led to my overall research question; 'What is the impact of viewing child scald prevention materials in relation to the Theory of Planned Behaviour and the Health Belief Model in parents and caregivers?'

Conducting the study

Development of Study Materials and Ethics Application

When selecting the scald prevention materials (posters, flyers) for parents/ caregivers to view, it was decided to use the same four scald prevention materials developed by the British Burn Association and the Children's Burns Trust in 2023 used in my qualitative study, due to the population and context of the research being the same. However, at the time, I decided not to use the two video materials, due to the risk of technical difficulties and what this could mean for participant's being able to access and complete the study.

When developing a questionnaire to measure the different constructs of interest, such as attitudes, I used the guidance by Kline (2013), and Stewart et al., (2012), who recommend using or adapting previously published measures in an area similar to your own. However, there were no previously published measures relevant to my study focus and population. To resolve this, I contacted the author of a paper who developed a measure of the HBM for mothers of young children (Tajiki et al., 2022), as this paper was most similar to my current research. However, the author responded and confirmed that the measure was in Iranian and subsequently would not be appropriate to use. Therefore, I chose to adapt the TPB measures used by Mentrikoski et al., (2019) in their study on adolescent's fire risk behaviours, and the HBM measures used by Cao et al., (2014) in their study of injury prevention in school age children, as these were the next most similar. I also used the guidance by Ajzen (2002; 2005), which I found helpful to visualise how questions may be worded and scored.

When developing the scald prevention knowledge questionnaire, I initially explored by asking, for example, ‘What is the leading cause of scalds in the household? A. Hot drinks B. Hot water bottles C. Hot baths’. However, in supervision, it was discussed how the answers to the questions I had developed were not covered in the selected prevention materials, meaning any difference in participant’s knowledge scores could not necessarily be attributed to viewing the materials. Therefore, I developed a simplified, true or false system, asking participants to score true or false to statements that were included in the four scald prevention materials. Initially, I developed measures of the TPB and HBM using Likert (Likert, 1932) scales, as this was what I was most familiar with. However, through supervision, I decided to use semantic differential scales (Osgood et al.,1957). Semantic differential scales are commonly used to measure attitudes, as unlike a Likert scale, they allow respondents to stipulate where their views fit on a continuum between two contrasting adjectives (Heise, 1970).

Utilising supervision helped me ensure I included enough items to have good face validity, and that they achieved a balance of being similar but not too repetitive (Forshaw et al., 2011). It is also recommended to use general language when assessing behavioural intentions for what may be perceived as not socially desirable behaviours (Parker et al., 1992). Therefore, supervision helped me to amend the language use for behavioural intention questions from “I am likely to engage in scald risky behaviours at least once over the next three months” to “I am likely to engage in behaviours to prevent my child(ren) from getting scalded, at least once over the next three months.”.

Surprisingly, developing the measures went smoother than expected, and I found this quite an enjoyable learning experience. I reflected on how I especially enjoyed considering how language should be used when communicating about behaviours that may seem less socially desirable (Parker et al., 1992). As a result, I feel I would confidently be able to source, develop and adapt quantitative measures in the future. However, I struggled to understand some of the more statistics-based concepts, such as effect size, when developing my project, which reinforced by anxiety around my lack of competence in conducting the analyses.

Ethical approval

While developing my study and preparing my ethics application, my workplace supervisor made me aware that the Scar Free Foundations runs annual student elective awards with partner organisations, such as the BBA (The Scar Free Foundation, 2024). If successful, the elective awards the student with funds and opportunities to undertake a research project under senior clinical supervision. My workplace contact agreed to be my supervisor for the elective application, and I decided to apply. I was daunted by the additional workload, and deadline demands to my project. However, a successful application would be an invaluable experience and create great networking and dissemination opportunities. The award would also allow me to enhance recruitment by offering a prize draw for shopping vouchers as an incentive.

In my ethical approval form I detailed procedures in the event I did or did not win the award to ensure that I would not need to amend my ethics form in the future. Initially, my ethical approval was returned as approved with minor flaws. Advisory points included allowing participants to ‘opt in’ to the prize draw, rather than automatically entering them, clarifying data storage methods, and removing repetition on the consent form. The advisories made sense, and once I addressed and amended them, ethical approval was granted.

Pilot Study

To address potential issues around accessibility, useability and time burden when developing new measures, it is recommended to run a pilot study (In, 2017). Therefore, I developed a pilot study whereby four participants, who matched the same inclusion and exclusion as the main study population, were recruited to help explore the accessibility, useability and time burden of the questionnaires (Enago Academy, 2024). The pilot study involved participants completing the measures before and after viewing the scald prevention materials, followed by a video call on Microsoft Teams to gather feedback about their experience. The pilot study did not raise any significant issues or amendments. Participants felt the time burden was acceptable, with the questionnaires taking approximately ten minutes to complete. However, participants did identify minor formatting issues, such as typos, and a glitch which returned them to the top of the screen when using sliders. Participants also asked for clarification as to pre-viewing and post-viewing stages of the questionnaires, as due to the questionnaires being identical, some participants were unsure if they had been redirected to the beginning. This feedback was used to make the necessary adjustments to the data collection materials.

Overall, the pilot study was incredibly helpful, as not only had I not noticed the formatting issues highlighted to me, but they could have potentially impacted participant engagement with the study and created problems further along the study (Enago Academy, 2024). This is something that I would repeat if I was required to develop / adapt questionnaires in the future.

Participant Recruitment and Data Collection

I had a varied experience of the recruitment process. Thankfully, my Scar Free Foundation student elective award was successful, which meant I was able to offer a recruitment incentive. However, I was still anticipating recruitment to be difficult, as the prospective power analyses calculated using G*Power3 (Faul et al., 2007) suggested that the study would require a minimum of n=60 participants to complete all three time points to achieve sufficient power. To account for this, I aimed to recruit n=100 participants to allow for 40% attrition. The early stages of recruitment, however, went better than expected. Contacting 'influencers' relevant to the target population on social media, asking them to circulate my study advert, was most effective, resulting in over 50 participants completing both pre and post viewing questionnaires within a month of recruitment. However, I soon noticed my sample so far was extremely homogeneous, at one point only having one male, and the majority being white women. I was hoping for more heterogeneity in my sample, to ensure the results were as generalisable as possible to the wider parent/caregiver population, however it could be that the higher proportion of women reflected a societal narrative about parental roles and responsibilities, particularly in paediatric research. Indeed, previous research was highlighted the disproportionate number of female participants compared to male participants within parental and paediatric research (Davidson et al. 2016; Davidson et al. 2017; Sicouri et al. 2018). Therefore, I targeted influencers whose audience may be broader and more representative, such as charities aimed at supporting fathers, however, many of these did not respond.

As recruitment slowed down and attrition rates crept up, I followed the procedures outlined in my ethics and began recruiting in person from the community. I found this process awkward, it felt like I was inconveniencing and pestering people, and many times when I approached people in public spaces such as leisure centres, or childcare organisations such as nurseries, I was either told I would need to contact the manager for permission (of which none returned contact), or that it was against policy. While I did eventually recruit a few more participants from this strategy, I found it ‘pushy’, and it was hard not to feel embarrassed. I have learned, for future recruitment strategies, how powerful online influencers can be, and plan to do some market research in advance of any future research into what influences should be contacted, and how, to recruit a sample representative of my target population. Another potential avenue would be to explore the use of platforms such as Prolific which have the aim of recruiting participants for research. The use of such a platform, however, would likely depend on the resources available for the particular project as, although they report to recruit participants with specific characteristics quickly, there is a cost implication.

Data Analysis

While it was aimed to recruit N=100 participants, to allow for N=60 to complete all three timepoints, recruitment was concluded and data analysis began when N=113 participants were recruited, and N=57 participants had completed follow up. However, when data cleaning, duplicates were identified and removed, resulting in a final total of N=109 recruited participants, and N=51 who completed all three timepoints. Therefore, the original target of N=100 was met, however, attrition rates were higher than anticipated, based on previous research (46.79% actual vs 40% predicted). Decisions to stop recruitment were informed by prospective power analyses which suggested that N=57 participants would likely produce sufficient power, and due to a requirement to meet course deadlines and produce the report for the Scar Free Foundation.

Cleaning the data identified several issues. Firstly, as mentioned, some participants completed the study numerous times, providing different scores on each entry, which was identified by manually checking the data during data cleaning. These were removed, keeping only the initial data entry established by timepoint. Secondly, while I developed the measures in Qualtrics to be mandatory, meaning each scale was completed in its entirety, some participants had closed the survey after completing the knowledge questionnaire, so did not complete the TPB/HBM questionnaires. Finally, how I had set up some of the demographic questions (such as asking participants to type the ages of their child(ren) in a free text box), meant there was no way of productive descriptive statistics for this variable on SPSS, and age range needed to be calculated by hand. Additionally, when conducting the inferential statistics, it became quickly very clear that much of the data would not meet tests of normality (Ghasemi & Zahediasl, 2012; Oztuna et al., 2006), and many variables were subject to a ceiling effect, a common methodological issue when using surveys (Groves, 2006).

Additionally, I used Cronbach's alpha to assess the internal consistency of items measuring the same construct and found poor reliability for attitudes, cues to action and perceived behavioural control. Supervision helped me conduct 'scale with items removed', and how to look for correlations between items. This meant perceived behavioural control was included in the main analyses after combining two of the items, but that attitudes and cues to action were removed from the main analyses, as their reliability was still poor. I found this process frustrating, as I had already conducted my main statistical analyses and interpreted the findings. It also felt disappointing to remove variables from the main analysis, I felt like I was weakening the paper, despite their removal being necessary to improve the quality of the paper. In future, when developing my own measures, I plan to conduct Cronbach's alpha alongside the descriptive statistics, prior to the main inferential tests, so that I avoid interpreting findings then having to amend them. I relied heavily on the support of supervision to be able to guide me through conducting and interpreting statistical analyses, and while the intricacies of tests of normality, and inferential statistics are vague to me, I have a better understanding of the fundamental principles. I have made comprehensive notes on the processes and stages involved with the current statistical analyses, as I find it easier to process information when I transfer what I have learned into my own words.

Interestingly, when interpreting the results, I reflected that the findings of this research compliment the findings of my qualitative project: Findings suggested that viewing scald prevention materials, particularly written information, has a limited impact on parents/caregivers, and does not translate into behavioural intentions. In particular, there was no change in perceived severity, a key finding of my qualitative research, where parents/caregivers felt aspects of the materials were sugar-coated and did not accurately represent the consequences of sustaining a burn. Since conducting both of these research projects, I have reflected on whether this highlights society's approach to unpleasant topics, subduing consequences from engaging in behaviours to avoid temporary discomfort. Participants in my qualitative paper spoke about how injury prevention campaigns have changed from inciting fear in the 1960s and 70s, to becoming too soft and ineffective. My research has taught me that health campaigns have a challenge to find the middle ground to be effective.

Writing up the Manuscript, Dissemination Plans and Overall Reflections

When writing up the manuscript, I used some of the funds from the Scar Free award to allow me to take unpaid time off work. This was incredibly helpful to be able to take my time to understand and reflect on what I considered the most daunting piece of work towards my Doctorate so far. I also used some of this writing up time to begin planning the Scar Free Report, as this would then be disseminated throughout their organisation, and to similar healthcare organisations. This was again an opportunity to develop on my skills of switching between academic writing and then producing an accessible lay report to disseminate my findings to a range of audiences. I also plan to publish this piece of work in the Burns journal, alongside my qualitative research and systematic review, and seek out opportunities to present this research at any relevant conferences.

Overall, I have found this project too challenging to enjoy, it has felt like a prolonged stressful and uncertain process that has reinforced my dislike of quantitative methodologies. However, I am also able to reflect on how much I have learned in comparison to beginning stage 2 training. Where initially I doubted my ability to conduct quantitative research at all, I know feel I have a good understanding of planning, developing and ethics procedures, alongside writing up for publication. I also feel I have some understanding of cleaning data and conducting, and interpreting descriptive and inferential statistics, albeit I hope to build on these in the future.

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2.3 Qualitative Research Project Manuscript

Exploring parents' and caregivers' views on paediatric burn injury prevention materials in the UK using focus groups

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Abstract

Introduction: Paediatric burn prevention campaigns are common. However, there is limited research exploring views about prevention materials from parents/caregivers. Research that has investigated their effectiveness have yielded mixed findings and no studies have explored parents'/caregivers' views about prevention materials used in the UK. This study aimed to extend knowledge and address this gap. *Methods:* Four online focus groups were held, comprising fourteen (8 female, 6 male) parents/caregivers of child(ren) aged five years or under. Participants were shown burn prevention materials (posters, flyers, and videos) used in the UK throughout 2023. Semi-structured questions explored parents'/caregivers' views towards the materials. Transcripts were analysed using Reflexive Thematic Analysis. *Results:* All parents/caregivers reported not having seen the prevention materials prior to participation. Three main themes were generated: 'Campaigns Shouldn't be Sugar Coated'; 'Evoking Differences in Risk Perception'; and 'People Don't Like Being Told What to Do'. Themes indicated that parents/caregivers believed that sustaining a burn injury had severe consequences for children but that prevention campaigns 'sugar coated' these and materials did not accurately portray them, creating limited impact. Videos were perceived as more engaging than written information, and information that was more personally meaningful and drew on people's lived experiences of burn injuries had more impact. Parents/caregivers had varying perceptions of the risk of burn injuries. Some parents/caregivers perceived a strong risk and already engaged in burn prevention behaviours, defining themselves as 'paranoid parents'. For 'paranoid parents' the materials reinforced their existing prevention behaviours and some of these parents/caregivers viewed written guidance as too authoritarian, or too basic (common sense). In contrast, some parents/caregivers had lower perceptions of risk. These parents/caregivers reported fewer prevention behaviours and an 'if it's not broke don't fix it' attitude to behaviour change. These parents/caregivers reported being less likely to engage in the behaviours encouraged within materials as they felt their current approach to burn prevention was effective. *Conclusion:* More research is needed to understand how future prevention materials can reach more people, and be enhanced to facilitate behaviour change, especially in parents/caregivers who typically engage in fewer burn prevention behaviours. This study has highlighted how future prevention materials should consider that instructive, or basic, language may be perceived negatively, and that materials in video format may be perceived more favourably. Materials should continue to use people's lived experience of burn injuries as a powerful way to communicate their messages. Future materials should aim to broaden their reach to a range of socioeconomic backgrounds and consider culturally specific information.

Keywords; paediatric, burn, injury, prevention, focus groups, reflexive thematic analysis

Highlights

- Parent/caregivers felt that scalds were severe, and campaigns should not sugar-coat them.
- Parents/caregivers' dichotomous approaches to risk perception influenced how they viewed materials.
- Parents/caregivers made recommendations around language use to improve the effectiveness of materials.

1. Introduction

Over 7,335 children sustained a serious burn (requiring hospital treatment) in the UK in 2022, and scalds from hot drinks accounted for 60% of paediatric (children under 3 years) burns treated at Accident and Emergency departments (Children's Burns Trust, 2023a; 2023b). Younger children are at an increased risk of sustaining a burn because of their thinner skin, developing mobility and independence but limited cognitive awareness of the dangers (Bennett et al., 2020). Burn injuries can result in lifelong physical and psychological difficulties (Van Loey, 2020), including pain (Deniz & Arslan, 2017) scarring and repeated surgeries (Jain et al., 2017; Jeschke et al., 2020), depression (Wiechman et al., 2001), anxiety (Suluhan et al., 2023), appearance concerns and post-traumatic stress disorder (PTSD) (Logsetty et al., 2016; Shepherd, 2015). All of these can have a significant impact on quality of life (Moi et al., 2016). Therefore, it is important that effective paediatric burn prevention campaigns are developed.

Public health promotion, illness, and injury prevention campaigns have long used psychological theories to facilitate change in the public. For example, by trying to change their views (such as attitudes and beliefs) or increasing awareness, knowledge or behaviours (Glanz, Rimer & Viswanath, 2015). Published literature suggests that people's views (e.g., attitudes, beliefs and perceptions), alongside other psychological constructs (e.g., motivation), play an important role in whether behaviour change occurs or not (Ajzen, 1991, 2002, 2005; Champion & Skinner, 2008; Jones et al., 2015; Michie, et al., 2011; Rosenstock, 1974). The Health Belief Model (HBM; Rosenstock, 1974) is a commonly applied psychological theory within public behaviour change. The HBM (Rosenstock, 1974) states that people are more likely to engage in behaviours if they view themselves as more likely, or at greater risk of sustaining the injury (perceived susceptibility), and if they believe the consequences of this injury to be severe (perceived severity). The HBM also proposes that people will be more likely to engage in injury prevention behaviours if they feel they have something to gain, such as reduced likelihood of sustaining the injury (perceived benefits), and if the injury prevention behaviour in question presents few challenges, or negative attributes, such as burden or discomfort (perceived barriers) (Champion & Skinner, 2008; Rosenstock, 1974).

The HBM (Rosenstock, 1974) has been applied to a small amount of quantitative burn injury prevention research. Firstly, Tajiki et al., (2021) delivered a burn injury prevention intervention to mothers of young children and found a significant positive correlation across all constructs of the HBM and burn prevention knowledge in mothers, suggesting there is a relationship between HBM constructs and improvements in knowledge. Secondly, Jansen et al., (2020) developed a virtual reality intervention for adults on how to safely act in the event of a fire. They found the intervention group had higher perceived severity and susceptibility of a fire, and lower self-efficacy in their ability to tackle a fire. In contrast, due to lower perceived severity and susceptibility in the control group, their self-efficacy in their belief they could tackle a risky fire situation was higher.

It is suggested that despite many general injury prevention and health promotion campaigns being informed by psychological theories, many are not evaluated (Duplaga, 2019). Therefore, the impact of campaigns on people's views and behaviours is often unknown. Furthermore, people's views and beliefs on campaigns are often not sought. This is essential for understanding what effectively promotes behavioural change (e.g., increased burn prevention behaviours) and what does not (Valente & Kwan, 2001). Indeed, people's views have been found to have a significant impact on the desired outcomes of campaigns. For example, Henriksen et al., (2006) found that some smoking cessation campaigns had a 'boomerang effect', resulting in more positive attitudes towards tobacco use and increased intentions to smoke in adolescents. Similarly, Akther and Nur (2022) found that stronger beliefs in conspiracy theories negatively impacted adults' attitudes, subjective norms, and acceptance towards uptake of the COVID-19 vaccines.

There has been an increasing number of paediatric burn prevention campaigns aimed at reducing the prevalence and severity of burn injuries (McLoughlin et al., 1982; van Balen et al., 2024). Within the UK, it is not always clear how effective these campaigns have been in terms of paediatric burn injury reduction. Of the limited number of campaigns which have been evaluated, there are mixed findings. For example, Kendrick et al., (2017) explored people's beliefs around barriers to, and facilitators of, injury prevention among parents and caregivers, prior to delivering an education-based injury prevention briefing (IPB) with or without facilitation from children's centre staff. Despite being informed by people's views, findings suggest that while families in the intervention group (IPB with facilitation) received more advice on key safety messages and attended more fire safety sessions than families in the control group (IPB without facilitation). However, there was no difference between intervention and control group families' knowledge of the causes of fires in the home. Findings also suggested that while the intervention improved some fire prevention behaviours in families across both groups, neither was effective at increasing the proportion of families with a fire escape plan.

Similarly, Cowley et al., (2021) described the '#SafeTea' campaign, an intervention to prevent hot drink scalds to young children and improve parents' knowledge of appropriate burn first aid. The intervention used social media and online downloadable resources to communicate key messages to parents and caregivers of young children, alongside professionals working with young families in the UK (such as childminders and health visitors). Social media metrics found mostly positive results in relation to the intervention's reach, and people's engagement. Alongside this, acceptability, impact and behaviour change were assessed, and feedback from professionals suggested they felt parents reported increased awareness of the dangers of hot drinks. However, they reported mixed findings regarding professionals' views on behaviour change. While one professional noted they had changed their behaviour around hot drinks near children, another expressed scepticism about the ability of '#SafeTea' to influence parents' behaviours with hot drinks. Therefore, there is limited research that has explored the effectiveness of paediatric burns prevention campaigns. Furthermore, there has been no research that explores parents'/caregivers' views on prevention materials. Despite the prevalence of paediatric burn injuries in the UK and the subsequent growing number of paediatric burn prevention campaigns, it is not yet clear how these are perceived, and what impact they have on people's attitudes/perceptions or behaviour.

The current study therefore aimed to explore parents'/caregivers' views about paediatric burns prevention materials (videos, flyers, posters), developed by the British Burn Association (BBA) and the Children's Burns Trust (CBT).

2 Methods

2.1 Design

A qualitative study was conducted, using focus groups. Focus groups are discussions between a small group of people and can include both homogeneous and heterogeneous samples (Greenwood et al., 2014). Focus groups allow discussions around a topic that is relevant across many groups in society within a moderated setting (Nyumba et al., 2018). A focus group allows for a group discussion of a topic, without the aim of arriving at an agreement, but instead to hear individual views and opinions (Morgan et al., 1998). The current study aimed for heterogeneity across the gender, age (adults over 18) and ethnicity of individuals within the groups, to reflect a range of world views and be more representative of an issue that has impacts across society. Heterogeneous participants are considered useful in facilitating honest and spontaneous views (Thomas et al., 1995), and evidence suggests that mixed gender groups improve the quality of discussions and outcomes (Freitas et al., 1998). Focus groups were guided by a semi-structured interview schedule.

2.2 Participants

Fourteen parents/caregivers (8 female, 6 male) took part across four focus groups. The age range was 29 to 65 years, with a mean of 40 years. Table 1 presents information about the makeup of each focus group.

Table 1.

[Insert Table 1 here]

Participants were eligible to take part if they were adults (≥ 18 years of age), who were fluent in English and:

a) A parent, caregiver or guardian of a child(ren) aged five years or younger.
b) Had internet access and proficiency.
c) Had never sustained (or had a child who sustained) a burn injury requiring hospital treatment
d) Had never experienced (or had a child who experienced) a serious house fire.

Parents/caregivers of a child(ren) aged five years or under was chosen due to most scalds occurring within this age range (Children's Burns Trust, 2023a; Stylianou, et al., 2015). Parents/caregivers with a child(ren) within this age range also represents the population for whom the burn prevention materials were developed by the BBA and CBT in 2023. The research was focused on learning from people who had never sustained a serious burn injury nor had a child(ren) who had. Having previously sustained a burn injury, or having a child(ren) who had, would likely hold different perceptions and beliefs about burn injuries compared to the public, for whom the prevention materials are aimed.

2.3 Procedure and materials

Ethical approval for this study was obtained from the University of Staffordshire's Ethics Committee (Reference number: SU_23_100). Recruitment flyers were circulated on social media platforms (Facebook, Instagram, WhatsApp and X) and included a summary of the study, researcher contact details, and a QR code and link. Potential participants followed the link or QR code which took them to the Information Sheet presented in Qualtrics, which provided detailed information about the study. Eligible participants provided consent, before completing a Demographic Details Survey which collected information on participant gender, age, ethnicity, number and age(s) of child(ren) living in the household, educational level, employment, socioeconomic and relationship status. Participants were also asked to complete the MacArthur Scale of Subjective Social Status – Adult Version (Adler, 2007) to contextualise the sample. This survey also asked participants to provide a contact number and email address to facilitate the sharing of burn prevention materials and organisation of the focus groups.

Following receipt of consent, participants were then emailed six burn prevention materials (posters, flyers and videos) developed by the BBA and CBT that are freely available online. Participants were prompted to read/watch them and consider their views about them before attending a focus group. They were also emailed a link to a Microsoft Forms Survey and asked to indicate their availability to attend a focus group by selecting three dates/times. Following guidance by Clarke and Braun (2013), the aim was to conduct between three and five focus groups, each consisting of five to seven participants, with a minimum of three participants per group. If the minimum of three people needed per focus group was not met, the researcher either attempted to recruit additional participants to this group or offered alternative focus group dates so the number requirements were met.

Four focus groups with between three and four people per group (Table 1) took place between January and March 2024. Each focus group was audio and video recorded for transcription by Microsoft Teams and subsequent analysis. To ensure confidentiality, pseudonyms were allocated to all participants during the transcription process, and subsequently used in this paper.

Based on guidance provided by Clarke and Braun (2013), a semi-structured interview schedule was developed for use in the focus groups. This ensured questions were consistent across all focus groups, but due to the opened ended nature of the questions, allowed for individualised discussions unique to each group. To reflect this, the interview schedule would ask broader questions (e.g. ‘What did you think of the materials that you were shown in advance of the focus group?’) followed by narrower prompts, if needed (e.g. 'What aspects of the materials do you think work/ don’t work?”).

2.4 Quality Control and Rigour

To ensure quality and rigour, detailed notes regarding the analytic process were kept, alongside a reflective diary completed throughout the study (Johnson et al., 2020). Secondary and tertiary researchers were involved in the analytic and write up process.

2.5 Theoretical Positioning and Reflexivity

Reflexive Thematic Analysis (RTA; Braun & Clarke, 2006; Clarke & Braun, 2013; Braun & Clarke, 2021a; 2021b; Braun & Clarke, 2023) was a suitable analysis approach as the research was interested in people’s views and opinions of burn prevention materials. The epistemological stance taken was critical realism, assuming that we can explore views that participants express using language, but that there are imperceptible factors influencing their understandings and perceptions (Bhaskar, 1975). Therefore, RTA allowed flexibility to sit between inductive and deductive approaches; critically exploring the meaning behind participant's views, but also allowing participant's voices to be heard (Willig, 2013).

The lead researcher of this paper was a Trainee Health Psychologist who had been working within a National Health Service (NHS) Burns Service for three years and had engaged in research exploring psychological approaches to burn prevention literature, including the consideration of behaviour change theories that may be relevant. While it is commonly accepted a truly inductive approach to RTA is impossible, due to researchers bringing their own perspectives and subjectivity to qualitative data analysis (Braun & Clarke, 2022; Byrne, 2022), the lead researcher reflected that it was important to have some level of inductivity, due to the limited research in the field, to capture participant's voices and tell their stories using their own words (Naeem et al., 2023). Broad, open interview questions helped to facilitate this, however, the lead researcher reflected that it was likely that the analytic process would also be influenced by their knowledge of behaviour change models.

2.6 Data Analysis

The lead researcher reviewed the transcriptions generated by Microsoft Teams from audio recordings, to ensure the focus groups were transcribed verbatim. Following this, the data were analysed using both an inductive, and deductive approach. When conducting RTA, Braun and Clarke (2006) outline a non-linear six stages process. Across all six stages of the process, the lead researcher used both electronic (NVivo 11) and paper-based tools to facilitate analysis. Firstly, the lead researcher read, and re-read the data, making initial notes and observations to immerse and familiarise themselves with the content. The second stage involved the researcher generating initial codes, a type of label which summaries an idea and some indication of the researcher's interpretation of this idea (Braun & Clarke, 2022). Following this, the researcher moved onto the third stage, generated candidate themes which involved a review of initial codes, noting patterns, relationships, or even contradictory, dichotomous concepts that are meaningful to the research question (Braun & Clarke, 2022). This stage is often influenced by the researcher's personal position and knowledge, but also their experience with handling qualitative data (Braun & Clarke, 2022). Therefore, due to their limited experience of qualitative research, the lead researcher consulted a second researcher (AB), a Health Psychologist with expertise in qualitative research but no experience with burn injuries or burn prevention to interrogate themes.

The quality and scope of the candidate themes were reviewed and developed extensively in stage four. At this point, some candidate themes were removed (e.g., generational differences to burn prevention), as they were not meaningful, and salient to the research question. The penultimate stage involved developing these themes more precisely and analytically (Braun & Clarke, 2022). It was helpful at this stage to develop theme definitions, describing the essence of the theme, and identifying relevant extracts from the data. These were discussed with AB to ensure the themes accurately reflected their intended story. The final stage of the process involved further refinement of themes, to bring the analysis together through the production of this report (Braun & Clarke, 2022). An additional researcher (LS), a Consultant Clinical Psychologist with experience of researching and working within the area of burn injuries, reviewed the final themes, and provided feedback relating to context which would be useful for the reader.

3 Results

Three main themes were generated: 1) Campaigns Shouldn't be Sugar-Coated (with two subthemes: Realism, Relatability and Lived Experience is Powerful and Child Safety Campaigns are Not Prominent); 2) Evoking differences in Risk Perception; 3) People Don't Like Being Told What to Do (Table 2). Excerpts and quotes are included to evidence the themes identified.

To contextualise the results, it is noteworthy that none of the participants reported having seen the materials before. Furthermore, while some participants reported not actively engaging in burn prevention behaviours, most of the participants described themselves as safety conscious, typically engaging in burn prevention, as well as other injury prevention behaviours.

Table 2.

[Insert Table 2 here]

3.1 Theme 1: Campaigns Shouldn’t Be Sugar-Coated

Participants felt that in recent years, illness and injury prevention initiatives have become sugar-coated. Respondents described how they had become diluted or downplayed to make them more agreeable and inoffensive to the public. All parents/caregivers felt that the consequences and impact of burn injuries were severe for children, with one participant stating, “They could be life changing or even fatal in some instances” (Ben). However, participants felt that some of the written materials were ‘sugar coated,’ as described by Leah, “So, these look like she’s having a lovely time, snuggling her hot water bottle […] You know what I mean? Like they look very content. Why don’t they look upset?”.

Although there was an appreciation of finding an appropriate balance, with respondents believing that some level of ‘sugar-coating’ was needed to avoid causing distress. Parents/caregivers expressed the need for burn prevention campaigns to evoke a feeling of shock to have impact. “I think sometimes everything is just made too nice and safe because of, I don't know trading standards or whatever. I think we do need to have a bit of shock to, to drive at home.” (Amy)

Some participants, like Gary, remembered how historical injury prevention campaigns, such as preventing children flying kites near electricity pylons, were effective due to their shock value, and reinforcement of severe consequences which lasts a lifetime. Gary builds on this, acknowledging how the world has changed, and that a certain amount of ‘sugar-coating’ is needed, echoing the statement by Amy, to avoid going too far and inciting fear:

> […] Horrific. You know, and the kite went into the pylons and these kids are electrocuted and, you know, no child in the 70s ever went near a pylon […] The shock factor did work back then. No way, no way would they get put out now. You know, children would have sleepless nights. (Gary)

Similarly, parents/ caregivers also drew on more recent health promotion campaigns they had been exposed to, discussing the use of graphic imagery used on cigarette packets. These participants spoke of how the imagery invoked feelings of shock, but unlike Gary they did not describe feelings of fear: “Well, I I just think shock tactics are the best, you know, like on cigarette packets. You know, they shock you.” (Craig). Overall, there was a consensus amongst parents/caregivers that burn injuries have serious consequences, and prevention campaigns should mirror that severity. This is described by Steph:

> Yeah. I think th- we, we just need to stop sugar-coating things a little bit and, and show, you know, the severity of, you know, if you don't, do A well you know you might get X Y and Z. (Steph).

Parents/caregivers therefore felt that the consequences of a burn injury are severe, and that campaigns need to communicate this, without inciting fear.

Subtheme 1: Realism, Relatability and Lived Experience is Powerful

Alongside parents/caregivers perceiving burn injuries as severe, most also viewed burn injures as frequent. Most held strong beliefs around susceptibility, that anyone could sustain a burn. A narrative that burns happen to ‘regular’ ‘normal’ people, including potentially themselves was prominent, with one participant stating “Because it's just real normal people. Just horrible stuff happens to nice people.” (Sebastian). This perceived susceptibility was underpinned by how realistic and relatable the materials were. Participants discussed how the use of imagery of injured children, and real case studies presenting children and families who had experienced a burn, were more realistic, relatable, and impactful. For example:

> Because it's, it's true. It could happen. It's not, you know, we're not making a Scorsese movie here [laughs]. This could actually happen. This is something that's real within our homes and could happen. […] So, I think it's because it's real. (Gary).

Participants felt the video materials, and materials that used imagery of injured children were particularly striking because it created stronger emotional impact. Discussions between participants suggest this may be due to them having young children of their own. Thus, a more personal connection was made with these visual materials, that was on the cusp of uncomfortable to think about. For example, Steph stated: “I think seeing that is enough to freak me out. And I think its age related too like that hits home for me because he’s so small. Like mine.” Participants found content featuring imagery of young children, and real accounts of injury to be more personally meaningful and relatable. As a result, these materials had a greater impact on participants, as they evoked feelings of fear. This is a sentiment is echoed by Abbie:

> And I guess like with the videos as well, you inevitably, I don't think I got images of it happening, but certainly like made me think, oh God, what if that was what if that was my son? I think make that personal connection a bit more quickly. (Abbie).

All participants reported finding video materials more powerful than written information, due to their relatability. Participants elaborated that while written information was informative, it lacked the ability to invoke a strong emotional reaction, which video materials managed to capture through real-life images, footage and stories of children who had sustained a burn.

> […] there's a a video with a little boy wrapped in bandages. He's probably the hardest hitting for me, the most, quite shocking… That sort of what sort of grabs my attention far more than sort of stats do 'cause it's all still abstract… But actually seeing it and seeing what can go wrong, I don't really want to be exposed to any more than that, but. I don't know. It feels like I've grabbed my attention far more than anything else. […] (Sebastian)

This concept of lived experience was also spoken about by many participants in regard to burns survivors in the public eye, such as Katie Piper (a British media personality and popular burn injury activist who experienced burns as a result of an acid attack and subsequently founded the Katie Piper Foundation, a charity which offers support for burns survivors), and Simon Weston (a Welsh veteran who sustained burns during his service in the Falkands War, and is known for his burns advocacy and charity work, subsequently becoming the Lead Ambassador for the Scar Free Foundation, a medical research charity), and how these figures invoked feelings of inspiration, and are important advocates for raising awareness on the impact of burn injuries. For example, one participant stated: "I think Katie Piper is great in that respect of, you know, I've had this burn and I'm gonna show the world, you know, I'm gonna conquer it." (Steph). Indeed, most participants discussed how hearing about the lifelong impact of burns from someone with lived experience, was an effective way of encouraging burn prevention behaviours, as shown by Sarah:

> I think that you need to see someone with the actual injury. And how it affected them later in life, maybe 'cause, It's not just all about the prevention. But then obviously if you have been burnt quite badly, you know, let them tell the story to people, let them say what happens. [...] I mean, I don't have any qualms about showing [my child] and [my grandchild] when she's a bit older. You know, you mess with hot drinks or you mess with candles, anything. This is what can happen. (Sarah)

Participants found burn survivor stories moving and powerful and felt that videos showing people's lived experience was more realistic, relatable and emotional.

Subtheme 2: Child Safety Campaigns are Not Prominent

Some participants felt that fewer injury prevention campaigns are being used now compared to the past and discussed how modern media consumption habits might affect people's exposure to campaigns. For example, one participant stated, "And it's something it's. It's a bit like, what's the word? It's been a little bit forgotten" (Sarah), and another stating, "I feel like they kind of certainly that I've noticed, don't seem around as much as perhaps they used to be" (Abbie). Other participants attributed this to changes in the way we view media now, with options to avoid or skip adverts, and stream media rather than watching live television, as highlighted by Ben:

> There is little to no adverts out there now. Yeah. So you do see, you can just scroll past them or fast forward them. I can't remember the last time I, except for football, that I actually watched live TV. (Ben)

When discussing how to improve the prominence of child safety materials, participants identified how knowledge gained may come from a place of privilege. Ria highlighted how some people may have had access to resources/education, but that some people may not have had the same opportunities. These people may be more at risk and burn prevention campaigns should target them particularly.

> […] Yeah, I'm really conscious that I'm in a real, you know, we're in a, I'm in a really privileged position where I'm in the position where I can sort of, we're

> able to get a new hob, we're able to do some building work. Like my literacy is good. But, but I haven't seen any of this information. So the people who are in circumstances that are more difficult. It's going to be even harder, isn't it? (Ria)

Parents/caregivers discussed how using social media, and in particular, influencers, would be effective in increasing awareness of child safety for younger generations. For example, one participant stated: “Somebody that you kind of turn into an influencer with statistics […] So they're kind of sit there and say, did you know blah blah blah, just a quick 10 second thing and they can put statistics out.” (Nellie). Some participants also suggested that burn prevention campaigns could target children, but noted that the strategies would need to be adapted to account for how children learn from their environment and from adults. For example:

> I think adults need severity, but I think children are little sponges and like […] My kids have come back after, and even, the little one from nursery like the fire fighters have come in to show them stuff and then they're like, where's all the fire alarms and they want to test them and all that kind of thing. (Amy)

Participants, particularly those currently pregnant or with a new baby in the household, felt that pregnancy was a good opportunity for healthcare professionals to provide burn prevention information, with one participant stating: *“[…]we were saying is that should be something that should go in like the bounty pack when you have your baby…”* (a bounty pack is given to expecting mothers in the UK from healthcare services and contains helpful items such as nappies, but also informational leaflets and DVDs about common healthcare considerations with newborns). Abbie discussed this concept further, highlighting again how the way we consume media has changed in recent years, but that maybe the original methods of paper-based information are preferred by some people:

> I'm pregnant at the moment and because I've had my first pregnancy, I got this massive pack of paper and magazines and things which had stuff from like the lullaby trust about like safe sleep, I think everything's moved to an app now. […] But for some people. But I feel that's kind of a prime time to kind of get those messages to people when they're about to have a small child.

> But it's, it's a shame that you don't get that kind of. Yeah, that paper information anymore. Things are sort of stripped back. (Abbie)

Compared with historic campaigns, participants found that current burn prevention campaigns were less visible, and provided a variety of recommendations for how to improve their reach in the modern world.

3.2 Theme 2: Evoking Differences in Risk Perception.

Many parents/caregivers defined themselves as safety conscious and described engaging in safety-driven behaviours to prevent injuries within their household. However, when discussing burn injuries, there was a difference between the parents/caregivers in relation to how risky a behaviour was perceived. This created a dichotomous narrative between participants. Parents/caregivers described how their perception of risk was a product of a psychological cost-benefit analysis of whether the benefits of engaging in burn prevention behaviours (e.g., turning pan handles away is more likely to protect their child) outweighed the cost, (e.g., taking extra time to remember to turn pan handles away). Sebastian elaborated on this further, also drawing on how the role of being a caregiver to a young child, who lacks their own ability to identify risk, informs his appraisal of risk:

> The cost benefit of if it takes a bit more time, or if it's a bit more inconvenient, versus minimising the risk, to, to sort of, you know, someone that isn't really aware you can't make sort of those, those choices for themselves, but… (Sebastian)

Some parents/caregivers acknowledged that their perceptions of risk were influenced by the perceived barriers to, or benefits of, engaging in behaviours to prevent burns. For example, Ben highlighted how using the back of the hob and turning pan handles away added complexity to cooking, creating a barrier to him engaging with the behaviours encouraged in the materials:

> Probably because it’s hard. It’s easier to hold the pan at the front and stir it and then turn away and do something else. And then when I need to go back and stir I can literally just grab the handle and carry on stirring kind of thing. (Ben)

Some parents/caregivers were often worried about burn injuries, and several who reported frequently engaging in prevention behaviours, described themselves as 'paranoid parents'. The cost benefit analysis performed by these parents resulted in feelings of anxiety around potential risks that led to some of these parents/caregivers looking for, and considering any potential risks, even if they rationalised that they were unlikely to happen:

> […] I don't know about anybody else, but becoming a parent. I have anxiety I didn't know I had that even existed, and I have anxiety about things that are probably never gonna happen that might happen that haven't even got the potential to happen, but I worry about everything since having them […] So I think yeah, as a parent, all of a sudden you soon discover things very quickly and you're like ohh no, that's being removed. I think worst case scenario all the time. (Lauren)

In comparison to the 'paranoid parents', other parents/caregivers described their risk perception as being largely informed by their appraisals of their current behaviours, rather than proactively looking for potential risks. These parents/caregivers therefore reported being less likely to engage in additional burn prevention behaviours, such as those encouraged on the materials, due to their appraisal that their current methods were effective, as no one in their household had ever sustained a burn injury. This was described by Sarah as: "I think it's the, if it's not broke, don't fix it kind of mindset, and it works at the moment." Ben demonstrated how he appraises his current strategies of controlling his environment as effective, and therefore he wouldn't be inclined to change his behaviours as a result of viewing the materials: "If I'm not doing it already, I might just carry on the way that I'm doing and shouting at the kids and going right, sod off." (Ben)

Ian concurred with Ben's statement, also expressing he would be unlikely to change his behaviours after viewing the materials. However, in addition to Ian's appraisal that his current strategies were effective, he also highlighted how the materials detailed behaviours perceived as overcomplicating a working system, adding a barrier to engagement:

> I think some of these I don't do and wouldn't do, the poster hasn't changed my mind because we have a system that works, we keep hot drinks out of

> reach of the kids, so we don't need a specific zone for them, it's just over complicating it. (Ian)

Parents/caregivers' risk perceptions were either very active, or more relaxed, and these risk perceptions in turn informed their intentions to engage in the behaviours shown in the materials.

3.3 Theme 3: People Don't Like Being Told What to Do

Some participants felt prevention campaigns were challenged by excessive health and safety and fear of litigation. Participants discussed how the current climate in the UK often lends itself to authoritarianism, telling the public what they should and should not do. While participants understood the motivation behind the materials, they discussed how the way they are delivered could be perceived as authoritarian. For example, Leah highlighted the need to influence people's behaviours, in a way that does not feel like instructions are coming from a position of power, telling people what to do: "I think that is a way of influencing but not telling people what to do. People don't like to be told what to do." (Leah).

Participants also discussed how prevention campaigns would need to navigate a culture where health and safety was inescapable, "wrapping people in cotton wool". For example, Nellie spoke about how she felt intense health and safety policies and campaigns have been pushed on the public, within the UK. She stated, "Oh God, it's health and safety gone mad, but, it isn't, because certain health and safety has saved countless lives." Nellie acknowledged that while health and safety based campaigns were important, and valuable, the environment could be oversaturated with messages, coming across as over protective, and having the opposite effect of desensitising people to risk. Nellie elaborates:

> It is a hard line as well nowadays with the nanny state. Having posters and things and overkill with health and safety, everyone thinks there's too much health and safety and and it, you know, it's wherever you go. People switch off because they get desensitised. (Nellie)

Here, Nellie referred to the 'nanny state', a British term used to describe a view that a government, or policies, are overprotective and interfere with personal choice. The concept of personal choice, and health and safety campaigns infringing on this, was highlighted by some parents/ caregivers who felt the information presented in the materials was dictatorial, and reminiscent of health and safety do's and don'ts in a workplace. Some of the participants felt that this advice, could be viewed as patronising. These parents/caregivers held the belief that burn prevention knowledge and behaviours were common sense, and being told what they should/shouldn't do felt like an overstep, with one participant stating: "I'm just taking common sense here, almost like- I'm not an idiot." (Sebastian). Additionally, when elaborating on why he felt some of the information came across as patronising/ negative, Gary describes:

> Don't allow children near fireworks. Now. I don't know about you, but you know. You'd have to be from another planet not to know that. […] It might be me, because I've got, you know, I've been on this planet over 60 odd years, but to me […] isn't that just common sense? Like we've said at the beginning, a lot of it is common sense and guiding children and keeping them away. Do you really need that? Do people still need that information in that way? I don't know. […] (Gary)

Gary expressed his frustration at being advised to carry out or avoid behaviours which come naturally to him, which felt like an "insult to [his] intelligence". However, Gary highlights a divide between himself and others, he acknowledges he's looking at this personally and that other people may have different views, or require further advice. This sentiment was echoed by most parents/ caregivers, that common sense may vary from person to person, for example, Amy states:

> "And because I mean, that seems obvious to me and my friend, but for it to be on a post it obviously isn't obvious and people are putting in hot water bottles in a cot, which I think is appalling, because it's too hot, whether it leaks or not." (Amy).

Amy reported being horrified by the concept of others engaging in behaviours she perceives to be dangerous. She describes how this is obvious, common sense to her, but acknowledged that while this is common sense to her, the existence of the burn prevention materials, are due to some parents/caregivers lacking the knowledge she perceives as common sense. Amy highlights how parents/caregivers with good baseline knowledge may find the information within the materials redundant. However, those with less knowledge may be more vulnerable to burn injuries in the home. She suggests that future burn prevention materials should target individuals at higher risk and consider how these people may benefit from this information.

Parents/caregivers felt prevention campaigns should avoid using dictatorial language, such as ‘do’s and don’ts’, and expressed how simple language could come across as patronising. However, participants also noted that the information in the materials might be more relevant to parents/caregivers with less knowledge and suggested that campaigns should specifically target this group.

4 Discussion

This study aimed to explore parent/caregiver’s views about paediatric burns prevention materials developed and promoted by two UK charities in 2023. Focus groups generated parent/caregiver insights, from three generated themes, into the design and delivery of future burn prevention materials and campaigns. These insights included the need for materials to be clear, non-patronising and grounded in real world experience. They highlighted how information communicated in video format is more realistic, relatable and impactful compared with written information, and future burn prevention materials should utilise this approach. The findings of this study highlight how individual differences in approaches to risk perception/parenting may impact on how individuals engage with the content. Materials may need to be tailored to meet the needs of those for whom a change in behaviour is not perceived to be needed. Alternatively, some campaign messages may come across as overly authoritarian, highlighting the need to address how parents and caregivers perceive being directed or instructed. In short, parents need to feel respected, informed and not pressured leaving freedom to make the choice that is right for them.

Despite none of the parents/caregivers having seen the materials before, all parents/caregivers had high perceived severity associated with paediatric burn injuries. Similarly, participants found that the use of case studies and visual materials depicting children and families created a sense of relatability and which enhanced their perceived susceptibility of risk. These findings can be linked to the HBM, which states people’s perceived severity and susceptibility are important indicators of successful behaviour change (Rosenstock, 1974). Indeed, quantitative research by Tajiki et al.,

(2021) and Jansen et al., (2020) found burn prevention interventions increased knowledge, perceived severity and perceived susceptibility in their relevant samples.

However, current findings suggest these constructs alone are not enough to change behaviour, with some parents/caregivers reporting differences in risk perception. For some parents/caregivers, there were more perceived barriers to engaging in the burn prevention behaviours, and fewer perceived benefits. This was due to their current behaviours being effective at preventing a burn so far, leading to little motivation to change their behaviour. Historically, perceived barriers have been found to be a strong predictor of whether an individual chooses to engage in a behaviour or not across a range of public health research (Janz & Becker, 1984; Rosenstock, 1974). Indeed, perceived barriers have been identified as a significant factor in individual's intentions to engage in other injury prevention behaviours such as fall prevention (Vincenzo et al., 2022) and safe driving (Razmara et al., 2018). The current findings highlight the need for future burn prevention research to clarify the impact of psychological constructs commonly used in behaviour change research on the effectiveness of prevention campaigns.

Participants also spoke about how shock value was important, and that this was a way of ensuring the materials accurately portrayed the severity of a burn rather than sugar coating them. Public health campaigns have frequently made use of negative appeals, such as inducing fear, threat or disgust, (e.g., graphic images on cigarette packets), to prompt people to avoid these negative outcomes and engage in the desired behaviour (Gheorghe et al., 2018). Indeed, smoking cessation campaigns have found that while smokers typically respond to stop-smoking campaigns with denial or defensiveness, shocking images showing the consequences of second-hand smoking on others is effective (Mukattash et al., 2023). This reflects the findings of the current study, with participants describing how their cost-benefit analysis of risk prioritised the risk to their children over themselves. It could be that the impact of shock value on motivation to engage in prevention behaviours varies depending on who the campaign is targeting. Existing literature agrees that shock value is effective in capturing people's attention (Dahl et al., 2003; Parry et al., 2013) but that its impact on sustained behaviour change is inconclusive (Borawska et al., 2020; Mukattash et al., 2023). Demographic factors, such as gender and age, have also been shown to impact the effectiveness of shock value (Parry et al., 2013; Lee et al., 2020).

The concept of risk to oneself or others may also play a central role in an individuals' receptiveness to being told what to do. Indeed, health promotion campaigns that are viewed as 'overstepping the mark' may lose their impact as people turn off the message. For example, the United States' government interventions to ban sugary drinks were criticised for infringing on people's autonomy, resulting in discussions around personal choice and freedom overshadowing discussions around the rising obesity concern (Wiley et al., 2013). This again highlights that people may interpret behaviour change messages differently dependant on whether the risk of harm is to themselves, or to others. Participants also felt that some of the behaviours encouraged in the materials were a matter of common sense, regarding the information as largely redundant. It may be that the participants in the current study had received more education and knowledge around burns prevention previously, highlighting the need to tailor materials, and campaigns, to the knowledge and needs of different populations.

The findings of this study also highlight the importance of considering who accesses these materials and the extent of their reach. Published research suggests that socioeconomic disparities are associated with poorer health outcomes, and lower health literacy (the extent to which people can obtain, read, understand, and use healthcare related information to make informed decisions; Bambra et al., 2010; Peden & Franklin, 2021; Stormacq et al., 2019; Yin et al., 2012). Social deprivation and lower socioeconomic status are associated with higher incidences of paediatric burn injuries both in the UK and internationally (Alnababtah et al., 2011; Edelman., 2007; Khoo et al., 2022). Alnababtah et al., (2011) also found that African/African British and Asian/Asian British children were more likely to sustain a burn, and discussed how culturally specific home factors, such as communal cooking and eating may put specific ethnic groups at increased risk. The participants in the current study were largely White British, and overall reported high educational backgrounds, meaning it may be the case that they had good access to knowledge which influenced the amount of safety behaviours they engage in. As a result, it was highlighted by participants that future burn prevention materials should be aimed at those who may have less knowledge, and/or may be at greater risk of sustaining a burn injury specifically. This supports the statement by Jescke (2020) that effective burn prevention campaigns should consider regionally specific factors, including literacy abilities and cultural appropriateness.

4.1 Limitations

Although it was aimed to recruit heterogeneous groups, the participants were largely White British (n=12) and there were no parents/guardians under twenty-nine years of age. Resultantly, the results of the study may not be generalisable to parents/caregivers from different cultures or age groups. Additionally, the materials reviewed were from 2023 (and UK based) and subsequently may not account for changes in burn prevention campaigns or societal attitudes over time or cultural and/or geographical differences. There was also a risk of self-selection bias, as participants may have been more interested in the topic of burn prevention compared to the general population.

Finally, as the study focuses exclusively on parents/caregivers, the views of other stakeholders, such as healthcare professionals were not considered. These could offer valuable perspectives, and therefore should be considered in future research.

5. Conclusion

In conclusion, this study investigated parent/caregiver views of paediatric burn prevention materials, contributing a psychological approach to burn prevention literature. The findings suggest that more research is needed to understand how future prevention materials can reach more people, across a range of socioeconomic groups, and be enhanced to facilitate behaviour change. This is of particular importance for parents/caregivers who typically engage in fewer burn prevention behaviours. This study highlights how parents/caregivers believe communicating the consequences of burns, and not ‘sugar-coating’ them is important. Parents/caregivers found lived experience, such as survivor stories, powerful and suggested that materials continue to utilise these. Parents/caregivers also provided recommendations about the language use and format of future materials, stating that instructive language may be perceived negatively, and that information communicated in video format has more impact.

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2.4 Qualitative Reflexive Commentary

Background and rationale

The concept for my qualitative research project arose within my placement in a National Health Service (NHS) Trust Burns Service. I knew from background reading that health psychology concepts, theories and models had been used throughout injury prevention literature, for example, bicycle helmet use (Witte et al., 1993) and road safety (Barton et al., 2016). Initial discussions into the scope of my qualitative research project began in 2022, and a research question titled; 'A Qualitative Understanding of Why Burns Happen from The Perspective of Individuals with A Non-Intentional Burn Injury' was developed. The aim of this research was to interview inpatients on the burns unit to explore their reflections of the event that led to their burn and identify any patterns across their understandings, beliefs, attitudes, perceptions, or behaviours.

As this project would be using NHS patients, I began familiarising myself with the IRAS ethics application process, and my workplace supervisor strongly recommended sourcing feedback from her burn's specialist patient advisory group, both of which were novel processes to me. The feedback provided by the patient advisory group was unexpectedly negative. They highlighted how the topic area could instigate feelings of guilt or self-blame, and that if I aimed to contribute to prevention literature, recruiting participants who had already sustained a burn would not be generalisable to my target population (those who have not had a burn). Therefore, the research would not benefit the participants who had already sustained a burn in any way and could be subject to serious ethical considerations. Initially, this was difficult news to hear, and I took a step back from developing my qualitative project for some time due to feeling defeatist.

However, the patient advisory group feedback was a valuable learning experience for shaping my current research project. After taking a break, and reflecting on their feedback, I realised their feedback held the answers to the research question I was struggling to develop. Therefore, instead of exploring the views of burns patients, I shifted my focus to the general population, and instead of exploring their views of what they personally do or do not do to prevent a burn, I decided to explore their views of current burn injury prevention recommendations. Consequently, following supervision to refine and develop the focus of the research, this commentary will detail the development and implementation of the current research question 'What are parent/caregiver perceptions of UK Paediatric Burn Injury Prevention materials?'. To address this question, I conducted focus groups with parents/caregivers of young children and analysed the data using Reflexive Thematic Analysis (Braun & Clarke, 2022).

Designing the research

I chose to explore the views of parents/caregivers of children 5 years of age or younger, firstly, because burn injuries are incredibly frequent in young children, particularly those aged five and under (Children's Burns Trust (2023a; 2023b). Secondly, due to this high prevalence, there are a greater number of burn prevention campaigns aimed at parents/caregivers preventing a burn to their young child(ren) in the home. When considering inclusion and exclusion criteria, I recalled the feedback from the patient advisory group and decided to exclude parents/caregivers who had required hospital treatment following a burn injury to themselves or their child. This was to keep the focus of the study on burn prevention, and to protect participants from potential harm. I also asked that participants were aged 18 or over, had at least one child aged five or under in the household, could speak English and use Microsoft teams, to ensure the sample was appropriate for the research question, and that they would ethically be able to engage in the research.

I knew from attending psychosocial special interest group meetings that the British Burn Association (BBA) and Children's Burns Trust (CBT) release burn prevention materials (videos, flyers, posters and infographics) aimed at reducing burn injuries as part of their annual Burns Awareness Day campaigning (BBA., n.d.; CBT., 2023a). These materials are circulated online, and in healthcare settings, so are freely available. However, I approached both organisations to outline a proposal of my research and asked if they would be happy for me to use the materials. Both organisations said yes, but asked that I did not conduct the research prior to burns awareness day (thus limiting the impact of the materials on the public), and that I provided them with a summary of findings prior to dissemination.

Focus groups were chosen as the data collection method, as I wanted to explore people's own views, opinions and experiences. As the materials were circulated to the public, I also wanted to facilitate a discussion amongst people, to explore if there were any shared, or contrasting views, and why this may be (Smithson, 2008). While focus groups can be used across both homogeneous and heterogeneous samples (Greenwood et al., 2014), heterogeneous participants can give honest and spontaneous views (Thomas et al., 1995) and evidence suggests that mixed gender groups tend to improve the quality of discussions and its outcomes (Freitas et al., 1998). The current study aimed for heterogeneity across the gender, age (adults over 18) and ethnicity of individuals within the groups, to reflect a range of world views and be more representative of an issue that has impacts across society. Focus groups allowed for a discussion around a topic that is relevant across many groups in society within a moderated setting, to ensure participants felt comfortable enough to speak openly (Morgan, 1997;Nyumba et al., 2018).

To inform decisions around sample size, I used guidance from Clarke and Braun (2013) to ascertain that fifteen participants would be appropriate to answer my research question, and realistic in terms of the resources I had to complete the research. I used supervision to inform decisions around the choice of days/times in which participants could choose to take part, as I am not a parent/caregiver myself, I was unaware of what days/times would work best for those with young children. Supervision was also helpful when considering setting expectations around time burden for participants by prompting me to consider allowing extra time for technical issues, or late arrivals. Therefore, the participant information sheet informed participants the groups would last two hours. Supervision helped me develop my focus group question schedule, this was very helpful for considering accessible language use, as I reflected, I tend to use complex psychological terms instead of lay language, which the public may not understand.

Reflexive thematic analysis (RTA) was chosen to analyse the data as it enabled the flexibility to sit between inductive and deductive approaches; critically exploring the meaning behind participant's views, but also allowing their voices to be heard

(Willig, 2013). This was important, as RTA should include a reflexivity statement, I was wary that my work in burns care, and other ongoing research and existing knowledge into behaviour change theories and models would influence my interpretation of the data. Additionally, given it is not yet known what parents/caregivers of young children think of burn prevention materials, RTA allowed for a rich summary, interpretation and narrative of their views and opinions (Braun & Clarke, 2021).

Ethics

Gaining ethical approval for my study was a straightforward process. As I had begun the NHS IRAS process previously, some ethical considerations, such as protection from harm, were familiar to me. The NHS IRAS process is also incredibly detailed, so I was familiar with the level of detail my procedure section would need. However, as I was unfamiliar with conducting focus groups, background reading highlighted several specific ethical considerations. For example, it can be difficult to maintain confidentiality and anonymity in focus groups specifically (Clarke & Braun, 2013). Therefore, decisions were made to include a confidentiality clause, asking participants to not disclose any information about other members or the discussions which took place, in the information sheet, consent form, and as part of the ground rules set at the start of each group. Similarly, there is mixed guidance about focus group participants' right to withdraw, as it can be particularly difficult to remove contributions from group discussion (Sim & Waterfield, 2019). I used supervision to inform decision making and decided participants would be informed they could withdraw during, or after the focus group, and that the researcher will make every attempt to remove their contributing data. However, due to the interactive and complicated nature of a focus group discussion, there can be no guarantee that some minor contributions (such as an 'mm") will be removed. Additionally, participants were informed that after 14 days following the focus group, participants were no longer able withdraw their data as the analysis stage may have begun (Oates, et al., 2021).

Once submitted to the University ethics committee, my ethics application was approved with some minor advisories, particularly around inclusion and exclusion criteria. The ethics committee advised if I am excluding parents/caregivers who had ever had a burn, or had a child who had a burn, requiring hospital treatment, then I should also consider participants who had ever witnessed a serious house fire. This feedback made sense in terms of an extra layer of protection from harm for my participants, so I made the recommended changes and progressed to recruitment.

Recruiting for and conducting the focus groups

Recruitment, primarily using my own social media platforms, went well initially and I had seven people sign up within the first ten days, however, from there, recruitment slowed down. I advertised on different online platforms as stated in my ethics, such as reddit, and received feedback that parents/caregivers were fed up with recruitments for surveys they did not find interesting, and the two-hour focus group put people off. I reflected on our decision to set the time burden at two-hours in supervision, as the first two groups had taken approximately an hour, and there had been no technology issues, possibly due to people being more proficient in Teams since the COVID-19 pandemic (Mehta et al., 2020). The decision was made to continue with recruitment, with plans to revise the time of focus groups on the information sheet, via an ethics amendment, if recruitment ceased completely. Ultimately, I manged to recruit fourteen out of the planned fifteen participants, which I felt was an appropriate time to cease recruitment, as it had been open for over a month. This taught me some important considerations for recruiting in future research studies such as conducting a pilot group to test the length of groups prior to recruitment.

Facilitating the first two focus groups felt a bit clumsy as I was unfamiliar with my question schedule and was hesitant around the extent to which I could deviate from the question schedule, in case I ended up in uncharted territory. However, after the first couple of groups, I felt more confident with my questions prompts, and what would be a suitable prompt that was not scripted, but I felt would yield useful data for the analysis. For example, one participant stated they felt the materials came across as ‘patronising’, and I felt it was appropriate to ask them ‘Patronising? Can you explain what you mean by that in a bit more detail?’. I reflected that learning where to deviate from the script, and how to do this is a skill that I will develop with practice and exposure to interview studies.

Overall, the open-ended nature of the questions resulted in rich, descriptive answers from the participants, but I reflected on how they did feel like ‘answers’ and not ‘discussions’, with many participants answering to me, then being quiet and waited for the other members of the group to do the same. As a result, a couple of the groups felt a bit like a group question and answer session rather than a discussion. I reflected on the cause of this and feel it is a mixture of the focus groups being online, and my limited experience of facilitating them. I suspect that in a in-person setting, with more experience, I would learn strategies to better facilitate discussion between members, such as prompting participants, (e.g. How would you respond to [name]’s comments, [name]?). However, this was not the case for all groups, and many did organically discuss questions with each other automatically, which were more enjoyable and interesting groups, as other forms of communication such as humour took place.

Data Analysis

The data were transcribed verbatim using a mixture of audio (Microsoft Teams transcription) software and by hand (listening and amending errors in the transcript produced by Microsoft Teams). This was time consuming, but using the Microsoft Teams transcription software was much faster than my previous experience of transcribing interviews entirely by hand in my MSc Health Psychology degree. I also tried to use NVivo for the first time, and on reflection, this made things more confusing. As a result, I am still not sure how to use NVivo properly and would benefit on watching some more guided tutorials. Therefore, I alternated between NVivo and doing the analysis by hand throughout the process and found organising the themes more helpful when done by hand.

As previously reflected, I felt confident with conducting RTA, as I had conducted thematic analysis before. The books ‘Successful Qualitative Research’ (Clarke & Braun, 2013) and ‘Thematic Analysis: A Practical Guide’ (Braun & Clarke, 2022) were invaluable to the data analysis process due to their clear step by step guide, and description of extra considerations. I found the first stages of data familiarisation and generating initial notes tricky, as I often found myself identifying and noting interesting, but ultimately irrelevant, data to the research question (e.g. older generations views of younger generations as more laid back and dismissive of injury prevention). It may also be the case that some of the opening questions, meant to set the scene and start discussion (e.g. How important is fire safety in the home for you? Why? Where has this information/knowledge come from?) may have instead led to some of these less research question focussed discussions.

I found the stage of generating initial themes, by looking for relationships, differences and links between my codes, the easiest and most enjoyable. I knew from supervision, and my background reading (Braun & Clarke, 2022; Byrne, 2022; Clarke & Braun, 2013), that I could expect this stage to be messy and non-linear. Having these expectations set in advance made the process feel easier, as I would change, review and refine my initial themes many times, which, if you are not aware of this being part of the process, could be very frustrating. However, I found theme development and review alongside theme refining, defining and naming was more frustrating, as I had the 'bones' of what I was seeing in my head, but I was struggling to make it 'fit' in a way that made sense. As a result, I got caught up in constantly re-naming themes, rather than thinking deeper about the content within them, meaning these stages felt like going round in circles. When I was happy with my themes, I asked for input from a second reviewer with qualitative research experience to ensure they captured what I was trying to say but were not simply 'topic summaries' (Braun & Clarke, 2022).

Additionally, I knew from Braun and Clarke (2022), that writing up is the final stage of the analysis process itself, and essential for ensuring your research tells a story people can understand. As a result, a third researcher, with experience of burn injury research reviewed the write up and made further, final recommendations to the themes, such as combining one of the subthemes into another, highlighting quotes which could be better explained within a different theme. On reflection, having second and third reviewer input on my analysis was very important, to have a fresh pair of eyes notice things I have missed, but also to bring their own experience, and reflexivity and skills to shaping the analysis. Overall, while RTA was an appropriate method of data analysis, similar approaches such as Thematic Discourse Analysis may be appropriate for future research looking to contextualise participant's language and views through a social or societal lens as discussions highlighted interesting discourse government intervention, and generational differences.

Dissemination

Dissemination describes the process of circulating the findings of your research to interested audiences (National Institute for Health and Care Research, 2019). Alongside my systematic review, I submitted an abstract of my qualitative project to present via oral podium at the BBA and International Society for Burn Injuries congress in August 2024. Following this, I was encouraged by the organising committee to publish in Burns due to the high quality of the abstract. Therefore, as with my systematic review, I produced my manuscript in accordance with the Burns author guidelines. Alongside the BBA and International Society for Burn Injuries congress, I also presented my study as a poster during the annual Staffordshire University Health Psychology Conference, and plan to potentially approach the Midlands Health Psychology Network to disseminate my research further.

I was also contacted by one of the participants who took part, who asked to be informed of the findings when complete. Therefore, I ensured the summary provided to the BBA and CBT was transferrable and could also be sent to this participant. This was a useful learning experience, as it helped me improve on a previously identified development need around communicating complex information using appropriate language to non-expert audiences.

Conclusion

Overall, I found this experience enjoyable, and would like to continue developing my qualitative research skills in the future. Whilst the project answered the research question, I feel that it has also highlighted an interesting finding in terms of different generations views on burn injury prevention, which could form the focus of a future project. Elements of the research were difficult, such as recruitment and some stages of the RTA process, however, supervision meant I was able to navigate these in a supported environment, and I would feel confident undertaking future qualitative research.

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2.5 Systematic Review Manuscript

What is the impact of burn injury prevention interventions on psychological outcomes?

A systematic review.

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Abstract

Introduction

Burn injury prevention campaigns have focused on the importance of knowledge in reducing burn injuries. However, the impact of prevention interventions on knowledge and other psychological outcomes (e.g., attitudes, beliefs) has not yet been synthesised.

Methodology

A systematic review was conducted. Four electronic databases were searched: PubMed, MEDLINE, CINAHL and Scopus to identify randomised control trials (RCTs) examining burn injury prevention interventions that measured a psychological outcome, such as knowledge or attitudes. A narrative synthesis was conducted. Papers were quality appraised.

Results

Eight RCTs met inclusion criteria. Most RCTs (k=7) measured knowledge but there were mixed findings about whether knowledge changed following interventions. Four studies measured self-efficacy, and most found that perceived ability to engage in prevention behaviour increased following interventions. Other psychological outcome measures included beliefs and attitudes (e.g., perceived severity and susceptibility of receiving a burn). However, the number of studies that measured these was small.

Conclusion

RCTs of burn injury prevention interventions most often measure knowledge change in paediatric populations, however, interventions produce mixed findings on knowledge. Self-efficacy typically changed following exposure to interventions. Few studies measured other psychological variables that may be important in behaviour change. Future burn prevention interventions should aim to measure other psychological variables more consistently, to clarify what makes prevention interventions effective.

Keywords: Burns, injury, prevention, psychological characteristics

Introduction

The Impact of Burn Injuries

Burns are thermal injuries caused by a variety of mechanisms such as flames, steam, hot surfaces, and hot liquids (Schaefer & Tannan, 2023). Globally, burn injuries are frequent, with around 8-million new cases identified in 2019 (Yakupu et al., 2022). The World Health Organisation (WHO) estimate approximately 180,000 deaths occur every year as a result of burn injuries, predominately in low- and middle-income countries (World Health Organisation, 2023). Additionally, despite improvements in burns care and mortality, published research suggests that the prevalence of burn injuries in the United Kingdom (UK) is also increasing (Stylianou et al., 2015).

Burns can have long-term impact, causing physical difficulties, such as hypertrophic scarring, limited joint movement, and numerous reconstructive surgeries (Jeschke et al., 2020). Dauber et al., (2002) found that people who had sustained a severe burn injury reported struggling with ongoing burn-related pain despite their burn occurring an average of eleven-years prior. Additionally, burn injuries can cause people to develop a range of psychological difficulties, including depression, with burns survivors reporting moderate to severe depression at two years after their injury (Wiechman et al., 2001), or procedural, and social anxiety (Deniz & Arslan, 2017; Jain et al., 2017; Suluhan et al., 2023).

Appearance concerns, alongside experiencing stigmatising reactions, unwanted staring or questioning may also be present because of a visible difference (Rumsey et al., 2002; Rumsey & Harcourt, 2004). Additionally, those who have sustained a burn injury are at risk of developing Post Traumatic Stress Disorder (PTSD) with findings indicating severe symptoms of acute traumatic stress being reported in approximately 25% of patients admitted to a burn centre (Van Loey, 2020). Burn injuries occur more frequently in childhood (Jordan et al., 2022), with anxiety, PTSD, depression and further mental health diagnoses being commonly identified by studies exploring the psychological impact of paediatric burn injuries (Woolard et al., 2021).

Burn Injury Prevention

Due to the complex, sustained disruption to a person's life from a burn (Barrett et al., 2019), burn injury prevention initiatives are primarily concerned with reducing the incidence of burn injuries (Jeschke, et al., 2020). However, burn prevention literature has long stressed the importance of education and improving knowledge around causes of burns, as additional outcomes (Atiyeh et al., 2009; Bouter et al., 1990; Linares & Linares, 1990). Earlier literature by Van Rijn et al., (1991) describes how burn prevention interventions can use behaviour change theories commonly used in health promotion research. The Health Belief Model (HBM) (Rosenstock, 1990) is one theory which has been widely used within injury prevention campaigns, including seatbelt use (Şimşekoğlu & Lajunen, 2008) and workplace accidents (Jones & Wuebker, 1993).

The HBM states that people are more likely to engage in injury prevention behaviours if they view themselves as more likely or vulnerable to sustain an injury (perceived susceptibility) and believe the consequences of this injury to be severe (perceived severity) (Rosenstock, 1990). People will also be more likely to engage in injury prevention behaviours if they feel these actions would reduce susceptibility (perceived benefits) and they perceive few negative attributes, such as burden or discomfort, from engaging in the behaviour (perceived barriers) (Rosenstock, 1990). HBM research often also explores the role of self-efficacy, an individual's belief they can successfully complete the behaviour, locus of control (LOC), the extent to which someone believes an event is something within their control, or if it is a result of chance or luck (Wallston & Wallston, 1981) and cues to action, such as people's exposure to prevention campaigns (Jones et al., 2015).

Another frequently used theory is the Theory of Planned Behaviour (TPB) (Ajzen, 1991) which states that an individual's behavioural intentions are determined by three components; the extent to which an individual has a positive or negative appraisal of the behaviour (attitudes), the perceived expectation and pressures from important people to engage with the behaviour, or not (subjective norms) and the belief in one's own ability and self-efficacy to perform the specified behaviour (perceived behavioural control) (Ajzen, 1991; Ajzen, 2005).

Regarding burns, Tajiki et al., (2022) developed a burn prevention intervention based on the HBM and found that mother's knowledge and HBM constructs including perceived susceptibility and perceived severity increased after the intervention. They also found positive changes in perceived barriers and perceived benefits alongside self-efficacy. Similarly, Mentrikoski et al., (2019) explored adolescents' intentions to engage in fire risk behaviours using the TPB and found attitudes towards fire risk behaviours, subjective norms, and perceived behavioural control (Ajzen, 2005) together significantly predicted adolescents' behavioural intentions to engage in fire risk behaviours.

Existing systematic reviews have identified the importance of psychological outcome measures in specific populations and contexts; van Balen et al., (2024) found that educational initiatives aimed at reducing burns were *ineffective* when delivered to children and describe the importance of directing education to parents due to children's limited ability to apply knowledge. Similarly, Price et al.'s (2021) systematic review of burn injury prevention interventions in low-and-middle-income countries found that most educational interventions improved knowledge. Additionally, two studies included a measure of attitudes as part of a multi-injury campaign, with Cao et al., (2015) reporting improvements in in children's knowledge and attitude scores following the intervention. However the findings for Kahriman and Karadeniz (2018) were not reported in the review.

An additional review by Omaki et al., (2016) exploring technology-based interventions for unintentional multi-injury prevention education, included sixteen papers which examined burn prevention interventions, and while all included a measure of knowledge and/or behavioural impact, the details of these outcomes were not discussed. Therefore, it is not known what impact burn prevention interventions have, nor how effective they are, on psychological constructs, an important element of successful behaviour change (Glanz et al., 2015).

Overall, despite published research suggesting that psychological outcomes, such as knowledge, and attitudes playing an important role in behaviour change, and injury prevention initiatives, the impact of burn injury prevention interventions on psychological outcomes has yet to be systematically synthesised. This is the aim of the current paper.

Aims

This systematic review addresses the following question: What is the impact of burn injury prevention interventions on psychological outcomes?

Methods

Prior to starting this systematic review, the Cochrane Database of Systematic Reviews was searched to confirm that the current review question had not already been addressed. It was anticipated that the included papers would be varied, and the psychological outcome measures across papers would be heterogeneous, therefore, a narrative synthesis of the included papers (Popay et al., 2006) was the most appropriate method to explore the systematic review question. This systematic review was pre-registered on PROSPERO: (CRD42023469108),

Search Strategy

Scoping searches were conducted to assess the feasibility of the proposed systematic review. Following this, in November 2023, four electronic databases were searched: PubMed, MEDLINE, CINAHL and Scopus. These databases were chosen to cover a range of health and medical related research. Search terms were generated using abstracts and titles identified in scoping searches and reviewing similar literature reviews in the area of burn injury prevention. When searching databases, a combination of mechanism terms (e.g. scald), intervention terms (e.g. prevent*), study design terms (e.g. Randomised Control Trial) and psychological outcome terms (e.g. self-efficacy) were used. These terms were used alongside the symbol * for truncation, brackets, Boolean phrases (e.g. AND, OR, NOT), English and American spelling variations (e.g. Randomised and Randomized), and English Language filters to exclude papers not written in English.

In the event the search strategy > 1000 results, exclusion terms were applied. Once the databases were systematically searched, the identified literature was combined using Rayyan, and duplicates removed. The protocol stated databases would be searched again, prior to the analysis, therefore databases were searched a final time in February 2024, however no newly published literature was identified.

Data Screening

The lead author screened articles for the inclusion and exclusion criteria based on titles and abstracts, with reasons for rejection recorded. Full texts were screened of papers whose titles and abstracts met all inclusion criteria and no exclusion criteria. To ensure the screening process was reliable, a second reviewer (LS, Nottingham University Hospitals Trust) separately screened the full text of one of these papers, selected by computer randomisation software and following the 10% guidance recommended by Boland et al., (2017). Inter-rater agreement was 100%. The PICOS tool was used to create inclusion and exclusion criteria (Methley et al., 2014) (Table 1) Articles were included if they met all inclusion criteria and no exclusion criteria.

Table 1

[Insert Table 1 here]

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA; Moher et al., 2009) were followed. A PRISMA checklist for the systematic review was completed and Figure 1 displays a PRISMA flow diagram of the search process. Searching electronic databases yielded 1,190 papers with 1,176 papers remaining after removing duplicates. A further 1,136 papers were excluded after reviewing their titles and abstracts against the inclusion and exclusion criteria. This resulted in 40 full texts being retained for screening against the inclusion and exclusion criteria. Of the 40 full text articles that were screened, 32 were deemed not eligible; 10 did not have burns as the primary focus, 10 did not detail a burns specific psychological outcome measure, seven were not an RCT, four were workplace focussed or delivered to a staff population and one only measured the burns specific outcome measure at baseline only.

Two additional papers were identified from the references of texts which met all inclusion and no exclusion criteria, but both were excluded as burns was not the primary focus of the paper. Experts in the field, the International Society for Burns Injuries, the European Burns Association, and the British Burn Association were contacted to identify any grey literature not captured by the electronic database searching, however, none was reported. Ultimately, eight studies were included in the final systematic review, with a sample of these also screened by a second researcher to increase reliability of the screening process.

Figure 1

[Insert Figure 1 here]

Quality Appraisal

Appraising the quality of research included within a systematic review is important, to ensure conclusions made in the review are unbiased. The quality of evidence was assessed for each paper, with conclusions drawn from poor quality research requiring more caution when interpreting, due to the risk of bias. The lead researcher assessed the quality of the papers using the Effective Public Health Practice Project (EPHPP) quality assessment tool for quantitative studies (Thomas et al., 2004). The EPHPP was chosen as it has been purposefully developed to address papers across a range of health-related topics, including injuries (Effective Public Healthcare Panacea Project, n.d.). Additionally, the EPHPP demonstrates excellent inter-rater agreement for the final global rating (Armijo-Olivo et al., 2012).

The EPHPP covers eight domains of quality assessment, with the scores across these eight domains totalling an overall global rating. Global ratings can be strong (no weak ratings across the eight domains), moderate (one weak rating), or weak (two or more weak ratings). A second reviewer (LS, Nottingham University Hospitals Trust) separately assessed one of the papers, which was selected via a computer randomisation software. Inter-rater agreement was 80% prior to discussion. Discussion between a third reviewer (GH, Staffordshire University) occurred when there were inconsistencies between the ratings assigned by the lead researcher and LS. Following discussion, inter-rater agreement increased to 100%.

Table 2

[Insert Table 2 here]

Results

Characteristics of Studies

Four papers (Borzekowski et al., 2014; Burgess et al., 2019; Cardenas et al., 1993; Kendrick et al., 2007) were scored as weak quality, and four (Jansen et al., 2020; Kendrick et al., 2017; McDonald et al. 2004; Tajiki et al. 2021) as moderate (see Table 2). All papers were scored as moderate for selection bias. All papers were scored as strong for their study design, and most were scored as strong for confounders, except for Jansen et al., (2020), who did not report any details around potential confounding factors. Three papers (Cardenas et al., 1993; Kendrick et al., 2007; Tajiki et al. 2021) were scored as weak, and five papers (Borzekowski et al., 2014; Burgess et al., 2019; Jansen et al., 2020; Kendrick et al., 2017; McDonald et al. 2004) scored as moderate for blinding, with the outcome assessor being aware of the exposure condition of participants, and the participants being aware of the research question in (Cardenas et al., 1993) and (Kendrick et al., 2007). Six papers were scored as weak for data collection methods, due to authors not reporting details around the validity and reliability of measures, with the exception of Jansen et al., (2020) and Tajiki et al., (2021). However, most (Cardenas et al., 1993; Jansen et al., 2020; Kendrick et al., 2007; McDonald et al. 2004; Tajiki et al., (2021); papers were scored strong for attrition, with >80% of participants completing the study. Therefore, all conclusions need to be interpreted cautiously due to risk of bias across studies.

Table 3 displays the characteristics of included studies. Samples sizes of included studies ranged from 64 to 1,112 with a total of 2,937 participants represented across all eight studies. Three studies were conducted in the USA (Borzekowski et al., 2014; Cardenas & Simons-Morton, 1993; McDonald et al., 2005), two in the UK (Kendrick et al., 2017; Kendrick et al., 2007), one in the Netherlands (Jansen et al., 2020)., one in Iran (Tajiki et al., 2022), and one in Australia (Burgess et al., 2019). Five papers were aimed at parents, mothers, or families, two papers detail interventions that were delivered to children, and one paper was aimed at adults in the general population. The focus of half of the studies (K=5) were on fire safety, including how to escape from a fire and smoke alarm use, K=2 included a focus on scald prevention and K=1 focussed on a broad range of burn prevention.

Psychological outcomes

Knowledge was measured in seven studies, self-efficacy in four studies, while two studies measured perceived severity and perceived susceptibility, and locus of control. Additional psychological outcome measures included in a single study were: understanding; attitudes; perceptions of social norms; recall; cues to action; perceived benefits; and perceived barriers. Each study developed its own survey to measure psychological outcomes. Table 3 shows outcomes used in each included study.

Table 3

[Insert Table 3 here]

Narrative Synthesis

Eight papers delivered a burn injury prevention intervention with a measure of at least one psychological outcome (see Table 3). Key statistical findings in relation to the review question can be found in Table 3. A narrative synthesis was conducted due to heterogeneity across the settings, intervention and outcome measures of all papers. Papers often included more than one psychological outcome measure, in these instances, the papers will be discussed in relation to the relevant outcome measures detailed in the subheadings.

Table 3

[Insert Table 3 here]

Knowledge

Most studies, K=7, measured knowledge as a psychological outcome across a range of settings, designs, and populations.

Scald and Burn Prevention Interventions Delivered to Mothers.

Three papers (Burgess et al., 2019; Cardenas et al., 1993; Tajiki et al., 2022) delivered interventions to mothers of children, aged from five months to eight years old. The interventions delivered by Burgess et al., (2019) and Cardenas et al., (1993) were similar in that they had a specific focus on scald prevention in the home. Whereas Tajiki et al., (2022) focussed on more general burn prevention in the home.

Both Burgess et al., (2019) and Cardenas et al., (1993) reported positive findings in knowledge: Burgess et al., (2019) found mothers in the intervention group had significantly greater knowledge than mothers in the control group at post-test (t_{240}=3.37, *p <.001*). They also found event rate of overall adequate knowledge (from inadequate at baseline to adequate at 6 month follow up) was also significantly higher in the intervention group than the control group, χ^2_1=9.1, *p=.003*. Additionally, descriptive statistics suggested mothers in the intervention condition were more likely to correctly identify the main cause of burns and scalds, and the age group most at risk of burns and scalds, than mothers in the control condition; Cardenas et al., (1993) found mothers in the intervention group had significantly higher knowledge than mothers in the control group (f= 23.68, p=0.000, χ^2= 25.98, *p=<.01*).

It is not possible to synthesise the findings by Tajiki et al., (2022), as they did not explore differences in knowledge, rather, they used a correlation to explore associations between mother's knowledge alongside HBM constructs. They found a significant positive association between the knowledge of mothers in the intervention group around preventing burns when bathing, and HBM constructs both post-test (r=1, *p=<.01*) and at two month follow up (r=0.947, *p=<.01*), and for knowledge of heating a baby bottle (r=1, *p=<.01*) and at follow up (r=0.947, *p=<.01*). However, there was also a significant positive association between the control group's knowledge of heating a baby bottle and HBM constructs at two month follow up (r=1, *p=<.01*).

In summary, findings suggest that burn prevention interventions aimed at mothers were effective at improving their knowledge about burn and scald risks and prevention.

Fire Safety Interventions Delivered to Adults and Children.

Two papers (Jansen et al., 2020; Kendrick et al., 2007) delivered fire safety interventions. Kendrick et al., (2007) measured safety knowledge, including fire and burn safety knowledge while Jansen et al., (2020) measured fire prevention knowledge. However, the populations who received interventions differed, with Jansen et al., (2020) delivering their intervention to adults over eighteen from the general public, whereas Kendrick et al., (2007) delivered the intervention to children in schools.

The papers reported conflicting findings. Jansen et al., (2020) reported that knowledge was significantly higher among adults from the general public in the control condition (B=-.33 $p<.01$). In contrast, Kendrick et al., (2007) found children in the intervention condition answered a significantly higher percentage of fire and burn prevention knowledge questions correctly at follow up than children in the control condition. Findings suggest children in the intervention group were more likely to know the actions to take if clothes catch fire 95% CI= 22.7% to 47.9% and the actions to take in a house fire OR= 2.80, 95% CI= 1.08-7.22 than children in the control group. Additionally, coefficients suggest the intervention condition had higher knowledge of what to do in the event of specific events, such as clothes catching fire, or a house fire, however, no *p*-value for these specific behaviours was reported.

In summary, findings suggest the virtual reality intervention was not effective at improving fire prevention knowledge in adults, whereas the educational intervention was effective at improving some aspects of fire and burn prevention knowledge in children.

Home Fire Prevention Interventions Delivered to Parents and Families.

Two papers (Kendrick et al., 2017; McDonald et al., 2004) delivered fire and burn prevention interventions to parents and families. Both aimed to prevent fires in the home, with a focus on smoke alarm use and maintenance. Kendrick et al., (2017) designed an educationally based injury prevention briefing (IPB) either with facilitation (IPB+), or without facilitation (IPB only) for children's centres, and local families in the United Kingdom with a child aged three or under. Whereas McDonald et al., (2004) delivered a fire and burn prevention intervention as part of a multi-injury prevention campaign to parents of children between the ages of 6 weeks and 24 months attending a clinic in America.

Both papers showed similar results. McDonald et al., (2004) found no significant difference between parents in the intervention condition and parents in the control condition at four week follow up in safety knowledge questions related to burns prevention (how many smoke alarms to have in a three-story house, and how often should smoke alarm batteries be changed). Similarly, Kendrick et al., (2017) found that while families in the IPB+ group received more advice on key safety messages and attended more fire safety sessions, there was no significant difference between families' knowledge of the causes of fires in the home across for IPB+ or the IPB only condition when compared to the control condition.

In summary, findings suggest that fire and burn prevention interventions aimed at parents and families, with a focus on preventing fires in the home, did not improve safety knowledge, or knowledge of causes of fires in the home.

Constructs of the Health Belief Model, Self-Efficacy and Locus of Control

Two papers, (Jansen et al., 2020; Tajiki et al., 2022) used the HBM to inform the design of their fire and burn injury prevention interventions.

Both papers included a measure of knowledge, and self-efficacy plus measures of the HBM constructs perceived susceptibility and severity, with Tajiki et al., (2022) also measuring additional HBM constructs, perceived benefits and barriers and cues to action. While Jansen et al., (2020) did not measure perceived benefits and barriers, or cues to action, they did measure locus of control (LOC) (Rotter, 1966).

Constructs of the Health Belief Model

Both Jansen et al., (2020) and Tajiki et al., (2022) reported positive findings regarding the impact of the intervention on HBM constructs. Tajiki et al., (2022) reported significantly higher scores for perceived susceptibility, severity, benefits, and barriers in the intervention group compared to the control group. However, the intervention group already had significantly higher scores for cues to action at baseline than the control group. The means suggest scores for the intervention group after the intervention are also significantly higher than the control group (16 ± 0 compared to 12.18 ± 0.59, $p < 0.01$, respectively). But at follow-up, the mean of scores for the intervention group decreases (14.56 ± 1.13) and there is no longer a statistically significant difference between the intervention and the control group ($p > 0.05$). Similarly, Jansen et al., (2020) used structural equation modelling to analyse the relations between the observed and latent constructs and found higher perceived susceptibility and severity in the intervention group (B=.23 *p<.01* and B=.16 *p<.05*), respectively.

Self-Efficacy

All four papers (Borzekowski et al., 2014; Cardenas et al., 1993; Jansen et al., 2020; Tajiki et al., 2022) which measured self-efficacy report the intervention had a positive effect on self-efficacy. Cardenas et al., (1993) reported the intervention group had higher self-efficacy scores than the control group (f=9.58, p=0.003, χ^2= 21.14, *p<.01*). However, what constitutes 'favourable' is unclear, as the items used to measure self-efficacy are not reported. Tajiki et al., (2022) found the intervention group had significantly higher scores for self-efficacy than the control group both after the intervention (23 ± 0, *p<.01*) and at two-month follow-up (19 ± 0, *p<.05*), suggesting the intervention was successful at improving self-efficacy and that this improvement was maintained. Borzekowski et al., (2014) found that children in the gain-framed message group, and in the scripted mediation group, had significantly higher odds of self-efficacy than children who saw a loss framed message, or children who received no mediation. Finally, Jansen et al., (2020) reported higher self-efficacy in the control group (B=-.28 *p<.01*), however, it was hypothesised that experiencing the IVE would increase perceived severity, and in turn, decrease self-efficacy in the intervention group, therefore the results support this hypothesis.

Locus of Control

The two papers (Jansen et al., 2020; McDonald et al., 2004) which measure LOC report mixed findings. McDonald et al., (2004) reporting mixed findings and Jansen et al., (2020) reporting no significant findings. McDonald et al., (2004) measured LOC over six items. Parents in the intervention condition reported significantly more positive prevention beliefs than parents in the control condition for three of the items, with 93% compared to 73%, $p < 0.05$ responding positively to 'most injuries to children happen because adults are not watching them closely', 45% compared to 25%, $p < 0.05$ responding positively to 'if a child gets hurt, they will learn to be more careful' and 86% compared to 64%, $p < 0.05$ responding positively to 'teaching a child to mind you is the best way to prevent injuries'. However, there was no significant difference found between parents in the intervention condition and parents in the control condition for the other three questions. Additionally, Jansen et al., (2020) reported finding the IVE did not significantly affect LOC, so no descriptive or inferential statistics were reported.

In summary, burn and fire prevention interventions were effective at influencing self-efficacy, additionally, fire and burn injury prevention interventions informed by the HBM were effective at improving perceived susceptibility and severity, and perceived benefits. However, findings around the impact of the interventions on perceived barriers, and cues to action were inconclusive, and findings around the impact of the interventions on LOC were mixed, with one study reporting no significant impact, and one reporting a significant impact for half of the LOC measures.

Other Psychological Outcome Measures

Two studies (Borzekowski et al., 2014; Cardenas et al., 1993) measured additional psychological outcomes that were not measured in any other papers. The additional outcome measures in Cardenas et al., (1993) were mother’s attitudes, and behavioural intentions, whereas Borzekowski et al., (2014) measured children’s understandings, recall, and perceptions of social norms. Social norms, as measured in Borzekowski et al., (2014) refers to the extent to which the children felt other children their age would engage in the burn and fire prevention behaviour. However, there is no definition of what attitudes were measured in Cardenas et al. (1993), or what items were used to measure them.

Cardenas et al., (1993) reported mothers in the intervention condition had significantly higher attitudes (f= 5.17, p=0.025, χ^2= 5.15, $p=.<.05$), and behavioural intentions (f= 13.05, p<.001 χ^2= 15.72, $p= 0.01$) than mothers in the control condition. Alternatively, Borzekowski et al., (2014) found message framing was not significantly associated with children’s recall, but children who had unscripted mediation had around three times higher odds of unprompted recall of the ‘Get Low and Go’ scenario compared to children who received no mediation. Interestingly, children who had unscripted mediation were significantly more likely to have less understanding compared to children who received no mediation (AOR = 0.52, 95% CI = 0.29–0.95, $p=.<05$).Borzekowski et al., (2014) also found that children in the scripted mediation condition had significantly higher perceptions for others to engage in the ‘Get Low and Go’ scenario, compared to those who received no mediation (Coeff= .549, 95% CI= 0.208- 0.890, *p=.<01*). Additionally, 79.4% of children in the scripted mediation condition, and 77.6% of children in the gain framed message condition reported they thought other children would be able to use the 'Get Low and Go' message to crouch and escape from a smoke-filled room.

In summary, findings around the impact of message framing on children's understanding, recall and social norms is inconclusive, but that mediation played an important role. Whereas the scald prevention intervention aimed at mothers resulted in more favourable attitude and behavioural intention scores.

Discussion

Summary of the Research

This systematic review aimed to determine the impact of burn injury prevention interventions on psychological outcomes. Overall, the findings are inconclusive. For example, despite knowledge being measured in all but one study only three papers found an increase in the intervention group's knowledge scores. Conversely, burn injury prevention interventions had a consistently positive impact on self-efficacy, with all four of the papers that measured this finding higher self-efficacy in the intervention group and findings suggest that interventions based on the HBM are effective at increasing perceived susceptibility and perceived severity, with both papers that measured this finding higher scores in their intervention groups.

The findings of this review contribute a discourse to the existing literature. For example, regarding knowledge, van Balen et al., (2024) found that educational burn prevention initiatives aimed at increasing knowledge were *ineffective* when delivered to children, suggesting that education should be directed to parents due to children's limited ability to apply knowledge. However, while only one paper included in the current study delivered and educational intervention to children, it found contradictory results. Kendrick et al., (2007) instead found that children who received the intervention had significantly higher fire and burn prevention knowledge at follow up than children in the control group. Similarly, a review by Price et al., (2021) found that most educational burn injury prevention interventions improved knowledge, low-and-middle-income countries. The findings of the current study indicated more mixed findings around knowledge, with K=3 finding an increase in knowledge, K=1 reporting mixed findings, K=2 reporting no significant difference and K=1 reporting greater knowledge in the control group. However, it is worth noting that many of the papers included in the current review were also from high-and-middle-income countries, so generalisability of these findings is limited.

Additionally, the current review is, to the best of our knowledge, the first attempt to synthesise self-efficacy as an outcome measure of burn prevention interventions, with findings suggesting that burn injury prevention interventions were effective at improving self-efficacy. This is interesting, as the paper by Mentrikoski et al., (2019) found that perceived behavioural control was not a significant predictor of adolescents' behavioural intentions to engage in fire risk behaviours. However, it is worth noting that none of the included studies in the present review were delivered to adolescents, again limiting the generalisability. It is difficult to draw conclusions about the impact of psychological interventions on the remaining psychological outcomes (attitudes, behavioural intentions, understanding, recall, social norms, cues to action and perceived benefits and barriers), as they were all only measured once. This reflects the limited research in this area. Indeed, much of the previously published research describing burn injury prevention initiatives have a focus on reducing the incidence of burns or altering people's environment or behaviours in some way. As a result, psychological outcome measures are often secondary.

Additionally, the findings should be interpreted with caution, as the quality of evidence across all included papers was either weak or moderate. There were additional limitations to the included studies, firstly, the findings of Cardenas et al., (1993) were difficult to interpret, due to the limited explanation of which psychological outcomes were being measured, beyond their title, nor did they report the measures used to assess these outcomes. These outcome measures were scored as more or less 'favourable', however there is no description of that this insinuates. The psychological outcomes measured in Cardenas et al., (1993) also seemed to be mapped on constructs of the TPB, however, the TPB is not mentioned or discussed within the paper. McDonald et al., (2004) presents a similar problem, although the measures used to assess prevention beliefs are reported, it is not clear what constitutes a 'positive prevention belief', it is assumed that this refers to parents who agreed that injury prevention was within their control, and not down to chance.

Similarly, it is not known within Tajiki et al., (2022), if a higher score for perceived benefits and perceived barriers meant mothers perceived *more* or *less* benefits or barriers. There was also inconsistency with how psychological outcomes were labelled, for example while Jansen et al., (2020) state they believe their study to be the first to analyse LOC in the fire safety domain, the measure of ‘prevention beliefs’ included in McDonald et al., (2004) was comprised of statements measuring LOC such as ‘Child’s safety is largely a matter of luck’ and ‘Most children’s injuries just cannot be prevented’.

Surprisingly, Jansen et al., (2020) reported an increase of knowledge in their control group, however, they reflect that this may be attributed to the materials used in the study, as the control group received written information on paper, it may have been more accessible and easier to read than information delivered in a game format to the intervention group. Borzekowski et al., (2014) also reported that while scripted mediation was associated with higher odds of self-efficacy for the burns prevention message ‘Get Low and Go’, they report no association between scripted mediation and self-efficacy for the other, burns first-aid message ‘Cool the Burn’, which was not the focus of this review. Suggesting that there are differences between the escaping a burning room and burns first aid messages. Interestingly, Borzekowski et al., (2014) also reported that children in the unscripted mediation condition were significantly more likely to have less understanding of the message compared to children receiving no mediation. Suggesting that in this instance, prompted talking points about burns prevention messages had less impact on understanding than when children were able to talk freely.

There were also some limitations within the included studies’ statistical analyses which means findings need to be interpreted with caution. For example, Cardenas et al., (1993) did not report why they ran an ANOVA and χ^2 rather than a t-test to compare differences between the two groups. Similarly, Tajiki et al., (2022) reportedly found numerous perfect positive correlations, which is a statistically rare occurrence. Additionally, they reported conducting a Spearman’s correlation, but their results table reports a Pearson’s Correlation. Additionally, Kendrick et al., (2007) report conducting an intraclass correlation, normally a measure of reliability, as their inferential test of difference. Finally, Jansen et al., (2020) reported no significant findings for LOC, so removed it from analysis and reported no descriptive or inferential statistics, this is unusual, as other non-significant results were initially presented in the results and then were recorded as being removed in subsequent goodness of fit models.

Strengths and Limitations

This systematic review had several strengths, firstly, a protocol was pre-registered and adhered to PRISMA guidelines to follow best practice. Scoping searches identified a broad range of medically focussed databases which allowed the review to access the most relevant research, and, exploration of potential grey literature, such as by contacting experts in the field helped ensure that papers relevant to the review question were identified. The review also included a focus on RCTs, the strongest research design for interventional studies (Aggarwal & Ranganathan, 2019). In addition, a detailed quality assessment tool was used, with a process supported by involvement if a second reviewer to improve reliability.

The review also had some limitations, chiefly, despite being RCTs, all papers were quality assessed as weak or moderate quality meaning conclusions need to be drawn with caution. Additionally, due to the heterogeneity across the studies, it was not possible to conduct a meta-analysis, and the findings cannot be generalised. Moreover, some of the sample populations were small, and Jansen et al., (2020) was the only paper to develop an intervention for adults in the general population, the rest were focussed on parents or children. Finally, the decision to exclude non-English papers, and other study designs means the findings may have been exclusive to RCTs trials and English papers.

Areas for Future Research

The findings of this review have highlighted a lack of interventions aimed at the general adult population; however, research shows that burn injuries are still frequent in adults across both low income, and high income countries, with burn injuries in adult women being more prevalent (Stylianou et al., 2015; WHO, 2023). This has implications for both future research and clinical practice, as development of valid and reliable measures for psychological outcomes would allow for psychological outcomes to be measured consistently and accurately. Similarly, developing burn prevention interventions aimed at reaching adults, particularly adult women may have a positive impact on the incident rate of burns in this population.

This review also highlights considerations for future research, firstly, a review which includes other study designs in the methodology would identify any burn prevention interventions that were not an RCT, and subsequently not addressed in this review. Additionally, models such as the HBM explain how people's psychological constructs can inform whether they engage in a health promoting, or injury preventing behaviour (Rosenstock, 1990). Therefore, future research could explore how effective burn prevention interventions which include a psychological outcome measure are at changing people's fire safety and/or burn prevention behaviours in the home.

Conclusions

In conclusion, this systematic review found inconsistent evidence that burn injury prevention interventions impact psychological outcomes. Evidence suggests burn injury prevention interventions have a positive impact on self-efficacy, perceived susceptibility, and perceived severity, the impact on such interventions on knowledge is inconclusive, and there is too little research available to synthesis and form conclusions for the other psychological outcome measures included in this review. Future research studies should seek to evaluate burns injury prevention interventions using similar measures to those reviewed in this paper to allow for more precise synthesis of results.

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2.6 Systematic Review Reflective Commentary

Systematic Review Reflexive Commentary

Background

Systematic reviews (SR) are often seen as the ‘gold standard’ way to identify, appraise and synthesise a comprehensive selection of evidence relating to a specific research topic (Boland et al., 2017). In a landscape where research is published on a colossal scale, SRs help pull together and summarise ‘what works’, and ‘what doesn’t’ in any given topic area (Siddaway et al., 2019; Uman, 2011). Whereas, other literature reviews, such as narrative reviews, are more susceptible to limitations such as selection bias (Uman., 2011), SRs follow a comprehensive, transparent, and replicable process culminating often in a meta-analysis or detailed narrative synthesis (Popay et al., 2006; Tawfik et al., 2019; Tong et al., 2012). SRs are therefore frequently used as a precursor to empirical research, by identifying research needs. This can be helpful for ensuring research identifies questions that are important to patients, policy makers, and clinicians (Robinson et al., 2011).

The concept for this SR initially arose while I was trying to develop concepts for my two empirical research projects for the Professional Doctorate, as my placement was in a National Health Service (NHS) Trust Burns Service. The rationale behind the current review question was shaped primarily by a previous attempt at a systematic review titled; ‘What are the psychological variables associated with non-intentional burn injuries and burn injury prevention?’. However, the scope and design of the previous review were unfeasible with the resources I had available. While frustrating, I learned how scoping searches are essential for understanding the breadth and depth of an evidence base, and how this can help shape a feasible and focussed review question.

After searching the databases for the previous review attempt and deciding it was unfeasible, I reflected that the searches highlighted a range of published burn prevention interventions, but that the psychological impact of these was unclear. Consequently, the current review question around the impact of burns prevention interventions on psychological outcomes was conducted. This commentary will detail the development and implementation of the review, including decision making processes, and reflections on my role as lead researcher.

Creating the protocol and gaining ethical approval

Authors of SRs are encouraged to follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA; Moher et al., 2009) to help improve the consistency and quality of reporting. PRISMA guidelines state that before a SR is started, a systematic protocol should be developed and submitted to a registry such as PROSPERO. I initially contacted PROSPERO to ascertain if I could amend my previous registration, to reflect my current review, however, they advised me to make a new registration. I had previously gained approval from the university ethics committee, and my registration of the new protocol to PROSPERO was approved within the same week.

I felt more confident completing the form a second time. I had greater understanding of what each section meant and required me to consider. It also allowed me to assess how I can ensure the review is concise, clear, and manageable, to avoid the same pitfalls that befell my previous review. The Population, Intervention, Comparator, Outcome and Study (PICOS) framework was helpful when developing my inclusion and exclusion criteria (Methley et al., 2014), for example, I knew from previous scoping searches, that if my inclusion criteria allowed for all types of research designs (i.e., both quantitative and qualitative), then the number of identified studies would be unmanageable.

Therefore, I decided to restrict the scope of the review to randomised control trials (RCTs), as scoping searches predicted there should be enough for synthesis to be viable, and RCTs typically represent the strongest research design for intervention studies (Aggarwal & Ranganathan, 2019). This also meant that there was a possibility, if the RCTs were sufficiently homogeneous in the outcomes they assessed, to use meta-analysis to pool results. I met with both university and NHS Trust librarians to develop search terms and strategies. This was incredibly helpful, as they helped me identify the most appropriate databases, and how to use concepts such as Boolean Operators (e.g., AND, OR, NOT), and techniques such as applying a ‘?’ to search for both American and British spelling variations of ‘Randomi?ed’ to allow me to widen or broaden my search strategy and to effectively use the search engines for each of my databases. These are also skills that will be helpful when conducting searches in the future.

Conducting the searches

I applied the search strategy to four electronic databases: PubMed, MEDLINE, CINAHL and Scopus. These were chosen due to scoping searches highlighting the majority of burns prevention literature being identified within medical databases. However, including Scopus also meant searching a wider health and psychological focused database. Search terms were developed using PICOS (Methley et al., 2014) exclusion criteria, such as “NOT Burn-out OR sun”, when databases returned multiple thousands of results to ensure manageability. Experts in the field (from the International Society for Burns Injuries, the European Burns Association, and the British Burn Association) were also contacted to capture any unpublished, grey literature such as conference proceedings, however, no other publications were identified.

Searches yielded 1,190 results which made me feel confident that my search terms and strategy achieved a good balance between being broad enough to capture relevant papers, and narrow enough to be manageable and focussed on the review question. Again, reflecting on my first attempt at searching databases, I could notice a difference between my previous searches in terms of manageability and accuracy, it demonstrated I had learned a lot from my previous experience and this made me feel more in control.

Screening and data extraction:

Due to my carefully developed search strategy, I was left with only 40 full texts to screen, and beginning this process I realised quickly that many would be excluded, often due to papers discussing psychological theory but not including a specific psychological outcome measure. At this point I did worry if my search strategy was too narrow. However, screening references of excluded papers, especially more recent publications reassured me that I had identified the relevant literature, as only two additional papers were identified, and both excluded. I was able to reflect on this in supervision and learned that these concerns can potentially lead you to continually broaden your search scope and risk drifting from the focus of the review or making the scale of the review unmanageable (Bramer et al., 2018).

To organise papers while screening, I used Mendeley and Rayyan, and while I struggled to use Mendeley, Rayyan's format and usability was helpful, especially for keeping a record of reasons for exclusion. I also created a Microsoft Excel spreadsheet with inclusion and exclusion criteria and files on my computer titled: 'included' 'undecided' and 'excluded'. This was an effective way to manage paper screening, however, I was manually counting the number of included and excluded papers, and as some of my included studies published their findings over multiple papers, this became difficult. Adding to this problem was the fact that Rayyan will automatically include duplicates under 'reason for exclusion', which sometimes meant that papers that were also excluded for another reason would have two exclusion tags and again would need to be counted carefully.

Eventually, nine papers met all inclusion and no exclusion criteria, and subsequently were included in the SR. To increase the reliability of a SR, it is recommended to have multiple reviewers involved in the screening process (Stoll et al., 2019). Therefore, it was outlined in the protocol for a second reviewer, my workplace contact who was a Consultant Clinical Psychologist working with burn injuries (LS), to screen 10% of the papers which met all inclusion and no exclusion criteria. As this was comprised of only nine papers, this was rounded up and LS screened one paper, which had 100% agreement across us both for inclusion. I developed a data extraction form in Microsoft Excel independently, using guidance from my supervisors, and the text by (Boland et al., 2017). Initially, when piloting the form on a couple of papers, it comprehensive and functional, however, as I began to incorporate more papers, I noticed numerous issues.

Firstly, this stage was new to me, and I learned very quickly that papers will report things very differently, if at all, and I found it very difficult to find and tease out the information I needed. Secondly, because of the inconsistency in reporting, and the broad titles on my data extraction form (e.g. 'What were the findings?'), I found myself copy and pasting huge swathes of text that may have been relevant, instead of going through it bit by bit. I decided to make my data extraction form more specific, by breaking sections up, for example, ‘What were the results/ findings’ followed by ‘Effectiveness of the intervention (e.g., mean difference, confidence intervals or P-values)’. I made the changes to my protocol, and submitted them to PROSPERO, detailing the changes I made, which were approved. In the likely event I conduct another SR, I will utilise guidelines and templates such as the Cochrane (2022) extraction template when developing my data extraction form, and make sure each section is specific to ensure I don’t get lost in irrelevant data.

Overall, the data extraction phase was unpleasant, I was immensely aware of my difficulties reading, understanding, and interpreting statistical data. I would like to be able to reflect and say that this is a case of imposter syndrome, and that I have objectively, got the ability to understand statistical analyses (Feenstra et al.,2020), however, since a young age I have always been unable to interpret numerical data. Unfortunately, over the years this has become entrenched, and while I am unsure if this is a severe case of mathematics anxiety, or actual dyscalculia, the impact on my self-efficacy and self-esteem was significant, a common experience for people who struggle with mathematics (Khasawneh et al., 2021; Tiyuri et al., 2018; Zakariya, 2022; Živković et al., 2023). Consequently, when struggling to extract data from my included studies I felt frustrated at my lack of ability, which also caused low mood.

To address this I used supervision, and also sought out statistics tuition. Tuition was helpful as it provided a space where I could continually ask questions to clarify things I did not understand, and the tutor was able to explain concepts in terms that were more accessible. This meant that while the process took much longer than expected, ultimately I was able to have some understanding of the information I needed to extract. At this point I was able to identify one of my nine included studies only measured the psychological outcome at baseline, and would need to be excluded, leaving me with eight included papers, this reassured me I was doing the process thoroughly.

Quality assessment

Quality assessment is important, it allows for the reviewer to assess and make a judgement of the overall strength of the evidence included in the review (Seo & Kim, 2012). This means caution can be used when drawing conclusions, dependant on the quality of evidence (Higgins et al., 2011). I decided to use the Effective Public Health Practice Project (EPHPP) quality assessment tool for quantitative studies (Thomas et al., 2004), due to it having been purposefully developed to assess papers across a range of health-related topics, including injuries (Effective Public Healthcare Panacea Project, n.d.). Additionally, as this was my first time conducting a quality assessment process, the availability of the EPHPP Dictionary aided the application of the tool. I was able to use this to develop a Microsoft Excel form, with drop down menus for each of the eight domains within the EPHPP.

To ensure consistency with the protocol, a second reviewer (LS) quality assessed one of the eight included papers. Inter-rater agreement for this paper was 80%, which meant this was discussed with a third reviewer (GH, Staffordshire University), before discussing the findings with the second reviewer who agreed the discrepancy was due to oversight. Following this discussion, inter-rater agreement was increased to 100%. It was useful to gain experience of how to address and record discrepancies between reviewers, as it means I will be more accustomed to the process in future reviews. Additionally, as there were a small number of papers identified, it could have improved reliability of the assessment process for a second reviewer to screen more than 10%. However, the decision for a second reviewer to full text screen and quality assess 10% of the papers was made due to anticipating a large number of potentially included papers identified from scoping searches, and 10% being recommended in Boland et al., (2017, p.84).

Analysis

When developing the protocol, it was left open that if studies were sufficiently homogeneous across design, sample, psychological outcome, and measure(s) used then a meta-analysis could be conducted (Boland et al., 2017). However, all the papers varied greatly across all these domains, meaning a narrative synthesis was conducted (Popay et al., 2006). The heterogeneity, combined with my difficulty processing and interpreting the results of the studies made this process challenging. I developed numerous mini-drafts of the narrative synthesis, which I would get feedback on from supervision, and found I ran into numerous pitfalls, firstly, merely listing the findings of the studies as descriptives, secondly, not synthesising, comparing and contrasting the findings of the studies against each other, and lastly, dedicating too much of the synthesis to describing what the studies did, rather than what they found.

Alongside supervision, I found the guidance by Popay et al., (2006) to be helpful, especially as the example given was on a topic very similar to my own (fire alarm installation initiatives). This guidance meant I approached the narrative synthesis similar to how I would approach grouping relationships in thematic research, and I created a table in Microsoft Word with key features, similarities and differences of the studies in an easy to view format. On reflection, I think this process was necessary due to my data extraction form not being overly helpful in terms of its usability, visuals, and the data I had extracted. I have learned a lot from the synthesis, although the heterogeneity of papers made the process difficult to understand, I am confident that a more effective data extraction form, alongside what I have learned from this synthesis would improve how I approach a future narrative synthesis.

Dissemination Plans

I have identified a range of dissemination opportunities, firstly, I have submitted an abstract of the systematic review to present as a poster at the British Burn Association and International Society for Burn Injuries congress in August 2024. I have also presented the early findings of the review at the Department of Clinical Psychology and Neuropsychology annual research morning, and will share the results with my workplace, and other relevant parties such as the British Burn Association and the Children’s Burns Trust.

I also plan to publish the review and using supervision initially identified three potential journals in which previous systematic reviews with a similar focus to my own have been published; Burns; Burns & Trauma and Injury Prevention. The aims and scope of all three journals are well suited to the focus of my review. However, following submitting an abstract of my systematic review to present at the British

Burn Association and International Society for Burn Injuries congress, I was encouraged by the organising committee to publish in Burns due to the high quality of the abstract. Therefore I produced my manuscript in accordance with the Burns author guidelines.

I am however wary, that the journal guidelines for publishing systematic reviews varies greatly across all three journals, in terms of content, style and length. I am a bit apprehensive about this, as in the event my review does not get accepted, I am worried how much time it will take to adapt my review and develop a cover letter for the additional journals. I am hopeful that supervision can support me with this process.

Overall reflections

Due to the initial review concept not going as planned, I had to juggle this systematic review alongside both empirical research projects, and numerous other commitments and deadlines, making it an overall stressful and frustrating process. However, as this was the second time I had attempted a systematic review, I had a greater understanding of some of the steps. Whilst it was frustrating that my initial systematic review was not feasible, especially in terms of the amount of time I invested into it, I believe what I learned from that process was fundamental to me being able to plan and produce this review. Whereas before, each step of the systematic review felt like an entire project in itself, I now understand what is involved in each step, and find the structure and ordered process of a systematic review quite wieldy.

I can also recognise and appreciate the importance of having the opportunity to conduct a systematic review under supervision, I am thankful I have had this learning opportunity, with plenty of feedback, rather than having to tackle a systematic review independently- which would feel terrifying. I am also, however, a little worried as I have not yet had experience of conducting a meta-analysis under supervision, and given the difficulties that arose as a result of me not being able to understand and interpret statistical data for a narrative synthesis- I am worried how I would tackle a meta-analysis in the future.

Overall, I have learned a lot from this process, especially in regard to using PICOS to ensure the review scope is manageable, ensuring everything is documented clearly during the screening process to avoid confusion over the number of papers, and developing and using an effective data extraction tool to ensure data extracted is relevant and can be interpreted correctly. Ultimately, I feel I could competently and confidently develop a systematic review in the future, however, I am aware my skills, particularly regarding interpretation of data and synthesis need further development, which I am hopeful will come with experience.

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CHAPTER 3: CONSULTANCY SKILLS

Consultancy Case Study

Introduction:

Earll and Bath (2004) describe consultancy as a formal relationship where one party seeks help from another to facilitate a process wherein both the consultant and client arrive at a mutually acceptable solution. The ultimate goal of consultancy is to produce a product, outcome, or to promote change within the relevant context (Lu, Su & Huang, 2010). Within this relationship, Block (2011) highlights the difference between a consultant and a manager. The consultant is a knowledgeable person in a position to offer some insight on a topic to a client, but who has no direct power to make changes or implement programmes. This forms a lateral relationship where neither consultant nor client can dictate the actions of the other.

Within the context of healthcare, Michie (2001) argues Health Psychologists can use psychological skills and knowledge to facilitate, enhance or develop the effectiveness of others in the improvement and maintenance of human health. This piece of consultancy arose via my workplace contact at the time, who provided an opportunity to approach [redacted], a neurorehabilitation organisation separate from my placement. Through my placement at [redacted], I have learned how psychological skills and knowledge within Health Psychology can be applied to neurorehabilitation. Therefore, this case study details how I developed a piece of work towards establishing the clinical need for a Health Psychologist within the multi-disciplinary team (MDT) at [redacted]

The report will detail how the consultancy addressed the following five stages adapted from Earll and Bath (2004, p. 248):

1. Identify requests for consultancy
2. Plan the work and negotiate the contract
3. Conduct, manage and monitor consultancy
4. Establish and maintain working relationships with clients
5. Evaluate the impact of the consultancy.

Identifying the request for consultancy:

The request for consultancy work can be identified by either the consultant or the client, either one can approach the other for work (Newton, 2010). I explored any possible consultancy opportunities within my workplace contact's network, outside of [redacted] to ensure I was an external consultant (Block, 2011). My workplace contact had been liaising with a neurorehabilitation organisation, [redacted], a residential centre for people with post-acute acquired brain injury. My workplace contact liaised with the multidisciplinary team (MDT) at [redacted] to detail how I have applied Health Psychology concepts within my work at [redacted]. [redacted] confirmed they would be interested in hearing in more depth, from myself, about what Health Psychology could contribute to their organisation with the aim of 'Establishing the clinical need for Health Psychology within the MDT at [redacted].

Client

Prior to discussing a consultancy project, it is useful to understand exactly who is involved in the consultancy, and who would be affected. These could be individuals, committees, groups or organisations, but who would all be classified as a client (Michie, 2001). Establishing who the clients are can be ambiguous, and often there are multiple clients involved in a consultancy project (Block, 2011; Earll & Bath, 2004). I applied Schein's (1988) descriptive categories of clients to clarify who would be involved in the project and to what extent. As I was working with a larger team of people, I found this task useful to do promptly, as it helped to simplify communication pathways.

Table 1

Applying Schein's (1988) client categories to the types of clients involved within the consultancy project.

Client Category	Schein's (1988) Definition	Client
Contact	The individual(s) who first contact the consultant with a request, question, or issue.	AZ, *Head of Service at* [redacted] [redacted]. - Initiated consultancy opportunity within [redacted] [redacted] and promoted the role of Health Psychology within the field of brain injury rehabilitation programmes.
Primary	The individual(s) who ultimately "own" the problem or issue being worked on. Typically, also the client who pays for the consultancy project to take place.	AZ, *Head of Service at* [redacted] [redacted]. - Signed contract and working conditions document. Sole recipient of final deliverable and responsible for providing feedback and making any adjustment requests.
Ultimate	The community, organisation, or any other group that the consultant cares about and who may directly benefit from the	Attendees of [redacted] [redacted], *Survivors of acquired brain injury staying at* [redacted] *during my consultancy period.*

	consultancy. Their welfare must be considered in any intervention that the consultant makes.	• All assessments, formulations and recommendations made within the scope of the consultancy project were person centered and tailored to current attendee's individual needs and goals.
Intermediate	The individuals or groups that get involved in various interviews, meetings, and other activities as the project evolves	Members of the rehabilitation team, *Support workers; Activity leaders; Occupational Therapists; Physiotherapists; Speech and Language Therapists; Centre Managers.* • Would ask for my input, suggestions, and recommendations during MDT meetings. • Would occasionally liaise with me via email to provide additional information about attendees.

Clarifying The Project

Following the MDT's interest in 'Establishing the clinical need for Health Psychology within the MDT at [redacted]', my workplace contact and I arranged an initial scoping meeting with the MDT. The purpose of this was to; explain what exactly Health Psychology is, and how it may differ from other psychological disciplines; describe what behaviour change interventions are and how I have tailored these for clients with acquired brain injury within [redacted]; and to explore how elements of Health Psychology could compliment [redacted] current approach to rehabilitation. To deliver this information, I developed a PowerPoint presentation.

As I knew the scoping meeting had the broad and ambiguous aim of ‘establishing the clinical need for Health Psychology’, I was able to formulate some key questions prior to the meeting. My questions allowed me to investigate what the nature of the project would be, and how it would be produced. Prior to the meeting, I had also reflected on my personal boundaries and their flexibility (Hartmann, 1997). As I was already planning a systematic review, I had very rigid time boundaries and was hesitant to take on any additional research work. Reflecting on boundaries prior was helpful, as I noticed I felt slightly pressurised within the meeting to ‘sell’ Health Psychology, due to the MDT being comprised of experts in their field. There was potential for me to agree to take on more work than I could have managed to appear more competent.

The outcome of the meeting meant my questions improved my understanding and clarity around the project, the timeframes, my role and the client’s role. It also provided me with an opportunity to identify one individual as my primary client (AZ) within a larger team, and therefore who to contact as the project progressed. The initial project took the shape of the Purchase-of-Information or Expertise Model: Selling and Telling (Schein, 1999), or information specialist (Lippitt & Lippitt, 1986). Wherein, the client is gaining from the consultant an expert service they are unable to provide for themselves, due to the MDT having no prior Health Psychology knowledge or skills.

Planning the work and negotiating the contract:

Planning the work

The second stage of consultancy highlighted by Earll and Bath (2004) is the process of planning and negotiating a contract and working conditions agreement (WCA), to confirm the commitment of both parties to the project. Furusten (2009) states structured and systematic pre-contract negotiations are key in formulating client expectations from the consultant. Therefore, to confirm I had understood my client’s needs, I developed a PowerPoint presentation detailing a ‘brief’ of what I had understood prior to developing the contract.

When developing the brief, I reflected on the fact it again aligned with the Purchase-of-Information or Expertise Model (Schein, 1999). I believe this is because I felt I had to work hard in the scoping meeting to clarify the ambiguity of the client’s needs.

Resultantly, the work I had planned was largely under my control, with the client being dependant on what I had developed. This approach has been criticised for disempowering the client, and while it is more suitable for short-term projects like my own, I was still wary that my brief may have been received as being imperious (Cohen, 2001). Therefore, I changed the brief to include 'collaboration points' throughout the planned project to allow the client opportunities in which they could provide feedback, make suggestions or request changes. The final brief detailed; the planned deliverables, estimated timelines, and opportunities for the client to review, provide feedback or request alterations to the planned work. I sent this brief to AZ (primary client) to establish if they wished to negotiate any elements of the planned work, as the brief would be used to develop the contract and WCA, however they confirmed they were happy with the planned work and proposed project deliverables. Despite the client verbally consenting to the consultancy project, there was some delay between this verbal consent and them signing the consent form. Due to this, the estimated timeframes in the brief were delayed.

Negotiating the Contract

After agreeing the scope of work and project delivery I began work on the contract and WCA. The contract and WCA creates understandings, expectations and agreements about the purpose of the consultancy, the activities that will comprise the consulting work during a specified time or phase, the individuals involved and their roles, and any financial arrangements (Dawson-Shepherd, Kellner & Neumann, 2013). To achieve this, I referred back to the scoping meeting, emails with AZ and consultancy brief when developing the WCA.

While putting the contract and WCA together took longer than expected, I was anticipating the need to negotiate some sections, and therefore I was prepared to be flexible and for the process to be lengthy. However, on this occasion the negotiation process was straightforward. Firstly, I proposed extending the initial timeframes set out in the brief to August 2022, accounting for communication delays, AZ confirmed they were happy with the extended timeframes. However, AZ requested that details about [redacted] attendees be limited to only the information shared within MDT meetings, to protect their confidentiality. I was wary if some attendees were discussed in more depth than others, I wouldn't have enough information to produce consistent, quality work. Therefore, I proposed that I could request further detail, from AZ, about the attendees discussed at MDT, if their identifying information is anonymised, and with the agreement any information is not discussed outside those involved in the MDT, to which AZ agreed and the contract signed. However, there was a couple of weeks delay in between the client agreeing to the contract via email, and them signing contract and them sending me the document, which meant I was unable to progress on the project. I believe I did the right thing by including additional time for lengthy negotiations, on this occasion it was useful due to the delay in receiving the signed contract. Additionally, if I do engage in any future consultancy work, more difficult negotiations are likely to occur and learning how to manage this would be a useful skill to develop.

Guidance from academic staff, module resources, reading examples of contracts and interactive teaching sessions were invaluable in allowing me to visualise how to put the contract and WCA together, and what to include. There were some aspects of this process that I found particularly daunting. For example, although this was an unpaid consultancy project, I was required to develop a hypothetical budget, for my own learning, outside of the contract and WCA. As I had never been in a situation where I choose my salary, I felt unsure where to start or what to consider in costs. A teaching session where I and the cohort were required to develop a budget for an imaginary project gave me more clarity about what factors to consider, and I used the banding criteria within the NHS Agenda for Change system to inform my decisions.

Conducting, Managing and Monitoring the Consultancy:

The consultancy work comprised four stages (Table 2), which I had set out timeframes and collaboration points for within the brief and WCA. I had initially anticipated the client to request or attend meetings at the timepoints I had set out as this would allow them to monitor the progress of the work. However, aside from the initial data gathering exercise of attending MDT meetings online via Zoom video call, all communications around management of the project took place over email.

The positives of email communication meant I was able to keep a detailed record of discussions, decisions and progress for both parties (Earll & Bath, 2004). Reflecting on the emails communications sent and received, I was reassured that I had done all I could to address any issues and promote collaboration. Keeping a record of emails was also useful as I was able to note any delays, such as the consent form and contract being returned, or delays in any documents or information I had requested from the client. This meant I was able to estimate if I would meet the planned deadlines or not and inform the client of progress. I would continue to use email, or written correspondence in any future consultancy as they provide information into each party's contributions and indisputable record keeping.

The negative, however, was that the client would frequently not respond to emails in the timeframes detailed in the contract. This was problematic as successfully managing a consultancy project relies on timely action and feedback (Lippett & Lippett, 1986), and I was relying heavily on my skillset to politely prompt the client and promote their involvement, but ultimately had to work towards the intended timeframes independently.

Towards the end of the consultancy project, another member of staff began to respond to my emails on the client's behalf. This person was more prompt, and on a several occasions was able to provide me with the additional information I requested. However, I was unaware of how much this person knew about the project. I managed this by copying the client into any emails I sent to the other member of staff, inviting them to offer any input regarding the project. I also emailed the completed deliverables to the client as agreed in the contract and WCA.

Table 2

Deliverables included in the consultancy work.

Stage	Deliverable
Stage 1: *Information Gathering*	• The Consultant will use data gathered in attending online MDT meetings to formulate recommendations for three of the [redacted] [redacted] attendees discussed at MDT. These recommendations will be written up as a case study.

Stage 2: ***Case Study Development***	- The Consultant will develop three case studies for three current attendees of [redacted] The case studies will include an assessment, formulation and implementation plan. The case studies will be accompanied by relevant resources to support and evidence the recommendations.
Stage 3: ***Health Psychology Recommendations***	- The Consultant will describe the proficiencies of a Stage 2 qualified, Health and Care Professions Council (HCPC) registered Practitioner Health Psychologist, and provide example job descriptions, payment banding, and describe how a Health Psychologist post could be embedded within [redacted]
Stage 4: ***Draft, Feedback and Submission***	- The Client will be provided with a draft of the report to review and submit any feedback or request any changes to the Consultant. This will be the *only* opportunity for the Client to submit feedback or request any changes before the Consultant develops the draft into the final report. - This report will be approximately 3,000 words, titled; "Establishing the clinical need for Health Psychology within [redacted]" and may be put towards a wider business proposal within [redacted].

Establishing and Maintaining Working Relationships with Clients:

Establishing relationships

To foster trust, the consultant is expected to act based on their understanding of the expectations of the client (Furusten, 2009). I believe I had already achieved this and established a working relationship with the clients during our initial introductions via my workplace contact, and through the initial scoping meeting. Nelson and Economy (2008) state how establishing rapport is key to developing and maintaining a relationship. Therefore, I aimed to achieve a positive first impression and establish rapport by being friendly and professional, I did this by asking open questions and not committing to a decision if I was unsure.

However, in the initial MDT meeting, the team unexpectedly asked me for advice and specific recommendations for attendees under discussion. This was not what was agreed and was an unforeseen problem, as I believed I had established a working relationship where the client was aware of who I was, and what our roles were to be throughout the project. I was surprised by this and had to reflect-in-action during the meeting and decide how best to handle this situation whilst maintaining our rapport but highlighting the boundaries to my role. Block (2011) highlights the importance of transparency in building trust in relationships, so I was honest in the meeting about what would be inside and outside of my competence and signposted the question to the attendee's Neuropsychologist. Following the meeting, to ensure this did not happen again in the future, I reflected on how I was feeling. I also sent an email to the client reinforcing that the MDTs were a data gathering exercise, and that I would not be able to make recommendations, which the client acknowledged.

Maintaining relationships

Jawaharnesan and Price (1997) highlight that in the delivery of consulting services, the participation of the client is essential for the attainment of client satisfaction. This is something I struggled with throughout the consultancy, as despite taking the aforementioned steps to establish rapport, I felt I was a solo party, which was a barrier which, on reflection, made communication and management of the client-consultant working relationship challenging. Throughout the consultancy, I had factored in opportunities for meetings to discuss the work collaboratively, however, the client chose to liaise via email due to their schedule, and often they would take weeks to respond, if at all. This was problematic, as I had stipulated timeframes for email correspondence , including notifying both parties of any upcoming annual leave, in order to successfully meet the deadlines that had been set out.

Roodhooft and Van den Abbeele (2006) state client-consultant professional interaction is almost always a prerequisite for good results, where both parties contribute at various phases of the consultancy progress. In summary, the higher the levels of trust and interaction, the more likely a successful relationship (Roodhooft & Van den Abbeele, 2006). Resultingly, I had anxieties around the client's views of me as a professional, if they were happy with the work, or if they regretted agreeing to the project. I attempted to manage these concerns by always being professional, sending reminders regularly but not weekly, as I was aware of the impact of busy schedules and was anxious not to come across as pestering. I reflected on these issues in supervision, and considered how during the consultancy project, my moving on from [redacted] and starting a new placement with a new workplace contact, may have covertly, negatively impacted on relationships.

<u>Evaluating the Impact of the Consultancy:</u>

Evaluation is important to ascertain client satisfaction and project success (Earll & Bath, 2004). It also allows the consultant to reflect on the opportunity, what went well and what they would approach differently in the future (Block, 2011). My evaluation of the consultancy was challenging as communication with the client was quite limited, after sending the final deliverable, and a prompt, the client confirmed they had received the document and would look at it in the new year. They thanked me for my involvement and stated my input and ideas had been valuable to the service, which reassured me that the client was happy with the engagement, but meant I received no formal feedback on the work produced. As a result, I developed and sent the client a Microsoft Forms evaluation document, which the client did promptly complete. The client's evaluation although brief, was positive, which aligned with my beliefs that I had accurately addressed the responsibilities outlined in the WCA and adhered to timeframes and maintained a professional working relationship throughout.

In summary, the consultancy competency prompted me to establish some new skills around how to manage communication within a large team with multiple clients, where your point of contact can regularly change. I’ve also acquired some new skills around negotiation, and developing contracts, what to consider, why and how clear and thorough they need to be to ensure they are the backbone to refer to when unforeseen events occur. Due to this, I have learned that if I was to do a similar piece of work in the future, I would include terms around more detailed roles and responsibilities, collaboration and communication and feedback and evaluation in the WCA. I would also provide the client with an evaluation form in advance and sending a reminder to complete towards the end of the project. However, as I was new to the world of consultancy, I may have made assumptions around the level of engagement from the client, and that feedback and evaluation would have come naturally as the project and working relationship progressed. I have also learned about the importance of boundaries and have reflected that I may have felt more tolerant towards the limited and delayed communication due to this being my first experience of consultancy and feeling a need to complete a project I had invested a lot of time into. I believe in the future I would be more assertive and inclined to terminate my involvement in a project if I felt the conditions of the WCA, or my requirements were not being met.

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3.2 **Consultancy Contract and Working Agreement**

CONTRACT AND WORKING CONDITIONS AGREEMENT

(the "Agreement") dated 08/04/2022

[redacted]

(the “Client”)

- AND –

Cara Salt
School of Health, Science and Wellbeing
Staffordshire University
Stoke-on-Trent
ST4 2DF (the "Consultant").

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 Consultant’s Professional Doctorate in Health Psychology at Staffordshire University. A consent form with more information, is to be completed by the Client if agreed, and is provided as a supplementary document to this Consultancy Agreement.

1.4 The Consultant will be contracted to develop a written report, [approximately 3,000 words in length] aimed at “Establishing the clinical need for Health Psychology within [redacted]”. To do this the Consultant will have attended a maximum of three multi-disciplinary team (MDT) meetings as a data gathering exercise. The report will use case studies to detail how psychological theory could be used to address the specific goals and rehabilitation needs of three of the [redacted] attendees discussed at MDT. The report will also describe the role and proficiencies of a Stage 2 qualified Health Psychologist and provide an example job description for how a Health Psychologist could work within the MDT at [redacted]

2. TERMS OF AGREEMENT

2.1 The terms of this agreement will commence on the date which is stated at the beginning of this agreement and continue until the date set out in the schedule unless an extension is agreed by both parties with written consent.

2.2 In the event either party wishes to terminate this agreement, that party will give to the other 2 weeks’ prior written notice to the other party.

3. SERVICES PROVIDED

The Consultant will provide the Client with a written report, [approximately 3,000 words in length] detailing the findings of the above services with the aim of “Establishing the clinical need for Health Psychology within [redacted]”. The above-mentioned written document may be put towards a wider business proposal, which will not be further explored within this current Agreement. To develop this report, The Client hereby agrees to engage the Consultant to provide the Client with services consisting of:

3.1 INFORMATION GATHERING:

The Consultant will attend a maximum of three online MDT meetings within [redacted]. The Consultant will attend MDT meetings as a familiarisation activity with a purpose of gathering any data and information about the goals and needs of [redacted] attendees. The Consultant may, if needed, request The Client to provide additional information into the goals and needs of attendees discussed at MDT via email.

The MDT meetings are comprised of two or more allied healthcare professionals, including Occupational Therapists and Physiotherapists. The MDT meetings provide an injury and rehabilitation summary of any prospective, current, or recent attendee at [redacted]. The MDT meetings also discuss any goals, needs, areas of difficulty, or progress for each attendee while at [redacted].

Following MDT attendance, the Consultant will use information gathered about three of the attendees to formulate how psychological theory could be applied in progressing their specific goals and needs, which will be delivered in a case study format (SECTION 3.2).

3.2 CASE STUDY DEVELOPMENT:

The Consultant will develop case studies detailing how psychological theory could be applied in addressing specific needs and progressing rehabilitation goals of three [redacted] attendees. The case studies will include an assessment, formulation and implementation plan. The case studies will be accompanied by relevant resources to support and evidence the recommendations (e.g., measurement tools, psychological models, descriptions of behaviour change techniques).

3.3 HEALTH PSYCHOLOGY RECOMMENDATIONS

The Consultant will identify and describe how a Stage 2 qualified Health Psychologist could contribute to a MDT. The Consultant will describe the proficiencies of a Stage 2 qualified, Health and Care Professions Council (HCPC) registered Practitioner Health Psychologist, and provide example job descriptions, payment banding, and how a Health Psychologist post would work using guidance from the British Psychological Society (BPS), Division of Health Psychology (DHP) and National Health Service (NHS). The Consultant will also include detail the Health and Care Professions Council (HCPC) standards of proficiency for Practitioner Health Psychologists.

4. DELIVERABLES

The deliverables and timescales described below (SCHEDULE A: TERMS OF REFERENCE) will be met by both Parties.

5 COSTS

5.1 The Consultant will receive no direct payment for the services provided to the Client. The services provided will be used in the write up of a consultancy case study for the Professional Doctorate in Health Psychology at Staffordshire University. The completion of all 'services' will occur remotely and therefore no expenses will be incurred.

6. ETHICS AND CONFIDENTIALITY

6.1 The Consultant will comply with the British Psychological Society 'Code of Ethics and Conduct' (2018) and the Health and Care Professions Council Standards of Conduct, Performance and Ethics (2016).

6.2 The Consultant will treat any sensitive information provided by the Client as confidential and only use it for its intended purpose. The Consultant will keep the nature of discussions within the MDT confidential by only using any information gained for the purposes outlined in the Agreement. The Consultant will not disclose any identifiable details of attendees, or clients who are discussed within these meetings.

6.3 The work will be discussed during supervision for the Professional Doctorate in Health Psychology. Furthermore, the work will be assessed by internal and external examiners. The obligations of confidentiality will apply during the term of this Agreement and will survive indefinitely upon termination of this Agreement.

7. DATA PROTECTTION

All data collected and processed will be done according to the GDPR 2018 guidelines.

8. INTELLECTUAL PROPERTY

8.1 The intellectual property refers only to the Case Study Development [3.2] and will be owned by the Consultant. The Client may not use the Intellectual Property for any purpose other than that contracted for in this Agreement except with the written consent of the Consultant.

8.2 The Client will be responsible for any and all damages resulting from the unauthorized use of the Intellectual Property.

8.3 The Client agrees that all deliverable outcomes as indicated in this Agreement are available to the Consultant to submit as part of the Consultant Professional Doctorate in Health Psychology.

9. LIABILITY

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

10. RESOURCES

The Consultant will use their own resources to carry out this piece of work.

11. SICKNESS, ANNUAL LEAVE AND OTHER ABSENCES

11.1 Both parties should endeavour to provide assistance or information that the other party may require in a timely manner. Both parties will liaise via email, or online video meeting software, and will aim to respond to each party within 10 working days.

11.2 If either party are unable to provide the Services or adhere to the communication guidelines detailed above due to illness, annual leave or other absences you shall notify the other party as soon as reasonably practicable.

12. DISPUTES AND ARBITRATION

In the event a dispute arises out of or in connection with this Agreement, the parties will attempt to resolve the dispute to the best of their abilities through friendly consultation. If the dispute is not resolved within a reasonable period, then any, or all outstanding issues, may be submitted for consideration to an independent mediator, who will pass judgement and mediate a resolution to the dispute.

13. TERMINATION

In the event that either Party wishes to terminate this Agreement, that Party will be required to provide 7 days' notice to the other Party. In the event that the Consultant terminates this Agreement, any work already conducted will be transferred to the Client. In the event that the Client terminates this Agreement, any work already conducted will remain the sole property of the Consultant.

14. OBLIGATIONS ON TERMINATION

Upon the expiry or termination of this Agreement, the Consultant will return any property, documentation, records, or confidential information to the Client.

15. VARIATION

15.1 This agreement may only be varied by a document signed by the Consultant and the Client.

15.2 Any amendments or modifications of this Agreement or additional commitments or outcomes assumed by the Consultant or requested by the Client must be mutually agreed upon and negotiated upon first.

15.3 Agreement to amendment roles, responsibilities or outcomes of the Consultant will only be binding if evidenced in writing signed by each Party.

16. THIRD PARTY RIGHTS

The Contracts (Rights of Third Parties) Act (1999) shall not apply to this agreement and no person other than the Consultant and the Client shall have any rights under it. The terms of this agreement or any of them may be varied, amended or modified or this agreement may be suspended, cancelled or terminated by agreement in writing between the parties or this agreement may be rescinded (in each case), without the consent of any third party.

17. GOVERNING LAW AND JURISDICTION

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 and Wales, without regard to the jurisdiction in which any action or special proceeding may be instituted.

SIGNATURES:

I agree to the details within the terms of reference and the consultancy agreement:

Signed:

[redacted]

Date: 08/04/2022

[redacted] (Client)

Signed:

[redacted]

Date: 08/04/2022

CARA SALT (Consultant)

SCHEDULE A: TERMS OF REFERENCE

The Consultant will develop a written report as a piece of consultancy to fulfil requirements for the Professional Doctorate Health Psychology at Staffordshire University.

The following details the work which will be carried out, responsibilities of both parties (the Client and the Consultant), and anticipated timeframes:

Stage 1: *Information Gathering*

Responsibilities

The Consultant will attend a *maximum of three* online multidisciplinary team (MDT) meetings to gather data. These data will be information about specific goals and needs of current attendees at [redacted].

The Client will give the Consultant *ten working days*' notice in advance of each MDT.

The Client will provide the Consultant with details regarding dates, times and access instructions for each MDT.

Deliverable

The Consultant will use this data to formulate recommendations for three of the [redacted] attendees discussed at MDT. These recommendations will be written up as a case study.

Timeframe

April 2022

Stage 2: *Case Study Development*

Responsibilities

The Consultant will use the data gathered from MDT meetings to detail how Health Psychology could be applied in addressing specific needs and progressing rehabilitation goals of three [redacted] attendees.

The Consultant *may* contact the Client to request additional information about the goals and needs of attendees discussed at MDT via email. Should this happen, the Client will provide the Consultant with additional information, where appropriate about the goals and needs of attendees discussed within *ten working days* from the request.

Deliverable

The Consultant will develop three case studies for three current attendees of [redacted]. The case studies will include an assessment, formulation and implementation plan. The case studies will be accompanied by relevant resources to support and evidence the recommendations.

Timeframe

April- June 2022

Stage 3: *Health Psychology Recommendations*

Responsibilities

The Consultant will identify and describe how a Stage 2 qualified Health Psychologist could contribute to a MDT within [redacted]

Deliverable

The Consultant will describe the proficiencies of a Stage 2 qualified, Health and Care Professions Council (HCPC) registered Practitioner Health Psychologist, and provide example job descriptions, payment banding, and describe how a Health Psychologist post could be embedded within [redacted]

Timeframe

April- June 2022

Stage 4: *Draft, Feedback and Submission*

Responsibilities

The Consultant will produce a report of approximately 3,000 words detailing outputs from Stage 1, Stage 2 and Stage 3 as described above.

The Consultant will email the Client *one* full draft of the report. The Client may then contact the Consultant via email to provide feedback, request any changes or arrange an online meeting to discuss any recommendations or changes they wish to make. Any changes requested must be reasonable (not adding additional services or removing services outlined in the Agreement).

The Client will have *ten working days* after receiving the draft in which to contact the Consultant to submit any feedback or to request any changes.

Should the Client not contact the Consultant within *ten working days* of receiving the draft, the Consultant will proof-read the draft for any minor changes (grammatical and structural), and this will comprise the final report which will then be emailed to the Client by August 2022.

Should the Client contact the Consultant with feedback or to request any changes, the Consultant *may* contact the Client to clarify the feedback or arrange a meeting to discuss the feedback in more depth. The Client will have ten working days in which to respond to any questions, if no response is received after this time, the Consultant will write up the final draft based on the initial feedback.

The Consultant will consider the feedback received and make amendments where appropriate. This his will comprise the final report.

Deliverable

The Client will be provided with a draft of the report to review and submit any feedback or request any changes to the Consultant. This will be the *only* opportunity for the Client to submit feedback or request any changes before the Consultant develops the draft into the final report.

The Consultant will email the Client the final report in August 2022.

This report will be approximately 3,000 words, titled; “Establishing the clinical need for Health Psychology within [redacted]” and may be put towards a wider business proposal within [redacted]

Timeframe

June-August 2022

Chapter 4: Teaching and Training in Health Psychology

Teaching and Training Case Study

Introduction and Background:

This report details my delivery of five teaching sessions on the central theme of 'Applied Health Psychology'. The teaching opportunities were identified via contact with various sources, including university lecturers, university marketing departments, and NHS health professionals, resulting in five independent sessions and audiences. The audiences were sixth form and college students, final year BSc Psychology students, MSc Health Psychology students, Paramedics, Emergency Medical Technicians (EMTs) and Emergency Care Assistants (ECAs) and Community First Responders (CFRs). *Table 1* provides an overview of the sessions. This programme of sessions will be outlined in this case study, and subsequently evaluated.

Table 1

Overview of the Five Teaching Sessions

	Title	*Audience*	*Group size*	*Format*
1	An introduction into Health Psychology.	Sixth Form and College students.	~30	Online, synchronous, and asynchronous (the live session was recorded).
2	Understanding Pain management: The Role of Health Psychology in applied settings.	MSc Health Psychology Students	~45	Online, synchronous, and asynchronous (the live session was recorded).
3	Developing Psychological Interventions: Traumatic Brain Injury.	BSc Psychology Students	~20	Online, synchronous, and asynchronous (the live session was recorded).

4	The Impact and Experience of Long-Term Conditions: Illness Representations, Self-Management and Coping.	MSc Health Psychology Students	4	In person, synchronous.
5	Applied Health Psychology: Techniques for Managing Anxiety Symptoms. *The Mind-Body Link.*	Paramedics, EMTs, ECAs, CFRs.	6	Online, synchronous.

Assessing Learning Needs:

The process of assessing learner needs has developed over time and considers a range of student and teacher factors. Early approaches to teaching tended to be didactic and teacher centered, wherein a teacher's role would be to provide a student with information in a transfer of knowledge (Finson, Pedersen & Thomas, 2006). However, constructivism has, more recently, become the predominant school of thought about how learning takes place (Pelech, 2010). Constructivism suggests that learning is actively constructed through a combination of experience, and prior understanding (Elliott, Kratochwill, Littlefield, Cook & Travers, 2000, p.256). Subsequently, modern approaches began to acknowledge teaching and learning as being student centered, placing more importance on the teaching materials and methods, alongside the individual abilities, needs and learning outcomes of the students (Race, 2014). Therefore, it is important to assess the learning needs and characteristics of the student, in accordance with the first stage of Stefani's (2009) systematic approach.

To assess learner needs, I drew upon multiple sources of information, including the expectations of the person who requested the session, and social media. For each of my non-Healthcare Professional sessions (non-HCPs), I was in contact with the relevant module, course, or department leaders. As a result, I was able to investigate their expectations into what the content of each session should focus on. To do this, I requested a Microsoft Teams meeting with each member of staff for each session, in which I would piece together a brief, including number of students, mode of delivery and length of session. This is important to ensure the duration of each teaching session is devoted to students specific learning goals and building on their existing knowledge, as students do not simply retain knowledge, but rather process and interpret it based on their prior knowledge and understanding (Biggs & Moore, 1993; Kaufman & Mann, 2013).

I also requested access to any previous teaching sessions on the same topic, such as, existing learning resources and module handbooks, so I could assess student's prior knowledge. This is central to the constructivist approach as Biggs (2001) states "We have to specify what the 'desired outcomes' are, so that it is clear from the outset what students have to learn and at what level of skill or understanding." (p. 225). For my healthcare professionals (HCPs) session, I used a different approach as I was in contact with a representative, an EMT from the organisation. They informed me of a learning need around managing anxiety that had been expressed by numerous members of the organisation. The representative advertised the teaching session on their organisation's online Continued Professional Development page, to assess if there was any interest. Due to the unpredictable working hours, high response rate and not being able to access this page, I relied on the representative to collect information relating to any learning needs and desired learning outcomes. While this worked, on reflection, I could have additionally developed a survey for the representative to circulate to provide a more detailed understanding of the learner's existing level of knowledge and understanding of the topic.

Additionally, differences in learning outcomes may occur because students vary in their ability, motivation, background and so on (Biggs, 2001). For decades, educational systems have been advised to match their teaching to the specific learning styles of students (Newton, 2015). One of the most well-known of these concepts is the VARK classification which categorises individuals as one or more learning styles (Papadatou-Pastou, Touloumakos, Koutouveli & Barrable, 2021). However, there has been some scepticism into this concept, some proposed disadvantages suggest that learners may be restricted by their learning style and conclude there is no point in pursuing studies which may include a different learning style (Newton & Salvi, 2020). Due to this, I instead approached individual differences in learning more broadly, using Bigg's 3P model (Biggs, 1993) to recognise that presage factors, such as personality and demographics, interact with process factors, such as learning approach. To address this, I used my contacts with academic staff and HCP representative to investigate personalities, group dynamics and how interactive and confident the learners were. I then considered these concepts within the context of teaching in large and small groups, and regarding online or in person sessions.

Identifying Content and Structure:

Following the systematic approach outlined by Stefani (2009), I used information gathered from assessing learning needs and student characteristics to consider the impact of the 3P presage factors when identifying the content and structure of sessions. The 3P model suggests that these presage factors directly link to process factors, which are comprised of surface learning, and deep learning (Biggs, 1993). ‘Deep learning’ is encouraged within educational settings, and this can be facilitated by synthesising new information with old, learner activity, interaction, and motivational learning (Graham et al., 2007; Bryson, 2016).

One of the first important elements which shapes the content and structure of each session, and subsequently depth of learning, is the development of learning outcomes. These are defined as statements of what a learner knows, understands and is able to do after completion of learning (Harris & Clayton, 2019). Therefore, I applied Blooms Taxonomy of Educational Objectives (Bloom, Engelhart, Furst, Hill & Krathwohl, 1956), to consider the language used for each learning outcome, using terms such as “identify” and “apply” rather than “know” or “use” (Kennedy, 2006) to ensure synthesis of new information, rather than only recall of existing knowledge which is attributed to surface learning (Biggs, 1987; Biggs & Moore, 1993). To achieve this, for the majority of sessions, I presented the learning outcomes at the beginning of the session and summarised how they have been met through the content and activities at the end of the session.

To further facilitate deep learning, I also considered ‘constructive alignment’. Constructive alignment suggests the teacher should create a learning environment which supports activities appropriate to achieving the desired learning outcomes, and that the learner can construct meaning through relevant learning activities (Biggs, 2003). To do this, I created a beginning, middle and end to each teaching session, presenting the learning outcomes at the beginning, identifying relevant content or activities to apply to each learning outcome (*Table 2*), and then summarising how each learning outcome has been met at the end of the session (Race, 2019).

Table 2

Example learning outcomes and relevant content

Session	Example Learning Outcome	Relevant content
1	Students were introduced to some examples of message framing used in health campaigns related to the COVID-19 pandemic. The learning outcome was as follows; Demonstrate how message framing can be used in Health Promotion campaigns.	*"Thinking about the concepts we have touched on today; imagine you are tasked with creating an advert encouraging individuals to get the COVID-19 vaccine."*
2	Identify some of the Individual Differences and Psychological Theories that explain people's perception of pain.	Theoretical content on attentional systems and symptom perception was presented, followed by a video using humour to demonstrate the role of swearing during a cold pressor test.
3	Apply your knowledge gained about TBI and the specifics of Psychological Interventions to develop a mini intervention for your Case Study.	Students were given 3 case studies of people with individual differences and concerns relating to the impact of their traumatic brain injury. Students were provided with the link to 'cards for change'. Students chose one of the 3 case studies and were asked to apply two behaviour change strategies from the 'cards for change' into their mini-intervention and explain why they chose these strategies.
4	Discuss the importance of illness representations in long-term conditions and	Students were given a blank worksheet detailing the 5 illness representations

	how they can influence adjustment, coping & self-management.	(Leventhal, Meyer, & Nerenz, 1980). They watched a video of an interview with a burns survivor and were asked to think critically about what she was saying about her experience and how this related to the 5 illness representations and record them on the worksheet to feedback to the group.
5	Apply two practical psychological concepts to manage anxiety.	Students were encouraged to follow along and engage in the activities with me and given a takeaway task to roleplay them.

To determine content for each session, I used journal articles, textbooks, and personal clinical experience. I also used previous teaching resources to gather information about students' existing knowledge. 'Deep' learning occurs when students are actively engaged with the content of the session (Biggs & Tang, 2011). Therefore, when formulating this information into content, I tried to use concepts informed by health literacy such as readability, comprehension, and usability to tailor each session to its audience (Kripalani & Weiss, 2006). Therefore, I considered the audience's education level, for BSc students I used more imagery, humour, memes, and videos to describe more complicated physiological processes. This has been shown to engage the audience and be an alternative method of meeting students' informational needs (Harshavardhan, Wilson & Kumar, 2019). However, for the HCP session, my assessment of learning needs indicated ECAs, EMTs, CFRs and Paramedics are expected to have a working knowledge of anatomy and physiology. I was therefore able to use terms such as "peripheral nervous system" without having to define or provide visual examples.

Additionally, recent approaches to teaching and learning suggest involvement of students in their learning to increase motivation and deep learning (Wilson & Peterson, 2006). I was aware that all five of the sessions were comprised of myself presenting PowerPoint slides, both online and in person. I was wary this could turn into a didactic lecture approach which limits motivation to engage, as literature suggests the attention of individuals decreases as time progresses in lectures (Özkara, 2021). To prevent this and encourage motivation, I incorporated activities which directly involved the learners and facilitated collaborative learning, such as discussion tasks, applying theory to case studies and video examples, quizzes, and carousel activities (Laal & Ghodsi, 2012; Owen & Thomas, 2021). Lastly, feeling overworked, confused, or overwhelmed leads to a decrease in motivation and surface learning, therefore I included regular breaks, split the content into sections and approached students to see if they had any questions about each section before continuing (Crooks, 1988).

Teaching Materials and Methods:

To promote deep learning, I attempted to follow Farrow's (2003) five LIGHT principles when creating training materials (*Table 3*). These guidelines ensure all students can engage with the teaching materials. Prior to Session 4, I was informed that a member of the group had dyslexia, a learning difficulty which may impact on their ability to engage with some of my busier slides, which I adjusted accordingly. Following this, prior to my HCPs session, I investigated if any learners had specific learning needs to ensure that reasonable adjustments could be made to make sure all students were able to engage with the session (Equality Act, 2010). In hindsight this is something I could have done prior to all my teaching sessions, and something I will implement in any future teaching sessions.

Table 3

LIGHT Teaching material guidelines

Guideline	How I addressed this
Links (Materials should have direct relevance to the talk).	Slides, diagrams, videos, websites, and handouts were used as reference points, and linked activities to each session.
Intelligibility	I used health literacy principles to use clear language and define more complex terminology (Kripalani & Weiss, 2006). I used diagrams or

(Materials should be easy to understand and learn from).	videos to further explain or describe terminology and concepts where needed. On reflection, however, in some of my teaching sessions I could have made the font more accessible. For my longer teaching sessions (Session 3 & 4) I checked in with students after each section to confirm if they have understood the content or have any questions.
General Style (Aim to use a consistent style throughout your teaching materials).	I used a consistent theme for each teaching session, however, the themes varied for each as they were individual sessions and not a series. I ensured I split each teaching session up into distinct sections using title pages. On reflection, however, while themes were consistent, some of my earlier PowerPoint slides in the teaching sessions were quite ‘busy’ or contained ‘complicated’ themes.
Highlighting (Emphasise key points in your materials).	I addressed the learning outcomes at the beginning of the session and summarised them at the end. I clarified key theories, or concepts with bold, a change of colour or a text box where applicable.
Targeting (Materials should be tailored to the audience).	Session 1: Sixth Form and College Level students. -Defined technical terms. - Kept slides plain, using equal amounts of imagery and videos as text. - To help students apply their knowledge, content discussed theoretical concepts in relation to real world events (COVID-19 pandemic). -Incorporated a group discussion activity. Session 2: MSc Health Psychology students. - Used less detailed definition of terminology, due to existing knowledge established during needs assessment. - Described and discussed content around theory in more depth to ensure relevance to assessment. - Used a mixture of theory and clinical practice examples.

Session 3: BSc Psychology students.

- Use of memes and humour to encourage motivation and interest in a topic which may be new to them.
- Definitions explained with diagrams and models
- I encouraged students to engage in a small pre-session preparation activity so they would be familiar with the activity in the session.

Session 4: MSc Health Psychology students.

- As the session was lengthy, I used a mixture of slides, handouts, videos, and discussion activities to maintain motivation and interest in the session.
- I included a practical activity encouraging students to physically move around the room and promote interaction.
- At numerous points I would encourage students to discuss, explain, or apply theoretical concepts to practice and encourage them to discuss this with me and the class to encourage collaborative learning.

Session 5: HCPs.

- Defined terminology and concepts around health psychology and mental health due to ECAs, EMTs, CFRs and Paramedics not having training in this area. However, less definition was needed for physiological and technical terms due to existing knowledge.
- Established specific learning needs at the beginning of the session by asking students to rate how much they felt they knew about the topic.
- Used significantly less theory and more clinical or real-world examples students may encounter at work or at home.

- Encouraged students to actively engage with the activities and suggested they roleplay them in their own time to feel more familiar.

The first three sessions I delivered took place during the COVID-19 pandemic, and as a result were delivered online in a synchronous format. When developing teaching materials and considering teaching methods, I had to take this into account. I tried to facilitate Technology Enhanced Learning (TEL) (Walker, Voce & Ahmed, 2012) by using Microsoft Teams, Zoom, Blackboard, Microsoft Forms, quizzes, QR codes, websites, and chat box features. I also tried to maintain a cognitive teaching presence, by focussing on students' participation in online learning, and a social teaching presence by maintaining communication channels and interaction (Anderson et al., 2001).

For my first online session, my audience was a sixth form college, who had joined Microsoft Teams via their teacher who was streaming the session to the classroom. As students had their cameras and microphones off, I encouraged them to engage in discussion activities within their class and feedback via the chat box feature. This encouraged participation and interaction through TEL. To keep my teaching methods and materials student centered, I acknowledged I needed to facilitate a dynamic learning environment where students play an active role in applying, processing, and reflecting on content learned (Northedge, Thomas, Lane & Peasegood, 1997). To achieve this through online quizzes and interactive activities, I tried to portray an enthusiastic, approachable, and engaging tone of voice and body language, using prompts where appropriate (Race, 2019).

However, for Session 2, I was unable to get my camera to work and my slides to show at the same time which may have limited students' engagement. Additionally, for my online, non-HCP sessions, I made the audience aware that the session was being recorded, and that the slides would be available at the end of the session. This was to encourage students to spend more time engaging rather than writing down content from the slides (Bligh, 1998). My HCPs session was also delivered online, the initial response rate to the original advert was >100, and the session was scheduled to be around 1 hour with time after for questions and reflections. Due to the high response rate and limited time, I formulated flexible ‘takeaway’ activities designed to be applicable to the HCPs clinical work, so that if on the day, less students showed up, I could facilitate deeper discussion and practice in session, and if numbers were large, students could take the tasks away with them and practice them in their own time after the session.

Session 4 was a small <5 group, in person session, three hours in length. Due to the size of the audience, I was able to apply small group methods to increase students’ responsibility in their learning and participation (Mills & Alexander, 2013). I included an activity where students were provided with blank handouts in which they could apply theory to a case study. By making the handouts skeletal with blank spaces, I encouraged active listening, and reduced passive learning as can be the case from pre-written handouts (Katayama & Robinson, 2000). I also facilitated interaction with peers and myself as the teacher within this small group, by taking a casual chatty approach to discussion and feedback. Additionally, I made sure to introduce myself and ask everyone in the room a bit about themselves, as students are less willing to engage with people they don’t know (Race, 2007). Lastly, as this was my first and only face to face session, I developed a carousel activity, to get students physically moving around the room and interacting with something other than slides.

Assessment of Learning Outcomes:

The penultimate stage in the systematic approach is focussed on assessment of the learning outcomes. ‘Assessment' describes any processes that appraises an individual's knowledge, understanding, abilities or skills (UK Quality Code for Higher Education, 2018). Assessment is important to identify whether learning of new knowledge has successfully transformed students existing knowledge base (Pelech, 2010). To achieve this, I used a mixture of formative assessment and feedback methods which involved monitoring, assessing, and evaluating student’s learning during the learning process (Bennett, 2011). Depending on group size, this included asking questions, and giving feedback on students’ activities and formulations, in which I would praise, suggest other concepts or features, and use prompts to encourage deep learning (Hattie & Timperley, 2007). For feedback, assessment was done by encouraging students and observers to fill out a feedback form at the end of the session in which I asked them if they felt the learning objects were met, and to what extent which is further discussed in the evaluation which accompanies this case study. *Table 4* shows how I assessed whether the learning outcomes had been achieved for each session.

Table 4

Examples of Assessment Tasks for Sessions.

	Task	*Notes*	*Outcome*
1	1. Formative Thinking about the concepts we have touched on today; imagine you are tasked with creating an advert encouraging individuals to get the COVID-19 vaccine.	I used prompts such as encouraging students to think about health beliefs and gave real life examples such as "Maybe the younger generation think because they are young, they are immune, how could you challenge this belief?"	After using prompts, I received some responses where students had considered the role of using friends and young people in their advert to address social norms, demonstrating students had applied theory to practice.
2	1. Formative Reflection and discussion activity, what may be the implications of the new NICE guidelines recommending anti-depressants for chronic pain. 2. Feedback Observer feedback questionnaire asking if they felt the learning outcomes had been met.	For the formative assessment I again used prompts, encouraging reflective thinking by asking students to apply theory to real life examples.	Despite using timely pauses and prompts students were hesitant to feedback and discuss. I reflected in action on this (Schon, 1991) and encouraged students to think about and reflect on this activity in their free time. Despite this, the observer feedback indicated all the learning objectives had been met.
3	1. Formative	Unfortunately, my time management for this session could	Some students fed back their choices and explained why, using theory and

	Individual differences case study activity. Students chose one of three case studies and chose 1-3 Cards for Change they would use in their intervention. Students were encouraged to feedback why they chose each behaviour change strategy.	have been better, I think this activity would have benefitted from another 5-10 minutes to allow for more in-depth discussion.	research addressed from the teaching session, demonstrating they had understood and been able to apply their knowledge. One student fed back their choices but said they were not sure they understood, this gave me an opportunity to explain why their choices would fit and recommend what they could also consider in the future, I checked to see if the student understood better following the explanation, which they confirmed.
4	1. Formative Reflection activity encouraging students to think about how they understand and recognise illness. Five illness representations (Leventhal, Meyer & Nerenz, 1980) case study activity and discussion. Applying five illness representations to burns injury, video activity and handout followed by discussion. Carousel activity.	The small group design allowed for casual conversation, and while students were initially a bit shy and reserved, appropriate use of pauses and asking questions helped to encourage interaction. One student arrived late to the session, halfway through an activity, I made sure to speak to her 1:1 and give her an understanding of what the activity involved so she was still able to engage and feedback.	Initially, students were a little reserved in their contributions, but this is to be expected as they were unfamiliar with me (Race, 2007). I used a casual chatty approach and ice breaker activities, which had a positive effect on student engagement. Throughout the session, all students managed to contribute and displayed being able to think critically about content, and apply it to case studies, and real-life practice.

5	1. Feedback Students were provided with a survey to complete, in which they were asked to identify to what extent they felt each learning objective had been met. The representative also completed an observer feedback form.	I asked students to reflect on how they could apply this new knowledge to relevant past experiences. I also asked students to please complete the feedback form at the end of the session. One student joined 35 minutes late to the session and had subsequently missed some of the content and learning outcomes. I provided them with the slides and some additional notes after the session.	Student engagement was quite limited but with prompts I was able to encourage a couple of students to feedback and provide them with feedback for how they could approach a similar situation in the future. Three of six students filled out the feedback form, which showed all three had no prior knowledge of the topic before the teaching session, and this improved to 'some' and 'quite a bit' more knowledge following the session. The three students ranged to the extent they felt they had met the learning objectives of the session from 'moderately' to 'confidently'. The observer feedback acknowledged the learning outcomes were addressed, and that I listened to, addressed, and provided students with feedback when needed.

Reflection has been shown to deepen learning (Brown, 2004), therefore I included reflection activities throughout my teaching sessions. Reflection aligns with the constructivist approach as it builds on existing knowledge by adding to existing frames of reference, through internalisation and personalisation (Pelech, 2010). Reflection is also about heading toward seeing the bigger picture (Agouridas & Race, 2007), therefore, I encouraged students to think about key concepts either regarding themselves, if they felt comfortable, or regarding society and wider application. Finally, at the end of each teaching session, I allowed time for a more casual question and answer approach to ensure all students had an opportunity to ask any remaining questions they may have had.

Summary:

This report summarises five teaching sessions around the theme of 'Applied Health Psychology' which I delivered to large and small groups, either online or face to face. Prior to this, my only experience of the teaching and learning process was as a student, not a teacher, and for the first few sessions, I found myself overcompensating with text or imagery due to an anxiety that my knowledge would not be sufficient. While this did not strictly align with Farrow's (2003)'s five LIGHT principles for developing teaching materials, reflecting on my final teaching session, I had grown in confidence and experience enough for my teaching materials to be much simpler and clearer.

What was particularly enjoyable for me is noticing as these sessions went on, that despite struggling to think of content to develop into resources, when delivering the sessions, I was able to reflect in action (Schon, 1991) and naturally recall and apply existing knowledge I was not fully aware I had. This improved my content and made me feel comfortable and confident that I was providing students with a quality teaching experience even when my slides were quite plain. I feel I have developed my knowledge and ability about teaching and learning substantially enough to confidently deliver teaching to a range of audiences, both in type and size) in the future. Another key learning point I have taken away from this experience is the importance of interaction and collaboration at encouraging deep learning (Biggs & Tang, 2011). There were numerous occasions throughout this experience where students were initially a bit hesitant to feedback or interact, however, using prompts, being approachable and encouraging and engaging in casual conversations was successful at encouraging a dialogue between myself and the students, and often led to interesting discussions around the content.

Reflecting on this experience, one key goal I would like to achieve is to get even more comfortable with TEL (Dunn & Kennedy, 2019). I feel I could be more adventurous with my teaching methods in the future. Finally, as part of my current placement, I am due to deliver a three-hour teaching session to nursing staff. Before this experience, I would not have known where to start, however, I now feel confident in my ability to both plan and deliver the session, and not only this, but I am excited to do so.

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Teaching and Training Evaluation

Background:

Evaluation is important for teachers to gain insight into the effectiveness of their teaching, but also for continued professional development, and improving the quality of further teaching sessions (Wilkes & Bligh, 1999). Evaluation was crucial for me, as I delivered my first teaching session from a position of unconscious incompetence, with no prior experience in teaching (Janse, 2020). Utilising Hounsell's (2009) evaluation cycle was indispensable when planning and developing the next session. The cycle suggests developing a feedback strategy for each session, which I analysed and interpreted and used this to guide and inform any changes for the subsequent teaching sessions. This allowed me to build upon strengths and identify areas for improvement. The following presents an evaluation of five teaching sessions delivered to college, undergraduate and postgraduate students, and healthcare professionals as part of my Professional Doctorate in Health Psychology (*Table 1*). In line with the final stage of the Systematic Approach (Stefani, 2009), I will discuss how I used feedback to guide each teaching session, as well as reflecting on successes, challenges, and implications for future teaching sessions.

Table 1.

Overview of the Five Teaching Sessions

	Title	***Audience***	***Group size***	***Format***
1	An introduction into Health Psychology.	Sixth Form and College students.	~30	Online, synchronous, and asynchronous (the live session was recorded).
2	Understanding Pain management: The Role of	MSc Health Psychology Students	~45	Online, synchronous, and asynchronous

	Health Psychology in applied settings.			(the live session was recorded).
3	Developing Psychological Interventions: Traumatic Brain Injury.	BSc Psychology Students	~20	Online, synchronous, and asynchronous (the live session was recorded).
4	The Impact and Experience of Long-Term Conditions: Illness Representations, Self-Management and Coping.	MSc Health Psychology Students	4	In person, synchronous.
5	Applied Health Psychology: Techniques for Managing Anxiety Symptoms. *The Mind-Body Link.*	Paramedics, Community First Responders, Emergency Medical Technicians (EMT), Emergency Care Assistants (ECA).	6	Online, synchronous.

Sources of Feedback:

It is important to use multiple sources of feedback to gain a comprehensive understanding of students' perspectives in all aspects of the teaching session (Hounsell, 2009). Therefore, I asked for student feedback, observer feedback, or a combination, for each teaching session (*Table 2*). I also self-reflected on each session using Gibbs' Reflective Cycle (Gibbs, 1988) to really consider what went well, and why, alongside what could be improved on and how. It was also useful to reflect on how my thoughts and feelings may have affected sessions.

Table 2.

Sources of feedback for the five teaching sessions.

	Title	*Type Of Feedback*	*Method*
1	An introduction into Health Psychology.	Observer. Self-Reflection.	Email request for feedback. No template. Completed Gibb's Reflective cycle following session.
2	Understanding Pain management: The Role of Health Psychology in applied settings.	Observer. Self-Reflection.	Feedback template given to observer to complete at the end of the session. Completed Gibb's Reflective cycle following session.
3	Developing Psychological Interventions: Traumatic Brain Injury.	Observer and students. Self-Reflection.	Feedback template given to observer to complete at the end of the session. Verbal feedback from observer. Students completed online feedback form. Completed Gibb's Reflective cycle following session.
4	The Impact and Experience of Long-Term Conditions: Illness Representations, Self-Management and Coping.	Observer and students. Self-Reflection.	Feedback template given to observer to complete during the session. Hard-copy feedback forms given to students at the end of the session. Completed Gibb's Reflective cycle following session.

5	Applied Health Psychology: Techniques for Managing Anxiety Symptoms. *The Mind-Body Link.*	Observer and students. Self-Reflection.	Feedback template given to observer to complete during the session. Students completed online feedback form. Completed Gibb’s Reflective cycle following session.

I also evaluated the methods in which I collected feedback which allowed me to develop more effective, detailed, and balanced feedback as I progressed through the five sessions (Hounsell, 2009). For example, for my first teaching session, I simply requested some feedback from the observer without providing any criteria, questions, or guidelines. As a result, I received very brief and vague feedback which did very little to highlight any strengths or areas for improvement. For Session 2, I developed a feedback form template for the observer to complete at the end of the session. In this template I highlighted key questions, to ensure I addressed the most pivotal points to improve the quality of my teaching. I used mostly qualitative questions to collect more in-depth feedback (Dent, 2001). I was also more mindful of the importance of constructive alignment (Biggs, 2003). Therefore, when developing this template, I included a question investigating if the learning outcomes had been met and if the session encouraged reflection. As a result, the feedback I received was much more constructive.

For Session 3 I wanted to gain student feedback, as for the previous two sessions I had only sought observer feedback. Therefore, I developed a separate feedback form for the students to complete at the end of the session. I tried to facilitate Technology Enhanced Learning (TEL) (Walker, Voce & Ahmed, 2012) by developing the feedback forms online via Microsoft Forms. This allowed me to use more quantitative measures such as Likert scales alongside blank text boxes to allow for a mixture of qualitative and quantitative data to be collected. This meant a medium sized group of students to be able to complete feedback quickly at the end of the session and to reduce the burden associated with providing feedback (Hedlin, Lindkvist & Bäckström 2008).

As Session 4 was a lengthy three-hour lecture, I decided to use a more detailed, qualitative, evaluation template for observers to use, this was recommended within the Teaching in Health Psychology module content. Due to the length of the session, the observer made notes on the feedback form during the teaching, which encouraged more accurate recall than would have been possible if reflecting at a later date. As the group was small it was feasible to provide students with a hard-copy version of the Microsoft Forms feedback form. On reflection, I could have included a QR code to the online version on a PowerPoint slide and had hard-copy versions available to hand if virtual completion was unsuccessful. However, in this case, all students did complete the hard-copy version of the form, but this could be a barrier to students who prefer TEL in the future.

For my final session, I modified the observer template used in Session 4, and the Microsoft Forms student feedback form. These are the two feedback methods I am most happy with; I feel they are comprehensive but accessible and collect a good mixture of qualitative and quantitative data. I also gave the observer the feedback form to make notes on during the session, as I did in Session 4, which was useful for noticing and remembering key features of the session.

Successes:

To keep my teaching methods and materials student centered, I acknowledged I needed to facilitate a dynamic learning environment where students played an active role in applying, processing and reflecting on content learned (Northedge, Thomas, Lane & Peasegood, 1997). I tried to achieve through consideration of the content and methods of the teaching session. For example, making use of things like memes, and humour to make complex theoretical or technical concepts easier to engage with and appropriate for each audience's ability (Harshavardhan, Wilson & Kumar, 2019). My self-reflections showed that I was worried at how this could be perceived, because humour is subjective, and I would need to consider suitability (Jeder, 2015). Therefore, it was really encouraging to read that my attempts at implementing humour translated well and was identified as a positive by the observer for Session 4; and Session 2*; "Appropriately pitched information, good use of relevant videos to explain your points, and it was nice to get some humour in there too!".* Humour was therefore a successful aspect evidenced by observer feedback, despite my own doubtful self-reflections.

Another aspect of my teaching that I found particularly successful was being mindful of student's perspectives. For reflection activities in Sessions 3, 4, and 5 I encouraged students to feedback either their own experiences or applications if they felt comfortable. I believe this facilitated student choice and autonomy by encouraging critical thinking, without being forceful or intrusive. For Sessions 2 and 4 I also provided 'trigger' warnings relating to discussion, imagery, or videos around burns injuries, as I was unaware of students' backgrounds and previous experiences. Observer feedback from Session 4 identified this as a strength . I also made sure to pause after each 'section' of a teaching session and ask students if they understood what we had just covered and offer frequent opportunities for questions. During these 'question pauses' I was mindful of students who may not wish to ask a question in front of the group and therefore I made students aware that I could be contacted by email after the session.

I approached all my teaching sessions from a constructivist stance, which is key to student interactivity and collaboration (Biggs & Tang, 2011; Elliott, Kratochwill, Littlefield, Cook & Travers, 2000, p.256). I tried to facilitate collaboration through the inclusion of a range of activities, varied session content, and approachable verbal and body language. Whilst feedback from sessions 2, 3 and 5 indicates that engagement and interactivity was positive, I felt that session 4 was particularly successful, especially given my prior anxieties around what may go wrong. Session 4 was a small group allowing me to introduce myself at the beginning of the session, as I did for all sessions, but on this occasion, I also asked each student to introduce themselves and why they chose to study Health Psychology. Introducing myself and asking students a bit about themselves acted as an ice breaker by helping people to feel acquainted (Chlup & Collins, 2010) as students are less willing to engage with people they do not know (Race & Pickford, 2007). One student arrived at the session late, but I still made sure to introduce myself separately and bring them up to speed with the session so they did not feel confused. Observer feedback also reflected on this as a positive*; "This immediately got the students talking and set the tone of the session in terms of contributing /engaging."*

Finally, I felt an overarching success of my teaching sessions was observing my own competence and abilities develop across the course of the teaching programme. For example, I approached my first teaching session from a position of unconscious incompetence and did not clearly outline learning outcomes and structure at the beginning of the session. Structure is important as it helps students feel encouraged to actively participate in activities, leading to better engagement (Reeve, 2013). In contrast, for my final session, I outlined clear learning outcomes, the structure of the session, including breaks (which was previously recommended in observer feedback. During the needs assessment, I also gathered information about the student's prior knowledge of the topic beforehand, then concluded the session with reviewing how students had met the learning outcomes and asking them to rate their knowledge of the topic, which indicated knowledge was improved. Also, for the first 3 sessions, I had relied on a script and wordy, busy slides. However, by the final session, I felt competent and as a result my slides were simpler, more accessible, and verbal content which supplemented the slides was unscripted. Overall, I believe my self-reflections and sources of feedback highlighted my main strengths as being centered around creating an interactive, inclusive, and engaging learning environment that is tailored to each learner group. The feedback I received suggested this was achieved through the content and material used in the sessions, in addition to personality and the adoption of a humanistic approach.

Challenges:

I delivered my five teaching sessions during, and just after the height of the COVID-19 pandemic and as a result, four of my five sessions were delivered online. When teaching online, teachers should communicate clear structure by allowing students to discuss with peers, provide students with competence-relevant feedback, and provide a warm and enjoyable environment to learn (Chiu, 2022). I tried to facilitate this by providing students with the choice of contributing to sessions via text or speech, implementing interactive activities, providing feedback, and portraying enthusiasm and approachable tone of voice and body language. However, on occasion this proved challenging, for example, in Session 1, a group of Sixth-Form students had joined the online session through their teacher's account, with the camera and microphone turned off. It was therefore difficult to directly engage with specific students in the class.

Engaging students and encouraging interaction in online sessions continued to be a challenge, often I would introduce an activity or ask a question and get no response. I did however develop on my ability to reflect in action (Schon, 1991), and use prompts, rephrase the question, approach the activity from a different angle or use well timed pauses (Race, 2019) to encourage interaction, which was more effective. During Session 2, I was unable to get my camera to work alongside my BlackBoard presentation which was reflected in the observer feedback; "*It would have been nice if during the session your camera was on to give students something else to focus on, but I appreciate that the technology constraints did not mean that this was feasible".* This may have further limited the students' engagement to interact with the session.

Following feeling positive with how Session 4 went as my first in-person session, I was initially considering facilitating in-person delivery in Session 5. This session was advertised by a representative of East Midlands Ambulance Service on their organisation's continued professional development social media group. However, the advertisement received ~100 people expressing their interest in attending; therefore, due to the logistics, I decided to move the session online. I purchased an upgraded Zoom package which would allow me to host ~100 people for over an hour. On the day, however, only six attended, one had a broken microphone, one joined 30 minutes into the session, and only three engaged in interactive activities. As a result, the session ended much sooner than planned, as the activities relied too heavily on interaction. This was reflected in peer observer feedback; "*This session would have benefitted heavily from a larger audience participation*" and student feedback; "*Face to face would be good, with longer breakout practice technique session".* Equally, my own self-reflection supports the feedback I received. I also felt that the session would have benefitted from its originally planned larger audience and found myself working hard to stretch out the content and activities to compensate for the lack of interaction. If in the future I am to teach a very large group, I plan to incorporate numerous different activities to discover which ones best suit the group and encourage interaction from the start.

I also found it harder to manage my time with online session delivery, compared to in-person delivery. My in-person session was interrupted by a fire alarm, and yet I felt in control and comfortable getting the session back on track. However, for Session 3, I misinterpreted how quickly two hours can go. Prior to this session, I had several worries, including whether it would run short on time and whether interaction would be limited (again) and as a result I spent far too much time speaking about theoretical concepts, leaving limited time for the case-study activity. While this did not seem to be highlighted in student or observer feedback, I was aware that the case-study activity ironically would have been the most interactive part of the session and found myself disappointed in my delivery of the session.

Areas for Improvement / Future practice:

Through feedback and reflection, several key areas of improvement for future practice were identified. Firstly, I would like to become more comfortable with using TEL to really amplify deep learning (Dunn & Kennedy, 2019). Software and programmes such as Kahoot! can be used to facilitate friendly competition which encourages learning and motivation (Burguillo, 2010). Competition is not a tool I have managed to apply yet and I would love to try it and see what the outcome is. Additionally, Mentimeter is a great way of getting students to anonymously submit answers or thoughts with outputs presented as visual word art. It is suggested that this could make the session more accessible for more reserved students, or large groups (Barr, 2017). Since attending sessions that use TEL as a student myself, I found them engaging, and memorable, so I am eager to implement them in any future teaching opportunities.

Another area for improvement in my future practice is to include more case study activities as recommended by feedback from Session 2 and 5. Case studies can be used to help students apply the knowledge gained to a real-word or hypothetical situation to help facilitate deep learning, and help students analyse and retain their new knowledge (Biggs & Moore, 1993). I did include case study activities in Sessions 3 and 4, however, due to my poor time management in Session 3, this activity was not implemented properly, and I was unable to reflect on what went well and what could be improved. Additionally, a student from Session 4 recommended more group discussions could have improved the session. I decided not to employ a group discussion with such a small group, in case they were reserved and hesitant to talk to each other, however this feedback and my reflection suggests this was assumptive of me. However, these are both opportunities to try in future practice.

Lastly, prior to Session 4 I was informed that a learner in the group had dyslexia, a learning difficulty which may impact on their ability to engage with some of my busier slides. While I adjusted the slides accordingly, this is something I want to enquire about before any future teaching sessions to ensure I am allowing all students to be able to access, engage and interact with my sessions (Equality Act, 2010). I was also aware that some of my busier slides used different colours, fonts, or layouts, and as a result did not always align to Farrow's LIGHT principles, especially relating to intelligibility and general style (Farrow, 2003). I received some guidance around this from University Staff which helped me consider how to simplify and clarify my slide designs. This also improved naturally as I shifted from unconscious incompetence to conscious competence (Janse, 2020) and felt I needed less distraction and prompts within my content.

Summary:

My perception of the teaching experience has changed dramatically over the course of this teaching programme. I approached the first session completely unsure of what to expect, and as a result, felt less nervous. My anxieties increased as settings, group numbers and session lengths increased, and I felt insecure that my knowledge of the topics would be sufficient. What was reassuring to me was that feedback was consistently positive and challenged my anxieties, I also very much felt a change in my confidence and competence following the final two sessions, in which I felt much more assured of what I was doing. My current placement has many teaching and training opportunities, and I am due to teach the psychosocial care in burns module to nursing, physiotherapy, and occupational therapy staff. I feel comfortable and capable of achieving this and feel the skills I have gained, as well as my plans for future practice will guide me through planning, delivering, and evaluating this upcoming session.

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Chapter 5: Psychological Interventions

5.1 Individual Face to Face Case Study

Background:

[redacted] provides neurorehabilitation programmes for clients following Traumatic Brain Injury (TBI) in their own homes, with the aim of restoring as much pre-injury equilibrium as possible whilst helping clients adjust to a 'new normal' (Reach Personal Injury LTD, n.d; Moos & Schaefer, 1984). Programmes typically include real life goals and targets and incorporate functional skills training from the most basic level of everyday self-care, memory, and behavioural problems to the complexities of returning to work or vocational activities (Reach Personal Injury LTD, n.d.).

Following TBI, individuals can encounter a range of emotional and cognitive difficulties, and the adjustment process can be turbulent (Moss-Morris, 2013). As a result, many individuals engage in maladaptive coping behaviours such as social withdrawal, alcohol and/or drug use and smoking, which often exacerbate, or are antecedents to further physical and psychological health concerns (Moos & Schaefer, 1984; Holton, Barry & Chaney, 2016). As a Personal Programme Assistant (PPA) I am responsible for helping clients develop and achieve their rehabilitation goals, whilst helping them adjust to their 'new normal'. As part of this role, I help clients identify and reduce harmful health behaviours such as smoking. This helps clients begin to self-manage aspects of their condition, develop confidence by setting and working towards goals, and encourage positive psychological concepts such as reflection on achievements. This report presents a case study of a one-to-one, face-to-face smoking cessation psychological intervention with Jeff[1] that I conducted within my role as a Personal Programme Assistant (PPA) for [redacted].

Assessment:

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[1] Jeff is a pseudonym.

The first stage in designing and delivering a psychological intervention is to gather information about the issues the client is experiencing (Richards & Whyte, 2009). To do this, I developed an interview schedule, informed partly by pre-existing information about the client from our neurorehabilitation sessions. The interview schedule added to this previous information by investigating Jeff's smoking behaviours in more detail. To do this I incorporated the Fagerström Test for Nicotine Dependence (Heatherton, Kozlowski, & Fagerström, 1991) to assess current and past smoking habits and quit attempts, alongside identifying antecedents, investigating cognitive, emotional, and behavioural factors linked to smoking, and to establish an insight into Jeff's confidence and motivation to engage with the intervention. The assessment also included a measure of confidence towards engaging with smoking cessation which I adapted from the Improving Health: Changing Behaviour NHS Health Trainer Handbook (HTH: Michie et al., 2008). The confidence measure was designed to investigate the client's self-belief in their ability to achieve the behaviour, with scores lower than 7 requiring the intervention to first address ways of boosting the client's confidence (Bandura, 1989; Michie et al., 2008; Ryan & Deci, 2017; Miller, 1999).

The interview schedule was informed by elements of the Standard Treatment Programme's Pre- Quit Assessment outlined by the National Centre for Smoking Cessation and Training (NCSCT: NCSCT, 2019), which was adapted and simplified by removing the rigid pre-post quit date focus, and carbon monoxide monitoring to account for the individuality and complexities of TBI. The National Institute for Health and Care Excellence (NICE: NICE, 2018; O'Cathain, 2019) highlights the importance of tailoring interventions to clients' specific needs in the context of their life and social environment, which supports the adaption and simplification of measures to tailor the intervention to an individual with TBI.

The assessment process was influenced by the pre-existing therapeutic relationship between me and Jeff, however I still approached the interview using elements of Motivational Interviewing (MI) such as active listening, open questions, prompts, pauses and summary (Britt, Hudson & Blampied, 2004). MI concepts help to create a relaxed environment where the individual is encouraged to talk openly about issues that are of importance to them. MI also encourages clients to come to their own decisions, rather than the interviewer providing solutions (Miller & Rollnick, 2009).

This continues the patient-centred approach utilised within neurorehabilitation. MI therefore limits potentially cognitively fatiguing question-heavy conversations, by letting the client set the pace of the conversation (Rollnick & Miller, 1995). In addition, I performed the assessment at the start of one of Jeff's neurorehabilitation sessions to further minimise fatigue and ensure a positive introduction to the intervention.

Formulation:

A formulation acts in a similar holistic approach to the BioPsychoSocial model (Engel, 1977) by highlighting any interactions between environmental, psychological, biological and social factors that may act as antecedents to, or maintenance of the behaviour. In highlighting these interactions, potential mechanisms that could be used to influence the interactions can be identified (Dallos & Johnstone, 2006). In this section I present a Case Study of Jeff (Figure 1), which was informed by information gathered during assessment, followed by identification of key issues to be addressed in the intervention, using the COM-B model as a framework (Michie, Atkins & West, 2014) (Table 1). The COM-B is a useful framework because it identifies three key areas that need to be addressed for a behaviour to be sustained: motivation; capability; and opportunity (Michie, Atkins & West, 2014). These areas each include specific sub-sections, such as physical, social, and environmental contexts which continues the holistic approach (Shafran, Bennett & McKenzie Smith, 2017).

Figure 1: A case study of Jeff to conceptualise his smoking behaviours.

Demographics Jeff is a 32-year-old male, originally from Moldova but has lived in the UK since 2017, he is currently learning English but requires a translator at present. Jeff is married and has a son. Jeff sustained a traumatic brain injury in 2018 while trying to prevent his delivery van being stolen. Jeff's injury has caused various behavioural, psychological, and cognitive difficulties that are being addressed within the Neurorehabilitation programme. These include poor planning and organisational skills, reduced movement in his left arm, severe headaches, low mood, reduced confidence and self-esteem, lack of motivation, reduced concentration, anxiety, anger and irritability. In addition, Jeff has lost his sense of taste and smell. One way to address the loss of taste and smell and so enhance the likelihood of a re-engagement with a previously valued activity is to reduce/quit smoking.

Smoking History Jeff began smoking around the age of 17 when other students offered him cigarettes. He remembers not initially liking or disliking smoking however, he continued to smoke socially. Eventually he began buying his own cigarettes. His smoking increased over time to over 25 a day. Jeff has had no previous quitting attempts, although whilst in a coma following his accident and during subsequent surgical interventions, he stopped smoking for the three months he was in hospital. He says he returned to smoking out of boredom.

Current Smoking Behaviour Recently, Jeff has already begun to reduce his smoking to around 20 cigarettes a day in order to improve his sense of taste and smell. He would like to gradually reduce his weekly intake and eventually quit completely. Jeff says that he smokes mainly out of boredom, out of habit, and after consuming coffee.

Support Jeff's wife is also currently a smoker. He believes this will not be an issue as he is confident she will reduce her smoking alongside him.

Motivation Although Jeff states he is very motivated to quit smoking, he also has anxiety about how his body will react. He believes he will find the process of quitting difficult, although he is unsure why. Jeff doesn't observe any psychological or cognitive consequences linked to his smoking, he states anger and stress do not impact on his smoking habits and that for him, smoking is purely a habitual response.

Baseline measures *The Fagerström Test for Nicotine Dependence:* Jeff scored 6 on the Fagerström Test for Nicotine Dependence (FTND: Heatherton, Kozlowski, Frecker & Fagerstrom, 1991), suggesting a moderate physical dependence on nicotine.

Initial Confidence Measure Jeff reported a score of 6. The HTH (Michie et al., 2008) suggests that a score lower than 7 requires improvement for the intervention to be effective. I followed the guidelines and asked Jeff what would make this score higher, he said he was unsure. This could be due to an initial lack of knowledge about the process of smoking cessation (Bandura, 1989; Ryan & Deci, 2017; Miller, 1999).

Table 1:

Formulation of key issues for the intervention to address, using the COM-B model.

COM-B Component	Tailored to Jeff	Focus for the intervention
Capability: *Psychological*	• *No previous quitting attempts:* Jeff has not had the motivation to quit before and has not attempted smoking cessation. He had 3 months of no smoking due to hospitalisation and only returned to smoking due to boredom. • *Reluctant to commit to 'Not a puff' rule:* Jeff was reluctant to pursue the goal of setting an early quit date and applying the 'not a puff' rule, as he is anxious about how his body will respond and would rather steadily reduce his smoking over time with the long-term goal of complete cessation.	• Goal-Setting: Goal setting to establish how and when Jeff aims to reduce his smoking. Jeff was not keen on complete cessation, so MI could be used here to help Jeff find goals that are more suitable to him. • MI: MI may also help him address conflicts in his thoughts and experiences, due to being nicotine free in the past due to hospitalisation, and only returning to smoking due to boredom, not physical effects. • Psycho-Education: Discuss pros and cons of stopping smoking, provide resources for positive bodily changes to help combat negative thoughts about physical responses.
Motivation: *Reflective*	• *Motivation to quit smoking:* Jeff is very motivated, when I worked through the 'pros and cons'	• MI: Barriers, Facilitators, Set Back Planning:

	of smoking cessation with Jeff, he stated he *"cannot think of a single reason not to stop smoking"*. Subsequently, he reflected on large financial and health benefits to smoking cessation, and the added unique personal goal of potentially improving his sense of taste and smell. Jeff had already begun to independently reduce his smoking by around 10 cigarettes a day prior to the assessment.	Although Jeff is very motivated to reduce his smoking, his initial confidence in his ability to succeed at this was low. MI may help identify specific areas of low confidence, such as barriers, facilitators and set-backs, and allow for planning how to manage them.
Motivation: *Automatic*	• *Hand-to-mouth reflex:* Jeff regards he has no real thoughts or feelings, before, during or after smoking, and that his emotional state has no correlation to his smoking habits. He observes for him smoking is more of a learned habit, similar to a repetitive bodily-focussed behaviour. He states the urge to smoke is worse when he is bored, and that the most difficult aspect of the urge is the hand-to-mouth habitual movement of smoking.	• Physical Sensation: Psycho-Education, Relaxation: Explore alternative solutions to hand-to-mouth movement, such as mouth sprays, sugar free lollipops. Explore mindful relaxation techniques when aware of the urge.
Opportunity: *Physical*	• *Environmental Triggers:* Jeff stated his wife also smokes; however, he does not view the	• MI: Boredom and Environment: Identify when, why and what makes Jeff bored. Explore how to recognise

	presence of smoking paraphernalia around the house as a trigger. Jeff is very confident his wife will reduce her smoking alongside his, and if she doesn’t, he is confident in his ability to not be influenced by her smoking habits. • *Access to Nicotine Replacement Therapy (NRT):* Jeff has begun researching the use of vapes and is open to learning about other NRTs. He has contacted his consultant to ensure his existing medication routine will not interact with these and has been given confirmation he is safe to use NRT.	boredom triggers and alternative activities. Jeff also mentioned an increased urge to smoke with coffee, explore ways of separating this association. • Communication Skills: Identify if Jeff would like to involve his wife in his stopping smoking efforts, such as using MI to explore give and take solutions such as a smoke free area in the house. If this is the case, establish if Jeff is confident to have this discussion or if he needs communication skills training. • Psycho-Education: Support Jeff by providing further NRT education, in a simple, accessible format. • Self-Management: Explore strategies for Jeff to implement concepts addressed within the intervention, i.e., NRT, Relaxation, developing alternative activities, in his day-to-day life.
Opportunity: *Social*	• *Social Triggers:*	• Barriers, Facilitators, Set Back Planning:

Jeff is aware of the presence of social triggers being significant to smoking habits in his past and acknowledges many of his social circles engage in smoking.	Identify potential barriers, facilitators and setbacks and utilise MI to help Jeff develop an individual plan for combatting these factors.

Based on the assessment and formulation the focus of the intervention was to:

1. Help Jeff investigate and develop individual goals towards reducing his smoking.
2. Explore the concept of NRT with Jeff.
3. Improve Jeff's confidence through providing him with communication skills and action planning for barriers, facilitators, such as boredom, and setbacks.
4. Discover effective alternative solutions to combat the hand-to-mouth habitual reflex.
5. Encourage self-monitoring activities aimed at goal progression and improving confidence.

Intervention:

Designing the intervention

I designed an intervention tailored to Jeff, using elements of MI throughout to ensure the intervention was being guided by Jeff's own decision making. The structure was loosely built on the HTH and the NCSCT's Standard Training Programme (2019), however, without the presence of the 'not a puff' rule, due to Jeff preferring to steadily reduce his smoking over time. When designing the intervention, I employed principles of behaviour change outlined in the 'Cards for Change' (Byrne-Davis, Bull & Hart, n.d), based on The Behaviour Change Technique Taxonomy (Michie et al., 2013). Techniques used in the intervention needed to be clear and simple to limit cognitive fatigue and encourage engagement, and also cater to Jeff's specific needs due to his TBI and language barrier (Wittink & Oosterhaven, 2018). Some elements of the HTH were very useful, such as the confidence measure, as it was a quick, simple and effective way of tracking Jeff's confidence before and after the intervention.

I planned for early sessions to be aimed at setting specific, measurable, achievable, realistic, and timely (SMART) goals (Michie et al., 2008), and utilising MI to help identify and schedule rewards for achieving goals to help improve confidence. Rewards have been shown to encourage behaviour change through providing positive reinforcement (Ferster & Skinner, 1957). I planned to use MI throughout this process to encourage Jeff to think of each of the SMART components when setting goals and rewards, to ensure they are measurable, realistic, and achievable. Alongside goal setting, I planned to agree a behaviour change contract with Jeff, contracts are outlined both in NCSCT and HTH as evidence shows contracts help clients stick to their goals by creating a record of decision making, and opportunity to evaluate progress by comparison against the terms of agreement (Kanfer & Goldstein, 1991). I also planned to discuss the use of NRT alongside the intervention, as a mixture of behavioural support and pharmacotherapies are the most effective way to reduce smoking (NICE, 2018; Stead, Koilpillai, Fanshawe & Lancaster, 2016). Any psychoeducation surrounding NRT would need to be informed by health literacy concepts to ensure it is accessible, and understandable, which is especially important given the impact of Jeff's TBI on his sustained attention.

The presence of social stressors can reduce an individual's confidence in their ability to resist urges to smoke (Niaura, Shadel, Britt & Abrams, 2002), therefore, in later sessions, I planned to equip Jeff with communication skills through practical methods such as roleplay due to the social ties to smoking addressed in the assessment and formulation. I also planned to utilise MI to investigate situations in which Jeff feels bored, or is focussed on the hand-to-mouth habitual reflex, to help Jeff identify these situations and develop alternative activities or problem-solving skills. MI will also be used to identify barriers, facilitators and potential set-backs that may have contributed to the initial low confidence score. Action planning can also be implemented at this point into if/then plans to help Jeff visualise and pre plan his responses to these difficult situations.

Each session will end with Jeff being set a takeaway task to complete before the next session to encourage him to engage with concepts introduced in the intervention

(Donkin & Glozier, 2012). However, due to Jeff's issues with forward-planning identified within his neurorehabilitation, Jeff will be encouraged to set up prompt reminders on his phone to ensure tasks and concepts are not forgotten. In previous neurorehabilitation sessions, it was established that Jeff prefers to track progress and make reminders digitally rather than on paper, as he finds writing very difficult. Any psycho-education documents were translated with the interpreter.

As part of my PPA role within [redacted], I was visiting Jeff's home twice a week to deliver neurorehabilitation. It was agreed that this smoking cessation intervention could be delivered alongside but separate to his neurorehabilitation programme. The intervention was planned to take place in the first 60 minutes of his neurorehabilitation sessions, as [redacted] agreed many of the concepts included directly overlapped with skills we are encouraging Jeff to develop, such as organisation and activity planning. The rationale to deliver the smoking cessation intervention in the first hour was also to minimise fatigue and allow for a break before his neurorehabilitation to keep the two sessions separate. I scheduled six one hour long (approximately) sessions over a three-week period and a follow up session 3 weeks later. This decision was informed by the structure of Jeff's neurorehabilitation sessions, in which he would like a break after around the first hour. Additionally, the three-week format mirrored that of the NCSCT's standard treatment programme guidelines (NCSCT, 2019). However, there was flexibility in the length of sessions to ensure for any complications or changes of circumstance, the likelihood of which is increased due to the nature of TBI.

Table 2

Mapping of intervention content to theory and approach.

Content:	COM-B Focus:	Methods:
Goal setting to clarify how Jeff wants to reduce his smoking.	1. *Capability: Psychological:* Jeff stated he would prefer a gradual reduction in his smoking rather than aim for complete cessation due to anxiety over physical side effects. This session will focus on exploring whether Jeff wants to reduce rather than commit to the 'not a puff' rule. If Jeff still wants to reduce, then this session will explore by how much and at what rate. This session should also explore the role of rewards for achieving goals and if this is something Jeff would want to incorporate. 2. *Opportunity: Physical:*	*1.MI:* MI will be used to help Jeff formulate his own personalised goals using the SMART goal guidelines for how and when he plans to reduce or quit smoking, alongside exploring potential rewards for achieving goals. *2. Psychoeducation:* If Jeff wants to investigate NRT further, I will use psychoeducation to explain the available NRT options, how they work and how they are used. *3. Commitment Contract:*

	During the assessment and formulation, Jeff demonstrated some awareness of NRT. This session will explore whether Jeff wants to use NRT, and if so, identify which methods. 3. *Review what was covered in session.*	Present Jeff’s goals from the session in a contract format so he can see his goals and timelines and agree to his plan for how to achieve them. 4. *Takeaway Task: ‘Self-Monitoring’:* Encourage Jeff to explore techniques (e.g., apps, notebook, voice recordings) to track his goals and progress.
Communication skills to allow Jeff to ask for support, or speak assertively.	1. *Review Takeaway Task: ‘Self-Monitoring’.* 2. *Opportunity: Social & Opportunity: Physical.*	*1.Roleplay:* To help Jeff develop his communication skills I will provide Jeff with a couple of roleplay scenarios where

Jeff is aware of social factors influencing his smoking behaviours in the past, and his current social circles engaging in smoking. He also is aware of his wife smoking and smoking paraphernalia being around the home. This session will look at exploring developing communication skills to allow Jeff to ask for support from his wife, or friends, or to be able to communicate assertively.

3. Review what was covered in the session.

he can practice asking for support and speaking assertively in different social situations.

2. Takeaway Task: 'Action Planning':

Encourage Jeff to try and record time, situation and thoughts for when he feels bored, or a hand-to-mouth urge.

Habit Breaking to help Jeff combat the hand-to-mouth reflex.	*1. Review Takeaway Task: ‘Action Planning’.* *2. Motivation: Automatic:* Jeff states the urge for him to smoke is worse when bored, and the hand-to-mouth reflex is difficult for him. This session will focus on exploring alternative tasks to combat the hand-to-mouth reflex by mimicking a similar movement or keeping Jeff’s hands occupied when bored. This session will also look at providing Jeff with relaxation strategies to use when he feels the hand-to-mouth urge or boredom. *3. Review what was covered in the session.*	*1. Relaxation Strategies:* Demonstrate calming breathing and muscle relaxation techniques, encourage Jeff to do these with me in the session and provide Jeff with a diagram guide for him to keep post session. Prompt Jeff to use these when he feels the hand-to-mouth urge or boredom. *2. MI:* Use MI to explore alternative activities for Jeff to try when bored and to combat the hand-to-mouth reflex, such as knitting, or painting. MI will allow Jeff to explore activities that most appeal to him. *3. Takeaway Task: ‘Overcoming Barriers’:* Encourage Jeff to think about how he may overcome potential barriers

Explore barriers, facilitators and set-back planning to improve Jeff's confidence.	1.*Review Takeaway Task: 'Overcoming Barriers'.* *2. Motivation: Reflective:* Although Jeff was motivated to reduce his smoking during the assessment and formulation, his initial confidence measure was low. This session will identify potential barriers and support. 3. Review what was covered in the session.	1. MI: I will use MI to help explore and identify barriers, facilitators and potential setbacks that Jeff may have identified in his Takeaway Task and in the session. 2. 'If this, then what?' plan: I will help Jeff pre-plan for how to combat potential barriers, facilitators and set-backs identified in his Takeaway Task, or in the session. I will do this by recording the situation on an 'If this' and potential solutions on an 'Then what?' plan. This plan will stay with Jeff as a prompt. 3. Takeaway Task: 'Tracking' Encourage Jeff to continue working towards his goals, and, if applicable, applying and reflecting on features of the intervention that have been useful.

Review Goals & Re-take Assessment Measures to assess progress.	1. Review Takeaway Task: ‘Tracking’. 2. Review and re-assess goals. 3. Summarise the intervention to date by providing Jeff with a session-by-session overview. Praise Jeff for his engagement and progress and thank him for his efforts and attendance.	1. MI: Re-take the confidence scale to help Jeff visualise and compare his progress. If higher than initial score, praise Jeff’s progress and use MI to discuss what has increased his confidence. If lower, use MI to help Jeff identify what would help him increase his confidence. I will use MI to help Jeff reflect on his goal progression to date and identify any changes he wishes to make.
3-week Follow up	1. Review Jeff’s progress. 2. Obtain feedback.	1. Re- take the Fagerstrom test for nicotine dependence. 2. Provide Jeff with a session-by-session overview of the intervention and discuss what he found helpful or what he would have found useful.

Delivering the intervention

Due to the unpredictable and complex effects of Jeff's TBI, it was important to communicate a clear, simple, and structured approach to each session, while also allowing flexibility for Jeff's fatigue and mood (Englander, Bushnik, Oggins & Katznelson, 2010; Todd & Weatherhead, 2018). Scheduling two sessions a week and delivering each session in a similar format helped maintain consistency, momentum and minimised confusion (Headway, 2019). Each session involved briefing Jeff at the very start of what I planned to address during the session, a summary of what was discussed or highlighted at the end of the session, and a rough plan of the next session ahead. I would also ask Jeff how he felt about his smoking reduction progress so far. Once Jeff started using NRT, I asked which NRT treatment he chose, how and when he used it and how he felt about it.

It helped to have a hard copy of the intervention plan with me for each session to ensure I addressed the majority of what was planned, in the correct order, as it became apparent early on that the conversations and focus of the sessions would not be as linear as planned. Jeff would often become fixated on very specific elements of the conversation that may not be directly linked to the focus of the session, such as other people's progress on the SmokeFree app, meaning sessions would sometimes run over the planned 60 minutes to allow for Jeff to speak freely, but also address the planned content where possible. By keeping the sessions flexible, but still following the planned template, I was able to record any missed content from the longer sessions to address in the following session. Alternatively, on some occasions, Jeff would be very closed in his communication, such as saying, "I'm doing fine.", MI was very useful in these instances as it allowed me to explore deeper into what he feels makes his progress 'fine' and opened closed statements up into a more informative conversation.

Due to the varying nature of communication, Jeff occasionally would address issues which related to content planned for later in the intervention earlier on, or during his separate neurorehabilitation sessions. The flexibility in the intervention meant where this occurred, I could move the chronology of sessions to better fit Jeff's needs. At the end of each session, I would ask Jeff to reflect on and summarise the content of the session and welcomed any questions to ensure understanding (Bennett-Levy, McManus, Westling & Fennell, 2009). I would also assign Jeff with a takeaway task which would be reviewed in the next session to encourage Jeff to engage with the intervention separately to his neurorehabilitation. For an overview of the planned session content and actual delivery see Table 3.

Table 3

An overview of planned content and actual delivery of sessions.

Planned focus:	Planned Session:	Actual Session:	Actual Delivery:
Goal setting to clarify how Jeff wants to reduce his smoking. ***1.MI*** ***2. Psychoeducation*** ***3. Commitment Contract*** ***4. Takeaway Task: 'Self-Monitoring'.***	**1-2**	**1-2**	Jeff found the goal-setting activity quite confusing. He initially stated he thought quitting smoking would be "difficult" and would rather adopt a steady reduction process. However, his first goal formulation was to smoke 0 cigarettes in his first week and only use his vape. MI helped Jeff address the SMART aspects of his goal setting. Jeff then formulated a weekly goal template, with his first goal being no more than 10 cigarettes in his first week. Jeff also struggled with coming up with reward ideas, and suggested I choose one. MI helped Jeff explore which type of reward would be most appropriate for him with him ultimately deciding on putting money into a jar if he achieved his goal to visually see his progress. We wrote this goal and reward down into the contract, which Jeff signed and kept as a prompt. We agreed to review this in a week.

			Jeff was eager to explore NRT, I had pre-prepared some easy to read, accessible information sheets. We worked through these with the translator on the day. This took some time and in hindsight I should have sent these to be translated in advance of the session. Takeaway task delivered as planned. Reflected and summarised the session to ensure understanding.
Communication skills to allow Jeff to ask for support, or speak assertively. ***1.Roleplay*** ***2. Takeaway Task: 'Action Planning'.***	**2-3**	**2**	Jeff had successfully completed the Takeaway Task, choosing the SmokeFree app to record his goals and progress which he engaged with daily. Due to the last session running over, we revisited the NRT. Jeff had since explored the options we discussed. He explained he chose the mouth-spray due to it targeting the short-term urge and his hand-to-mouth habitual response that I mentioned would be addressed in the intervention. This reassured me he had understood and reflected on the psychoeducation.

			Due to Jeff mentioning the hand-to-mouth reflex, I chose to set the Takeaway Task: ‘Action Planning’ at the start of the session, during this conversation. Jeff struggled to engage with the Roleplay activity as it made him feel awkward. To compensate for this, I would roleplay examples to Jeff, and invite him to respond if he felt comfortable. He was quite closed in his responses and communication, stating “I would just not go out with [friends] if they acted this way”. On this occasion, roleplay was not a very constructive activity for Jeff, however, when summarising the session, he stated he felt confident to say no when needed, and that he felt comfortable asking his wife for support.
Habit Breaking to help Jeff combat the hand-to-mouth reflex. ***1. Relaxation Strategies*** ***2. MI***	**3-4**	**3-4**	Jeff had not managed to complete his Takeaway Task, so we addressed the content of it within the session. We also reviewed his first weekly goal. Jeff had managed not smoke a single cigarette despite his initial preference to reduction rather than quitting. When setting his second weekly goal he planned to continue not to smoke a single cigarette and reduce

3. Takeaway Task: 'Overcoming Barriers'.			the nicotine in his vape by 3mg. He continues to track his goal progress on the SmokeFree app. Jeff engaged well with the relaxation strategies, however he struggled to formulate alternative activities for combatting the hand-to-mouth reflex. MI allowed Jeff to explore these in more depth and he planned to try playing with lego or phone games to keep his hands busy the next time he is bored. Takeaway task delivered as planned. Reflected and summarised the session to ensure understanding.
Explore barriers, facilitators and set-back planning to improve Jeff's confidence. **1. MI** **2. 'If this, then what?' plan** **3. Takeaway Task: 'Tracking'.**	**4-5**	**4**	Jeff stated while he had not written down his Takeaway Task, he had thought about it. This seemed to be Jeff's preferred approach and still resulted in informative conversations. Jeff mentioned his boredom and hand-to-mouth response is still a key barrier for him. He mentioned he had not tried playing with lego, but phone games and his mouth spray were effective for a short amount of time. Jeff also reflected on two days he had recorded stronger urges to smoke as a response to stress, when his new car was damaged. However, he didn't feel like stress was

			a barrier as he successfully managed not to smoke despite the urges. MI helped Jeff identify he saw the urge to smoke as a challenge and due to his competitive personality he felt confident he could resist the urge. Jeff identified certain friendship groups and environments, alongside boredom as potential barriers and facilitators of smoking. Jeff mentioned his wife has now also quit smoking so there is no longer smoking paraphernalia around the house. When formulating ‘If this, then what?’ plans for the remaining barriers, Jeff identified removing himself from smoking areas, or asking people to step away from him. This indicated he felt confident enough to employ the assertive conversation techniques discussed in session 2. Takeaway task delivered as planned. Reflected and summarised the session to ensure understanding.
Review Goals & Re-take Assessment Measures to assess progress.	**5-6**	**5**	Reviewed Jeff’s weekly goal, while he had continued not to smoke a single cigarette, he expressed disappointment that he had not managed to reduce the nicotine in his vape. MI helped

1. MI.	Jeff reflect on the fact he has exceeded his initial goal of reducing his smoking, as he had managed complete cessation, and that dwelling on imperfections in his process doesn’t change his progress. Provided Jeff with an overview of sessions so far and encouraged him to reflect on what he has achieved before introducing Jeff to retake the initial confidence measure taken during the assessment and formulation. His new score was 9, indicating a large improvement in his confidence to quit smoking.
Follow up (June) **1. Re- take the FTND** **2. Provide Jeff with a session-by-session overview of the intervention and discuss what he found helpful or what he would have found useful.**	Conducted the follow up session as planned, Jeff had continued not to smoke a single cigarette since the intervention, meaning he scored 0 when retaking the FTND, indicating no physical nicotine dependence. When speaking to Jeff around what he found helpful he said he would like to stop his vape going forward, however is very pleased and feels the intervention was a good start, and he feels pleased and motivated.

Ending the intervention

Throughout the intervention process I made Jeff aware of the content, number and timings of sessions. I also set ’takeaway tasks’ to ensure engagement with the intervention was separate to engagement with his neurorehabilitation programme. This ensured that when ending the intervention, I could clearly inform Jeff that the focus and length of his neurorehabilitation sessions would return to their previous state. However, I summarised with Jeff how the skills surrounding goal-setting, self-monitoring and reflection he had used within the intervention could be transferred to his neurorehabiliation sessions. The continuation of his neurorehabilitation meant Jeff was aware of ongoing support from me, albeit with a different focus, and I am aware that ending interventions with clients in future practice may be more complicated and more final.

Evaluation

An evaluation of an intervention is described as a process of investigating efficacy, effectiveness and client progress (National Institute for Health and Clinical Excellence, 2007; Howard, Mora, Brill, Martinovich & Lutz, 1996) by assessing if the intervention worked during the controlled environment of intervention sessions, in real-world settings outside of intervention sessions, and if it works for the individual needs of the client (McCambridge et al., 2007; Newman & Tejeda, 1996; Nutbeam, 1998). To address these, my evaluation of this intervention details the aims of the intervention and the extent to which these were achieved, display any changes in the baseline measures taken during the assessment and formulation stage, and present feedback from Jeff.

The aim of this intervention was to help Jeff reduce his smoking. The elements used to achieve this aim are displayed in Table 4. The overall aim of smoking reduction was modified to maintaining Jeff’s complete cessation, as Jeff managed to entirely quit cigarettes for the duration of the intervention and continued to be smoke free at the time of the June follow up session.

While the overall aim of the intervention was successful, there was some variation in the extent to which the specific elements implemented within the intervention were achieved. It was unclear if Jeff utilised the concepts addressed within developing communication skills and planning for barriers and setbacks outside of intervention, despite him engaging within the session itself. Jeff also communicated that while he was able to identify alternative activities to combat his hand-to-mouth habitual reflex, none were completely effective.

Table 4

Intervention goals and progress.

Intervention Goal	Progress
Help Jeff investigate and develop individual goals towards reducing his smoking.	Achieved.
Explore the concept of NRT with Jeff.	Achieved.
Improve Jeff’s confidence through providing him with communication skills and action planning for barriers, facilitators, such as boredom, and setbacks.	Achieved in the session, but unclear if applied outside of the intervention.
Discover effective alternative solutions to combat the hand-to-mouth habitual reflex.	Alternatives were discovered but ineffective.
Encourage self-monitoring activities aimed at goal progression and improving confidence.	Achieved.

Outcome measures

During the assessment and formulation stage, Jeff completed two baseline measures the FTND (Heatherton, Kozlowski, Frecker & Fagerstrom, 1991) and an initial Confidence Measure (Michie et al., 2008). The Confidence Measure was re-taken during the last session of the intervention, and the FTND during the 3-week follow up, these results are shown in Table 5.

Table 5

Baseline and Outcome Measures.

Measure	Baseline (Assessment & Formulation)	Final Session	3 Week Follow-Up
FTND	6 *Moderate physical dependence on nicotine.*	-	0 *No physical dependence on nicotine.*
Confidence Measure	6 *Low confidence. Any score lower than 7 needs improving for the intervention to be successful.*	9 *High confidence in ability, high likelihood of intervention being successful.*	-

Client feedback

During the June follow up session, Jeff gave very positive feedback surrounding my delivery of the intervention having a "humanistic approach" which "focussed on [his] successes and didn't criticise", mirroring my observer feedback. I am beyond pleased with this feedback, and it helps to mediate some of my anxieties around my approach and ability to establish rapport with a client. Jeff also said I had managed to find a way to motivate him, which he has not yet managed to achieve with other healthcare professionals involved in his treatment. I am unsure if this success is attributed to me, or a collaboration of Jeff's dedication to quitting smoking, and our pre-established therapeutic relationship.

<u>Conclusion:</u>

Overall, Jeff made considerable progress throughout the intervention, achieving his goal and is feeling confident about maintaining his positive change, and applying it to his vaping behaviour independently.

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5.2 Individual Face to Face Intervention Reflective Commentary

Introduction

This reflective report was developed alongside my case study of a three-week smoking-cessation psychological intervention with a client called Jeff. The aim of this report is to reflect on three stages of the intervention: assessment and formulation, implementation and ending the intervention. The Gibbs reflective cycle (Gibbs, 1988) was used to form reflections on the strengths and weaknesses of my approach in these areas, key points of learning, and the supervision process.

Assessment and Formulation

During the assessment process, I noticed early on the impact of the concrete, black-or-white thinking Jeff had adopted since his injury on his ability to communicate his opinions, thoughts, and experiences (Moore & Stambrook, 1995; Salas, Vaughan, Shanker & Turnbull, 2013). This was particularly noticeable when attempting to implement worksheets such as the ABC form and balance sheets from the Improving Health: Changing Behaviour, NHS Health Trainer Handbook (Michie, Rumsey, Fussell, Hardeman, Johnston, Newman & Yardley, 2008). Jeff struggled with identifying thoughts and feelings before or after the behaviour, stating he felt "fine" and was thinking "nothing" on both occasions. As a result, I was unable to find anything constructive to the assessment and formulation process from this activity and did not include it. Similarly, when asking Jeff questions such as "What are the disadvantages of quitting smoking?" he was unable to think of "any reason not to quit". I noticed that Motivational Interviewing (Britt, Hudson & Blampied, 2004). was key, as it is specifically designed to address the nature of ambivalence which Jeff was displaying. The concept of 'rolling with resistance' within MI meant I was able to acknowledge and accept what Jeff was saying, using empathetic active listening to nudge Jeff into reflecting on his own words rather than pushing my own agenda onto him (Rollnick & Miller, 1995). This meant we were still able to address the content of the ABC forms and balance sheets through more flexible conversation, which then highlighted Jeff's anxieties around his physical responses to quitting smoking, and Jeff's description of his smoking urges when bored being more linked to a habitual hand-to-mouth reflex rather than any cognitive thought process.

This was the first assessment and formulation I had conducted, and I initially found the process a bit uncomfortable, I was worried I was being too informal, as I had already established rapport with Jeff due to seeing him each week for the previous four months for neurorehabilitation. Due to this I found myself struggling to keep the balance between a theory-informed psychological intervention assessment, and a casual chat, sparking feelings of imposter syndrome (Mullangi & Jagsi, 2019). Reflecting on this, while I was unsure if I was being ‘professional’ enough in my delivery, this casual approach probably worked best for Jeff, as it took me a while to establish trust and rapport with him during his neurorehabilitation sessions. I feel without this initial relationship, conducting the assessment and formulation process with Jeff would have been more formal, but also more static which would have amplified the difficulties presented by this black and white thinking.

The presence of a translator also added another layer of complication, as I had no way of telling for certain if she was communicating exactly what myself and Jeff were saying, so there was the possibility of key bits of information being lost in the process. It also meant with certain words or concepts I had to pause and think about phrasing to ensure it wasn’t too complicated to be translated or have a different tone or meaning to what I intended. This meant there were some pauses, repetition and clarification lengthening the timing of the session. On this occasion, Jeff had been working with the translator for some time, so already had that rapport with her also, they had a very positive working relationships with inside jokes and a good cultural understanding, which worked in my favour, as the translator would prompt Jeff independently if he had a very closed response. If I were to work with a translator again, I would plan for a longer assessment session, and pre plan how I would explain and describe some concepts to ensure a smoother delivery.

I initially was unsure of how to present the information gained from the assessment into a formulation, which supervision guidance helped address, and I am now confident to use the case study format for transferring assessment content into formulation in the future. My overall experience of the assessment and formulation process was positive, and areas of key learning I will utilise in the future, is the concept of active, empathetic listening, and reflecting on and repeating back key information to the client to show understanding and help guide intervention techniques.

Implementation

Before the intervention started, I already had imposter syndrome anxieties similar to those during the assessment and formulation process. I was worried in case I wasn't formal or competent enough or wasn't adhering to all professional standards of what an intervention should include (National Institute for Health and Care Excellence, 2014). Pivotal to countering these anxieties was guidance from supervision that reassured me intervention delivery didn't need to be clinical and static to be effective, and via feedback and progress from Jeff himself. I was reassured when I saw body language cues from Jeff showing him actively thinking and reflecting on something I said, or when he would ask questions or want to show or tell me something surrounding his progress. While these anxieties didn't go away completely, and I think imposter syndrome is something I will encounter throughout my professional development, as the intervention progressed, it did occur less often.

As this was my first time delivering an intervention of any kind, and I have no previous smoking cessation training, I also felt a sense of imposter syndrome around delivering the specific intervention techniques based on the Behaviour Change taxonomy (Michie et al., 2013). I was again worried I wouldn't do this correctly, and I struggled to formulate a link between the concept of the focus, for example goal setting, and how exactly I would introduce this in practice. I found the Cards for Change (Byrne-Davis, Bull & Hart, n.d.) extremely useful for simplifying and explaining this process and would like to use them again in future practice.

One of the difficulties in delivering this intervention alongside neurorehabilitation sessions meant that it was hard to create boundaries around where one began and the other ended. For example, on occasion Jeff would share very significant information around his smoking behaviours during neurorehabilitation sessions, such as when he reflected on feeling stressed around his new car being hit and feeling a very intense urge to smoke. It was very difficult not to open this up into a wider conversation, as I was worried not doing so at the moment in time would mean Jeff would return to smoking and lose confidence, but it was essential not to let his neurorehabilitation be impacted upon. To manage these instances, I would make a note of what Jeff had mentioned and ask him to do the same as this would be the first thing we would discuss in the next intervention session. This worked well as it seemed to stress the importance to Jeff and manage to keep his focus until the next session.

I also found myself reflecting on instances where Jeff was using skills I was trying to encourage within neurorehabilitation during the intervention. For example, when encouraging

Jeff to record his daily and weekly activities, he was unable to engage, however he was engaging with tracking his daily progress on the SmokeFree app. When discussing this I identified that motivation was a huge factor to his engagement (Prochaska, Johnson & Lee, 2009). Jeff said he did very little daily due to the COVID-19 pandemic meaning he spent most of his time sitting inside which he found boring, however he continuously engaged with the intervention due to being "very motivated" to stop smoking. As a result, I was learning new information Jeff that could inform information techniques well past the assessment and formulation process. This was problematic as while I wanted to incorporate this new information in some way, and the intervention was designed to be flexible, I found it uncomfortable deviating from the planned session content as I was worried I wouldn't manage to address everything.

Reflecting on this, having a hard copy of the plan to hand during each session helped guide the techniques I used more effectively and acted as a reassuring aid that I was providing Jeff with quality content. Therefore, to allow for the flexibility I had planned, and incorporating new information, some sessions ran over in length and were picked up on in the following session. There were also occasional instances, such as the roleplay session, where Jeff struggled to engage, meaning there was extra time at the end of the session to go back and reflect on anything he had mentioned, and I had not managed to address previously.

While I overall enjoyed the implementation procedure, I am very aware of how much I rely on pre-planning and predicting content, which is not always possible when working with human behaviour. My key area of learning from the implementation process is to learn to be open to fluctuations in people's mood, personalities and behaviour and maybe plan around how to respond to positive and negative engagement, as well as planning session content. This may help reduce some of my anxiety about rigidly sticking to the plan and help mediate some of my feelings around imposter syndrome, as I will be able to reflect on how to react in different situations.

Ending the Intervention

The main difficulty surrounding ending the intervention was defining boundaries, as I would be continuing to work with Jeff during his neurorehabilitation sessions. Throughout the entire intervention process I made Jeff aware of the number of sessions we had, and what would be included. I also made sure to have a clearly communicated conversation on the last session to make Jeff aware that neurorehabilitation sessions will resume their original format and structure, and that while I will be checking on his progress in June as a follow up session, he is now free to apply what we have covered in the intervention into his daily life as he wishes.

I received some feedback from Jeff that he was “very grateful” for the sessions and that I had “managed to find out what motivates him” he is pleased with his progress but wants to reduce the use of his vape in the future. I found this feedback very rewarding, and it helped me view our casual comfortable rapport as a positive for the first time. I was worried that Jeff would lose motivation, confidence and progress without the presence of focussed face to face sessions, but I realise that, similar to rehabilitation, the intervention was a toolkit aimed at a final outcome which I cannot control and that I can only do my best during the time I have.

Conclusion

I found the individual face-to-face intervention more cognitively and emotionally demanding than I thought, it brought to light the impact of imposter syndrome and my rigidity around planning and control that will be very useful to challenge, address and reflect on in future practice. Table 1 outlines a summary of key learning points and their future implications.

Overall, I found the process an enjoyable challenge and it was very rewarding to see Jeff’s progress and hear his feedback. This is something I would be keen to do again in future practice, and I plan to actively seek out future intervention implementation opportunities to contribute to my continued professional development as a trainee Health Psychologist.

Table 1

A summary of key learning points.

Key Learning	*Future implications*
Communication, rapport and general approach	• Become more comfortable in the balance between professional and approachable to establish rapport. • Think more creatively about practice guidelines and features from the behaviour change taxonomy so I feel confident my intervention delivery is effective, theory led and adherent to guidelines. • Carefully consider language use, don't be afraid about talking too much or to little, focus on content instead.
Assessment and Formulation	• Use a mixture of Motivational Interviewing and self-report methods to ensure thorough detailed information is gathered. • Be mindful that more information may come to light later on in the intervention due to time constraints commonly linked to assessment and formulation, ensure some flexibility for this. • Develop reflective and critical thinking to understand and structure information gained in assessment into a formulation.
Intervention Techniques	• Develop ability to consider which techniques will work best for each client given the information provided by the assessment and formulation.

	• Research guidance such as the Cards for Change which can inform my intervention delivery techniques to ensure they are creative, engaging, effective and tailored to the individual. • Consider alternatives and communication skills for occasions where a client struggles to engage with a given technique.
Planning, structure and control	• Plan in advance key communication points for each session to ensure language use is understandable and approachable. • Plan how to manage and respond to more difficult situations such as a client having negative thoughts or struggling to engage with the intervention. • Plan an initial structure to sessions, but keep this flexible and review after each session to ensure all aims are being met but also to allow for natural changes that may occur when working with human behaviour.
Supervision	• Be open to discussing my anxieties within supervision to guide my practice.

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5.3 Remote 1:1 Intervention Case Study

Background

The opportunity for this online psychological intervention was presented within my role in a National Health Service (NHS) Trust Burns Service, working with inpatients and outpatients. My role includes completing a psychosocial screen with inpatients, as recommended by the National Burns Care Standards for England and Wales, to identify any indicators of psychological difficulty (British Burn Association, 2023). People with burn injuries often present with unique clinical, psychological, and social challenges as a burn injury can be one of the most severe forms of trauma. Therefore treatment in specialised services is required (NHS, 2013). Resultingly, burn injuries can be accompanied by a range of psychological difficulties, including depression, anxiety, appearance concerns and Post Traumatic Stress Disorder (PTSD) (Jain, Khadilkar, & De Sousa, 2017; Lodha, Shah, Karia & De Sousa, 2020; Rumsey & Harcourt, 2004; Wisely, Hoyle, Tarrier & Edwards, 2007). Additionally, people with a burn injury are more likely to have pre-existing mental health concerns before sustaining their injury, in comparison to the general population (Logsetty, Shamlou, Gawaziuk, March, Doupe, Chateau & Sareen, 2016; Mason, Nathens, Byrne, Ellis, Fowler, Gonzalez & Jeschke, 2017). Therefore, it is important to screen patients early to identify those who may benefit from psychological input (Potter, Aaron, Mumford & Ward, 2023). If a need for psychological input is identified, this can range from supportive counselling to formal psychological interventions (Shepherd & Beveridge, 2022).

Our outpatient therapy service was temporarily closed due to a gap in the service. This facilitated discussions between myself and my workplace contact, a Clinical Psychologist, about the possibility of delivering a brief psychological intervention to outpatients on the waiting list. This case study outlines an online, one-to-one intervention, with one of our outpatients, Peggy[1], a woman in her late seventies.

Assessment

Assessment can be described as the process of generating a cohesive and comprehensive understanding of the person being evaluated, which can be done through multiple sources, including test-based information, and client history (Meyer et al., 1998). The function of an assessment is to gather information to develop a formulation and intervention to address the client’s needs (Corrie, Townend & Cockx, 2016). It also provides an opportunity to collaborate, establish rapport, and some models have characterised assessment as a therapeutic intervention in itself (Finn, Fischer & Handler, 2012; Meyer et al., 2001).

The impact of the COVID-19 pandemic meant that our burns psychology service had to provide remote (online or telephone call) input rather than face-to-face. Since the pandemic, we have continued to offer patients a choice of how they would like their psychological care delivered when calling or writing to offer them an assessment. As findings indicate people like to be offered a choice of how their psychological care is delivered (Mind, 2021). Additionally, many factors, including age, gender, and existing mental health needs mean remote psychological care is more appealing due to its accessibility, anonymity, and convenience of attending from the comfort of home (Mind, 2021). Therefore, a joint assessment was conducted prior to the intervention, remotely, via video call at Peggy’s request, by the Clinical Psychologist and myself.

Due to the complex nature of our clinical population, the joint assessment prior to the intervention also allowed an opportunity to explore Peggy’s social situation and risk. If someone’s basic needs for safety, sleep and social connection are not met, they may find it harder to engage with activities involving higher order constructs such as therapy (James, 2016). The assessment was conducted through a clinical interview (Allen & Becker, 2019) and investigated a variety of factors including, the presenting problem and maintaining factors, predisposing vulnerability factors and social support. I also completed psychometric tests to explore if Peggy was displaying low mood or anxiety following her accident, using the generalised anxiety disorder scale (GAD-7; Spitzer, Kroenke, Williams, Löwe, 2006), and the patient health questionnaire (PHQ-9; Kroenke, Spitzer & Williams, 1999).

During the assessment, Peggy described feeling like a “voodoo doll”, wondering “what will go wrong next?” and described feeling anxious and vulnerable. She described acute trauma symptoms including intrusive upsetting memories of the event and a “phobia” of cooking and heat emitting objects around the home out of fear another accident will happen (*Table 1*).

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[1] Peggy is a pseudonym.

Table 1

A summary of Peggy's difficulties identified through the joint assessment.

Focus of assessment	Summary
Background burn information	Burn to hand 2 ½ weeks prior to assessment. Burn sustained when Peggy turned cooker on and left pan to heat up. Heard fire alarm, smelt burning. Saw hot oil in pan and towel alight, saw smoke. Peggy grabbed hold of the pan which burst into flames. Peggy fell to the floor and saw household objects burst into flames.
Presenting problems	Recalls thinking "I'm going to burn to death" at time of accident. Reported feeling in a state of delayed shock, felt ok at first then reflected when she returned home and saw damage to property. Intrusive memories. No nightmares or flashbacks reported. 'Phobia' of fire/flames and heat emitting objects round the house. Fears another accident will happen. Avoiding cooking, using toaster and lighting log burner.
Mood	Feeling very anxious and "vulnerable".
Sleep and appetite	Greatly reduced appetite, exacerbated by not cooking hot meals due to fear. Disrupted sleep, waking in night.
Medical History	High blood pressure, on blood pressure medication. Previous bowel cancer diagnosis and treatment.
Social support	Lives alone. Has a daughter, and a son who has cancer which Peggy reports as one of her ongoing life stressors. Supportive

	neighbours but going out less as people ask about what happened. This makes Peggy feel overwhelmed.
Background information	Widowed, husband passed away, previously lived in France. Retired, used to be a medical secretary. Does voluntary work to ‘keep brain ticking over’.
Psychiatric history	Previously diagnosed ongoing anxiety. Reactive depression to loss of husband. Postnatal depression. Received Cognitive Behavioural Therapy (CBT) previously but reported not finding this helpful. Not currently receiving any other support from a mental health service.
Risk	No current or previous risk.
Engagement	Chatty, open.
PHQ-9	6, Moderate
GAD-7	13, Moderately severe.

Within Health Psychology, assessments often aim to gather information around health-related variables such as coping and adjustment (Baum, Revenson, & Singer, 2001). I felt it was important that I worked within my competencies as a Trainee Health Psychologist, by taking a holistic focus on how her injury may impact on Peggy and her day-to-day life. Peggy reported difficulties going out and socialising less following her accident, as people would ask her what happened, causing her to feel overwhelmed. Peggy also reported a reduced appetite, which she attributed to her fear of heat emitting objects meaning she was only eating cold food. She also reported disrupted sleep, waking numerous times in the night, which was demonstrated in her scoring ‘nearly every day’ for questions on trouble falling or staying asleep, and poor appetite on the PHQ-9 (Table 1).

To ensure the intervention was person focused (Rogers, 2000), I used the assessment to ask Peggy what she wished to gain from the intervention as an outcome goal. Asking clients to set clear and realistic goals in psychological intervention provides an opportunity to set expectations and improve motivation (Geurtzen, Keijsers, Karremans, Tiemens & Hutschemaekers, 2020). This also allowed an opportunity to address how and to what extent the outcome goals could be met via the intervention.

Peggy identified the following psychological, and health-based behaviour goals:

- To feel less anxious,
- To feel less vulnerable,
- To build confidence to return to ‘normal’ cooking behaviours, and use of heat emitting objects in the house, such as lighting her fire,
- To have better quality sleep.

Formulation

Whilst in Health Psychology training, there is no one recommended approach to formulation. One approach taken across many psychological disciplines is to view formulation as a collaborative approach between the client and practitioner, to mutually generate plausible explanations for the problems experienced (Hilton & Johnston, 2017). It can be described as a written attempt at understanding a person (Selzer & Ellen, 2014), but also a collaborative process that occurs with a client to explore and reflect on their current difficulties (Johnstone & Dallos, 2013).

Peggy described an ongoing fear that something else will catch fire again, rumination around what will happen to her next, and how this had made her anxious and vulnerable, had impacted on her appetite, sleep, and exercise. A formulation based on Compassionate Focussed Therapy (CFT) was used with Peggy to develop a holistic view of the situation and identify the cognitive, emotional, and behavioural cycles that were causing and maintaining Peggy distress (Table 2).

The theory behind the CFT formulation suggests that the way we deal with threats to our wellbeing is largely primitive and governed by our ‘old-brain’, however we have evolved a more sophisticated ‘new-brain’, capable of sophisticated cognitive processes such as, imagination and rumination (Gilbert, 2010). Following trauma, there can be conflict between the old-brain and new-brain abilities that cause distress (Kolts, 2016).

Table 2

Formulation of Peggy’s difficulties from the assessment informed by a Compassion Focused Therapy approach.

Historical Influences and predisposing factors	**Explanation of impact on emotions, thoughts, and behaviours**
Predisposing Factors: Pre-existing anxiety. Postnatal depression. Reactive depression following loss of husband. Son is ill.	Views herself as vulnerable and insecure leading to low perceived self-efficacy to be able to face her current difficulties.
Viewing self as: Insecure. Vulnerable.	
Threats and Fears	
Internal Threats: Worries that something else will catch fire. Worries about multiple life stressors (son’s health, finances, household items breaking). Worries about *the* impact of poor appetite and poor sleep on her health. Feeling like a ‘voodoo doll’, Intrusive memories of the event that led to her burn.	A combination of internal and external threats activating old-brain systems causing emotions such as fear, anxiety, distress.
External Threats:	

Use of heat emitting activities/objects, e.g., cooking, toaster, log burner.
Discussing the accident with friends and family, bringing up reminders of the event.

Safety Strategies

<u>Internal:</u>

Rumination.
Worry.

<u>External:</u>

Distraction by keeping busy in the community, however this is limited due to hand injury and feeling overwhelmed if people ask about the accident.

Avoidance of heat emitting objects and social withdrawal.

Unintended Consequences

<u>Internal:</u>

New-brain abilities, such as worry and rumination about many different stressors, interact with old-brain systems, causing a cycle of anxiety, and subsequently low mood as a result of being stuck in the old-brain, new-brain loop.

Avoidance of objects around the house due to fear, including cooking hot food, maintains worries, and fears of another accident happening due to lack of exposure.

Talking about the traumatic event with other people brings up reminders which causes distressing emotions. Peggy's feelings of vulnerability may contribute to her feeling overwhelmed. As a result, Peggy withdraws socially, leaving her feeling "stagnated" and maintaining her low mood.

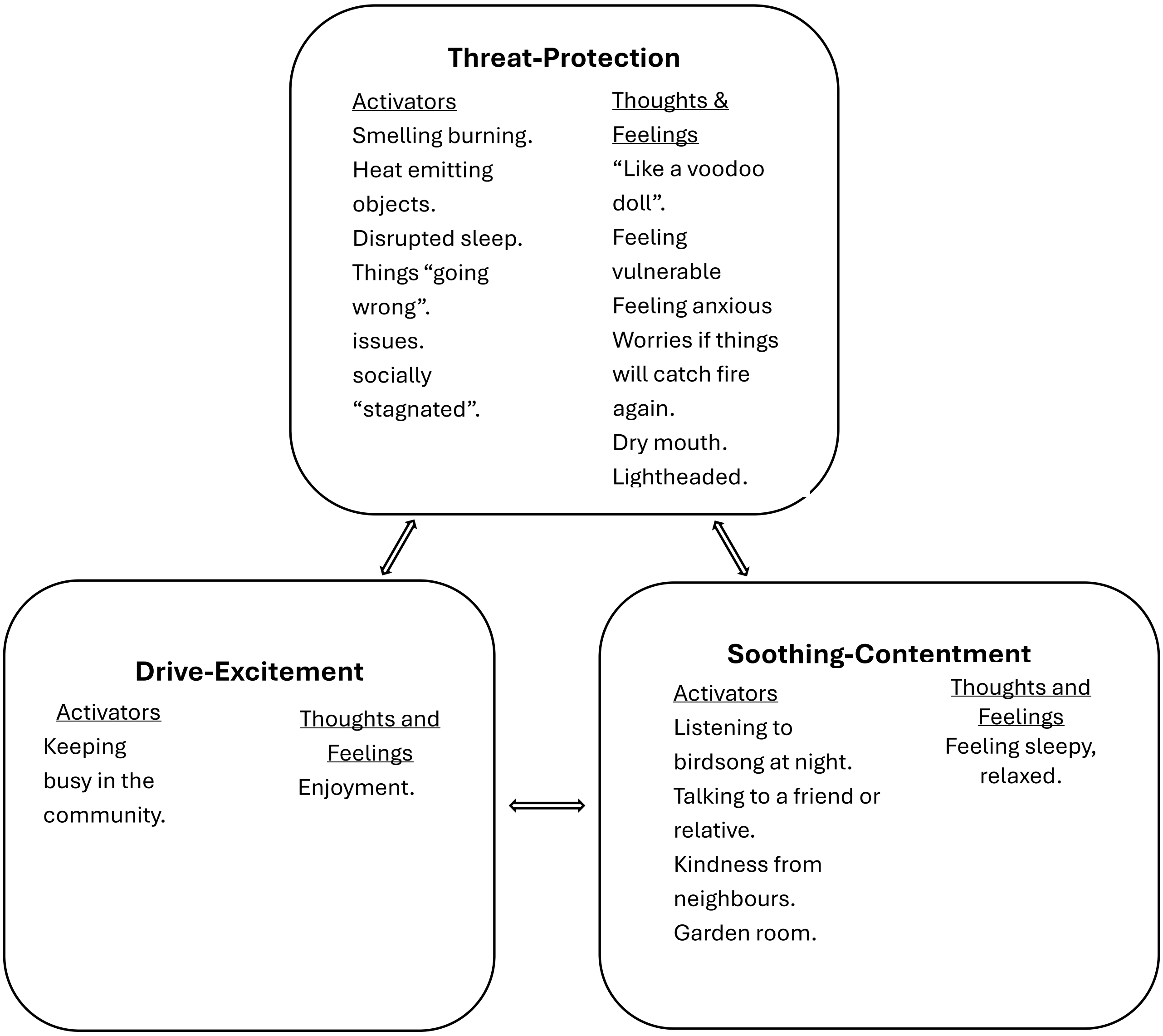
<u>External:</u>

Disrupted sleep, reduced appetite, headaches, dry mouth, feeling lightheaded.

To help Peggy both understand and reflect on her difficulties, a separate, simplified formulation was also developed. This simplified formulation was based on further explaining the role of the old-brain, new-brain links and introducing the three emotional regulation systems, better known as the three circles model (Gilbert, 2009). This formulation allowed Peggy to visualise how her thoughts, emotions and behaviours interact, and why (Figure 1).

Figure 1

The initial formulation of Peggy's difficulties using the three-circles model collaboratively in the first session.



Peggy described what she felt was activating her threat-protection system, and how she knew it was activated by the thoughts and feelings that she experienced, including feeling anxious and lightheaded. Peggy's drive-excitement system was reduced due to her becoming overwhelmed when discussing the accident with other people. Peggy identified some activities that activated her soothing-contentment system, by making her feel relaxed, however, she reported that they could make her emotional when she remembered "happier times". This formulation identified that Peggy's threat-protection system is the most active system, and possibly has been for some time due to Peggy's pre-existing difficulties prior to her burn.

It can be helpful to revise the formulation throughout treatment to identify any new difficulties, anything that's been helping, and to target any processes involved in the maintenance of the client's difficulties (Westbrook, Kennerley & Kirk, 2011). Therefore, the three-circle formulation was continuously reflected upon and developed further collaboratively following each session.

Designing and planning the intervention:

The compassionate mind approach states that our brains have evolved to give us difficult emotions, and that this is not our fault (Gilbert, 2014). Through compassionate mind training (CMT) exercises, we can develop skills to create a compassionate view of ourselves (Gilbert, 2014). This can give us courage and confidence to face our difficulties mindfully, which can help us to feel calmer when anxiety, fear or anger arise (Lee & James, 2012). CFT has been used to improve a variety of difficulties, including anxiety and trauma (Gilbert & Simos, 2022). Due to Peggy's feelings of vulnerability, rumination, anxiety, and low confidence following her accident, she was offered an intervention founded in CFT, with the aim of providing her with CMT skills to manage her distress in a compassionate way.

When designing and planning the length and intensity of the intervention, two factors influenced the decision-making process, firstly, using existing literature to inform the length and intensity of sessions and secondly, considering service capacity, due to an outpatient waitlist. A review by Craig, Hiskey and Spector (2020) found that the length and intensity of CFT interventions for trauma concerns varied from six-weeks up to twelve-weeks of weekly sessions lasting sixty-ninety minutes. This review also found that interventions delivered in under nine hours can elicit positive changes in several outcomes, however, further research is needed to establish whether these changes are maintained over time. Additionally, Anxiety

UK offer CFT for anxiety related concerns in weekly sessions lasting around 50-60 minutes, which can be done face to face, online or via video call (Anxiety UK, n.d.).

The intervention would need to be brief enough to ensure the patients on the waitlist received input in a timely manner, but long enough to effectively meet Peggy's outcome goals. Therefore, following the assessment, Peggy was contacted and offered an initial four, fifty-to-sixty-minute sessions, with the flexibility to increase to six if needed which she consented to. It was aimed to have one session per week, to align with the interventions delivered within by Craig, Hiskey and Spector (2020) and via Anxiety UK (n.d.). However, Peggy was given responsibility to choose the date and time of each weekly session (within the limitations of my working hours), as it has been found that giving people autonomy over their sessions improves client satisfaction with the process and reduce the number of non-attended appointments (Carey, 2011; 2016).

The overall aim of the intervention was to provide Peggy with a variety of psychological exercises used within CMT to help manage her distress (Gilbert, 2005). CMT exercises work with physiological processes, such as breathing, body posture and imagery associated with mental well-being (Keltner et al., 2014). The CMT aimed to activate Peggy's soothing-contentment system, to help regulate her overactive threat-protection system. By doing this, it was hoped Peggy would have a reduction in her anxiety, low mood, distress, and build confidence to return to 'normal' cooking behaviours, and use of heat emitting objects round the house. Therefore, the content of each session would include exercises aimed at activating Peggy's soothing-contentment system, with this goal in mind. The planned content and structure of the sessions can be seen in *Table 3*.

Table 3:

Planned content for each session, along with content's aims and justifications.

Session No.	***Planned content of Psychological Intervention***	***Justification and aims of content***
1	**Take outcome measures and subjective unit of distress (SUDs).** Re-take the PHQ-9 and the GAD-7. Ask Peggy to complete a SUDs measure. The measure asked Peggy to rank her distress over the last week from 0 not at all to 10, multiple times a day, every day.	As there would be a two-week delay between assessment and the first session (due to finalising the planned intervention), outcome measures should be retaken to see if anything had changed week since the initial assessment. In psychological interventions, SUDs can be helpful to continually evaluate treatment progress (Kiyimba & O'Reilly, 2020). Therefore, Peggy's perceived distress was measured each session to ascertain if the intervention helped provide Peggy with skills to cope with this distress.
	Psychoeducation. Peggy would receive psychoeducation on how the three emotional regulation systems work, and that while these can cause us distress, our brains have evolved this way to keep us safe and that this is not our fault	(Sarkhel, Singh & Arora, 2020) describe two approaches to how psychoeducation can be delivered; passive (where the therapist may provide the client with audio or visual information) or active (through the interaction and collaboration of the client and therapist).

(Lee & James 2012). This would be delivered passively through screen sharing accompanied by verbally presented information. The content of the psychoeducation would then be used to actively apply this knowledge to Peggy’s own three-circle model formulation collaboratively.	Therefore, passive psychoeducation would provide Peggy with verbal information around why she may be experiencing difficult emotions. Helping Peggy to understand why her threat-protection system can bring her feelings of anxiety, and vulnerability, and that the function of this is to protect her. This is the first step to being able to tolerate this distress and build resilience to it (Kolts, Bell, Bennett-Levy & Irons, 2018). Passive psychoeducation also aimed to explain how the content of the sessions could help Peggy work towards her outcome goals, to encourage engagement with the exercises. Through active psychoeducation I would work collaboratively with Peggy to map her difficulties onto her personal three-circles model, to create a visual representation of her difficulties. This would also provide Peggy with opportunities to clarify anything she didn’t understand from the passive psychoeducation, to promote a deeper understanding (Sarkhel, Singh & Arora, 2020).
Soothing Rhythm Breathing exercise.	To help Peggy identify her own soothing rhythm for breathing and introduce an element of mindfulness.

An approximately 10-minute-long breathing exercise focussed on mindfulness (Lee & James 2012). This followed the procedure set out by (Gilbert, 2010).	The aim of this was to activate Peggy’s soothing-contentment system to help regulate her overactive threat-protection system. This can help people feel empowered to approach situations which may have previously been too anxiety provoking (Lee & James 2012). For Peggy, this would include activities such as cooking or using heat-emitting objects round the home, one of her outcome goals.
Goal setting & Problem solving. At the end of each session, Peggy would be set a goal of practicing the exercise completed in the session, as a between session task at least once a day. Over the length of the intervention, this would total approximately one hour a week of between session tasks. At the beginning of the next session, any barriers to completing the between session task(s) would be explored and collaboratively problem solved.	Gilbert (2010) stresses the importance of practicing compassionate mind training exercises, even if they feel like they are difficult or not working. He states “the more we do something, the more we enable our bodies and brains to actually change” p.32. Therefore, goal setting was used to provide Peggy with opportunities throughout the week to practice the exercises to help manage distress that may arise through activation of her threat-protection system, by strengthening her soothing-contentment system. Additionally, while goal setting has long been considered an integral behaviour change technique in health interventions (Kok et al., 2016). setting a goal does not automatically instil motivation to achieve that goal, especially if there are barriers

		or conflicts to that goal (Strecher et al., 1995). Therefore, Peggy would also be provided with opportunities during each session to problem solve any conflicts or barriers to achieving these goals.
2	**Measure SUDs.** SUDs asking Peggy to measure her distress over the last week would be taken at the beginning of each session.	As outlined above in Session 1.
	Goal Setting & Problem Solving. Five to ten minutes would be spent reflecting on how Peggy felt she managed the in between session tasks, alongside highlighting any barriers or difficulties that could be collaboratively problem solved.	As outlined above in Session 1.
	Metaphors. Metaphors would be used to clarify understanding of the three-circle model.	To explain theoretical concepts in a more comprehensible way (Cade, & O'Hanlon, 1993), and to ensure Peggy understood the content of the session.
	Body Scan exercise. An approximately 10-minute-long breathing and relaxation exercise following the procedure set out by (Gilbert, 2010). The exercise begins	To shift Peggy’s attentional focus to her breathing and body to activate her soothing-contentment system to regulate her threat-protection system. To teach Peggy another technique to practice

	with the Soothing Rhythm Breathing technique from the first session, then explores where tension may sit in the body, and how to release this tension by focusing on a muscle group at a time.	managing distress which arises when her threat-protection system is activated.
	Safe Place exercise. An approximately 10-minute-long visualisation exercise following the procedure set out by (Gilbert, 2010). In the exercise, Peggy was encouraged to imagine and explore a place, real or imaginary that she associates with safeness and calmness.	When people feel threatened, having a safe place to go to in your mind can be a helpful and calming experience and can help people tolerate trauma symptoms (Lee & James 2012). Having a greater tolerance of trauma symptoms can lead to reduced engagement in unhelpful behaviours (Lee & James 2012), such as Peggy's avoidance of cooking and social withdrawal. This activity allowed Peggy to create a safe place by engaging her senses (what she can see, feel smell, etc.), to help regulate her threat-protection system, and potentially help her tolerate her trauma symptoms and the distress that arises from them.
	Goal Setting & Problem Solving. As outlined above in Session 1.	As outlined above in Session 1.
3	**Measure SUDs.** SUDs asking Peggy to measure her distress over the last week would be taken at the beginning of each session	As outlined above in Session 1.

Compassionate Colour exercise. An approximately 10-minute-long visualization and relaxation exercise following the procedure set out by (Gilbert, 2010).	McEwan and Gilbert (2016) found that practicing compassionate imagery, even when unsupervised (for example, in a person’s own free time), had significant positive effects in self-compassion, self-reassurance and reductions found in self-coldness, self-criticism, depression, anxiety, and stress. However, practicing compassionate imagery can be challenging due to several reasons, including people who have difficult attachment histories, personality disorders, or poor imagination abilities (Naismith, Mwale & Feigenbaum, 2018). The Compassionate Colour exercise is a good example of a simplistic compassionate imagery exercise. This would introduce Peggy to what it feels like to visualise compassion through compassionate imagery and allow for her feedback on how she found the activity. It was important to introduce practicing compassionate imagery clearly and early, as this would be done in more depth and complexity later in the intervention.
Psychoeducation.	The aim of this psychoeducation was to give Peggy some context to develop her ‘Compassionate Self’ exercise in this

Peggy would receive passive psychoeducation into developing ‘The Compassionate self’, verbally, before completing an exercise. The information communicated in the passive psychoeducation would introduce Peggy to the four key compassionate qualities a person may have; wisdom, strength, responsibility, and warmth, and how these qualities can help us cope with difficulties in a compassionate way.	session. Research has found that some compassionate imagery exercises can be perceived by people as being ‘wishy washy’ or ‘lacking substance’ (Crone, Brown & Bell, 2023). Therefore, as developing the ‘compassionate self’ is a more complex visualisation exercise, it was important to explain the components of wisdom, strength, warmth and responsibility to Peggy first to ensure the exercise had tangible foundations. Additionally, this would present an opportunity to explain to Peggy that it can be difficult to imagine having these qualities, it doesn’t matter if she feels she has these qualities or not, but it’s the act of imagining them that’s important.
<u>The Compassionate Self Exercise.</u> An approximately 10-minute visualisation exercise following the procedure set out by (Gilbert, 2010), where Peggy was guided to imagine herself with all four key compassionate qualities, one at a time.	Matos et al. (2018) found that being able to embody the compassionate self in everyday life are critical practice qualities within a compassionate mind training intervention that promote increases in self-compassion and receiving compassion from others, as well as to foster feelings of safeness, contentment and calmness (Keltner, Kogan, Piff & Saturn, 2014). Therefore, it was hoped by introducing Peggy to this exercise and encouraging further practice in her own time, she would

		benefit from feelings of safeness, contentment and calmness associated with her soothing-contentment system, that can be difficult to access when the threat-protection system is overactive. Experiencing these calmer feelings would hopefully help Peggy feel less vulnerable and anxious and help to improve Peggy’s confidence to approach difficult situations, such as using heat-emitting objects.
	Goal Setting & Problem Solving. As outlined above in Session 1.	As outlined above in Session 1.
4	**Measure SUDs.** SUDs asking Peggy to measure her distress over the last week would be taken at the beginning of each session	As outlined above in Session 1.
	Compassion Flowing Out. One of three approximately 10-minute visualisation exercises following the procedures set out by following the procedure set out by (Gilbert, 2010). This first exercise would prompt Peggy to direct three feelings and thoughts of compassion towards someone or something she cares about.	A compassionate mind is capable of both receiving and delivering compassion (Lee & James 2012). Therefore, this session aimed to introduce Peggy to three exercises aimed at delivering compassion to other people, and receiving compassion from herself; Compassion Flowing Out, Focussing the Compassionate Self on Others, and Compassion Flowing

	into Oneself: Using Memory. These exercises aimed to develop three distinct concepts; compassion for others, receiving compassion for others, and self-compassion. Each of these can present its own benefits, including positive qualities including greater coping with adversity, life satisfaction and mastery of goal alongside a reduction in depression, anxiety, self-criticism, rumination, and disordered eating behaviours (Jazaieri et al., 2013). Giving and receiving compassion has been found to have their own physiological profiles that facilitate the regulation of feared emotions and often provide the courage to engage with feared emotions (Gilbert, 2014). Therefore, it was important to encourage Peggy to notice what she thought, felt and experienced during the activities non judgementally, as building on any positive, soothing feelings from these activities could help Peggy progress towards her outcome goals.
Focussing the Compassionate Self on Others. Following on from the ‘Compassion Flowing Out’ this was an approximately 10-minute visualisation exercise following the procedure set out by (Gilbert, 2010). Peggy would be encouraged to imagine	As outlined above.

	kindness and compassion flowing out from herself, into others who are experiencing a difficultly.	
	Compassion Flowing into Oneself: Using Memory. An approximately 10-minute activity following the procedure set out by (Gilbert, 2010). This activity would involve asking Peggy to recall a memory of a time someone showed the desire to be kind to her and to help her.	As outlined above.
	Goal Setting & Problem Solving. As outlined above in Session 1.	As outlined above in Session 1.
5	**Measure SUDs.** SUDs asking Peggy to measure her distress over the last week would be taken at the beginning of each session	As outlined above in Session 1.
	Focussing the Compassionate Self on Yourself. An approximately 10-minute visualisation activity following the procedure set out by (Gilbert, 2010). This activity would ask Peggy to imagine she is watching a video, or film of herself getting on with her	Learning how receive compassion, and the feelings this provides us can help us manage our distress and is crucial for activating our soothing-contentment system (Lee & James 2012). The aim of this exercise is to help Peggy take a more

day. Peggy would be encouraged to notice that she may be experiencing difficult feelings, such as anxiety, but to hold a position of inner calmness and wisdom. Peggy would be encouraged to think about how she would like to help herself with these feeling, what she may say to herself, how she may say it, to normalise and validate her feelings. Peggy would be prompted to imagine she can see herself gradually reducing her anxiety until time has moved on and the anxiety is gone, and to focus on the feelings that arise knowing she has had the courage to come through an anxiety episode.	objective view of her difficulties and help her to begin to develop her own abilities to heal by encouraging her to view her difficulties non-judgementally, as they are not her fault, but learning to be more accepting and compassionate to herself when she is experiencing distress.
Creating a Compassionate Ideal. An approximately 10-minute visualisation activity following the procedure set out by (Gilbert, 2010). Peggy would be prompted to call to mind her safe place, and then imagine developing a compassionate ideal, what they may look like, a human or non-human, what they would sound like, any sensory qualities and how it would relate to Peggy. Peggy would then be asked to imagine this compassionate ideal as wishing the same three feelings and thoughts of compassion from the 'Compassion Flowing Out' exercise.	In the event Peggy experienced any difficult feelings when engaging with the previous exercises, which may have come from an absence of experiencing compassion in her life (Gilbert, 2014), this exercise would aim to use the wisdom gained from the compassionate self to create her own compassionate companion she can always rely on.
Goal Setting & Problem Solving.	As outlined above in Session 1.

	As outlined above in Session 1.	
6	***Re-Take Outcome Measures alongside SUDs.*** Peggy would be asked to re-take the PHQ-9 and GAD-7, and give a measure of distress on the SUDs scale used throughout the intervention.	To ascertain if there had been a reduction in Peggy's distress, anxiety and low mood since the start of the intervention.
	Re-cap content or exercises. Peggy would be given the opportunity to choose one or two of the exercises learned throughout the intervention again.	To provide an opportunity to clarify understanding, to practice or to develop on the content learned throughout the intervention.
	Gather feedback about the intervention overall. Peggy would be asked to provide qualitative feedback on the intervention overall. Including to what extent she felt her outcome goals had been met, what she found helpful, and what she would recommend could have been done differently.	The main aim of this is to ascertain how effective the intervention had been at addressing Peggy's outcome goals, alongside providing me with some evaluative feedback around the intervention itself, and my delivery, to reflect on and shape my continued professional development.

Implementing and delivering the intervention:

Peggy attended nearly all her sessions, except the final one, which is discussed in more depth below. Due to the importance of offering people a choice how their psychological care is delivered (Mind, 2021), Peggy was also offered a choice of continuing the sessions remotely, by video call, by telephone call, or face to face. Peggy reported finding the video call software, DrDoctor, easy to use, and chose to continue by video call, as it removed the difficulty of travelling to the hospital. However, there are some challenges associated with delivering psychological care remotely, such as reduced interpersonal cues, feelings of isolation and fatigue, and technical issues (McBeath, Du Plock & Bager-Charleson, 2020).

Reduced interpersonal cues, and subsequently, difficulty with emotionally connecting to the patient (Békés, Aafjes-van Doorn, Luo, Prout & Hoffman, 2021) was a challenge I encountered across the delivery of the intervention. For example, in the first session, Peggy was having some difficulty reading the text I was screen sharing, this was demonstrated by her learning in and squinting. However, as the content of the intervention was new to me, I felt it was more appropriate to refer to notes kept on my desk, as Peggy wouldn't be able to see these. However, due to this, I wasn't paying as much attention to Peggy's face and body language as I would have in a face-to-face session.

Similarly, in session four, Peggy became emotional and tearful following one of the exercises. However, through the barrier of the screen and camera quality, I didn't pick up on this, and as a result missed an opportunity to highlight, explore and empathise with Peggy's emotional reaction. This was again noticed by my observing supervisor and brought to my attention. In addition to the screen as I barrier, I feel my supervisor's experience in delivering psychological interventions face-to-face and online, alongside being a passive observer meant she was able to be more attentive. Whereas, as I was anxious about learning and delivering information that was new to me, on occasion I was more aware of how I was feeling than how Peggy was feeling. This is reflected on in more depth within the reflective report. *Table 4* provides a summary of each session.

Table 4

The outcomes of each session within the intervention, including my actions, any challenges, and Peggy's feedback.

Session No.	***Outcome of session***
1	As my supervisor was observing this session, they were able to highlight to me my use of closed questions to check Peggy's understanding; I asked Peggy "Does that make sense?". My supervisor stated that while Peggy responded yes, her tone and body language indicated this understanding may have been limited. As both the content, and delivering a psychological intervention in this format and setting was novel to me, my attention was largely on reading the content, and not on watching Peggy's responses. My supervisor instead introduced me to the teach-back technique, which has been shown to be effective in assessing people's understanding of information delivered by healthcare professionals (Yen & Leasure, 2019). This is done by asking people to summarise their understanding, or repeat back to you in their own words, the information you have given them. Peggy reported feeling "sleepy" and "relaxed" following the Soothing Rhythm Breathing exercise, this physiological response suggests her soothing-contentment system was activated (Gilbert, 2014). It has been found that person-centred goal setting facilitates enhanced autonomy and increased goal ownership (Kang, Kim, Lipsey & Foster, 2022). Therefore, while I encouraged Peggy to practice the exercises from sessions at least once a day, it was Peggy who would decide when she would practice these exercises.
2	I reflected on the feedback provided by my supervisor in session one and used the teach-back technique (Yen & Leasure, 2019) to ask Peggy to summarise the three circles model. She was able to confirm understanding of the model through summarising the key concepts back to me in her own words. Additionally, I used a metaphor to compare the threat-protection system to a bicep-

muscle, which is frequently used and becomes strengthened, therefore easier to use than other muscles. I chose this metaphor due to mindfulness exercises often comparing the brain to a muscle, and that it needs practice to develop. The Body Scan exercise completed in this session also focusses on muscles as a way to release tension.

Following the body scan exercise, Peggy reported feeling “totally focussed” and able to “let [her] tension go”. This suggests Peggy was able to regulate her threat-protection system, causing her tension, by being able to let this go when activating her soothing-contentment system (Gilbert, 2014).

However, following the safe place exercise, Peggy reported feeling tearful and “very emotional”, and was unable to identify if these were positive or negative emotions. She reported that she had visualised the garden of her villa in France, when her husband was alive, and reported “it was the last place [I] was happy”. I found it difficult to interpret whether this exercise had activated her soothing-contentment system due to her emotional reaction. I reflected on this in supervision, and my supervisor advised me to prompt Peggy to think of a place or memory which doesn’t have another person, or a loss attached to it in future compassionate imagery exercises.

When discussing to what extent Peggy met her goal of practicing the exercise(s) of at least once a day, Peggy reported a 9 on her SUD scale, indicating high levels of distress “nearly every day” over the last week, and that she had found it difficult to meet her goal. Evidence suggests, following trauma, it can be more difficult to engage with therapeutic exercises when highly distressed (Ogden, Minton & Pain, 2006). Therefore, Peggy’s distress presented a barrier to her being able to engage with the between-session tasks. To problem solve this, I provided Peggy with passive psychoeducation that it can be more difficult to practice these activities when very distressed, and that she may find it easier to practice them at a time in the day she feels calmer.

3 When recapping the previous sessions, Peggy reported having a more positive week; “[I] felt more normal”. Peggy reported that she had been engaging in exercises that she has typically found more difficult such as cooking. She also stated that her sleep and appetite had improved, indicating a positive step towards her outcome goals. This improvement in ability to engage in exercises and improved mood was reflected in her reduced SUDs score of 4-5.

Peggy also reported she had been socialising more over the last week, but that this led to her having to recount the event that led to her burn injury twice to family members, and felt she had “had a relapse” with her mood, returning to feeling anxious. We reflected on both the more positive and negative experiences over the last week collaboratively, using the three-circles model to help Peggy make sense of her experiences and feelings. I used the ‘tricky brains’ metaphor, commonly used in CFT (Lee & James, 2012) to remind Peggy that our experiences can bring us distressing emotions, and we can all find ourselves in these difficult situations, but that this is not our fault, and it’s normal to have these feelings.
Following the ‘Compassionate Colour’ exercise, Peggy reported her Compassionate Colour was yellow. She explained this reminded her of sunshine in her garden room, a place she associates with calmness, and safeness indicating her soothing-contentment system was activated (Gilbert, 2014).

I continued to use the teach-back technique (Yen & Leasure, 2019) to explore Peggy’s understanding of each of the four key compassionate qualities. I also prompted Peggy to reflect on what these qualities may look like, for example, considering how someone with warmth or strength may act. Peggy described how the ‘Compassionate Self’ exercise made her feel “calm” and “in control”. Peggy’s outcome goals were centred round a theme of feeling less anxious, vulnerable, and more confident. This exercise had the effect of empowering Peggy to feel more “in control” when imagining herself with these compassionate qualities. Continued practice of this activity may help Peggy feel more able to approach scenarios which may make her feel anxious, such as using heat-emitting objects around the house. Peggy reported the problem solving implemented in the previous session had been successful, and that she had been practicing her exercises when less distressed, at least once a day.

4 This session was again observed by my supervisor. Peggy reported a mixed week, with some bad days and some good. She reported feeling ‘triggered’ by oil of the battery in her lawnmower. Her poor appetite and reduced engagement in cooking had returned, and she experienced more disrupted sleep. Peggy reported continuing to practice her exercises daily, and that when practicing the ‘Compassionate Colour’ exercise over the week, she noticed how the colour she had chosen reminds her of sun, and how the recent grey weather had been impacting on her mood leaving her feeling “quite low”. I initially anticipated Peggy’s mood, reduced cooking behaviours and reduced sleeping to be reflected in her SUD score, however, Peggy reported a similar SUD score to the previous week, at a 5, which could suggest that while Peggy is still experiencing distress, her ability to manage this is improving. Peggy accepted a further two sessions of the intervention to continue to develop techniques to help her manage her distress.

Due to Peggy recalling a place linked to loss when imagining her safe place, I used the feedback provided by my supervisor to premise the three activities in this session by asking Peggy to try not to think of a time someone was exceptionally distressed, but just handling a difficulty. However, following completing the ‘Compassion Flowing Out’ exercise, Peggy reported feeling it had “stirred quite deep”. I asked her to clarify what she meant and she explained the situations she thought about included family members who were distressed and thoughts around happier times.

Because compassion focussed work following a trauma can often lead to recall of painful memories (Lee & James, 2012), normalising this experience can help make a person’s distress feel more understandable and improve their self-esteem (Dudley, Bryant, Hammond, Siddle, Kingdon & Turkington, 2007). Therefore I explained to Peggy it’s normal and understandable that she thought of distressed family members when delivering compassion, as that is often the time we feel most compassionate, when we can see the suffering of others.

When exploring if she felt the exercises in the session had activated her soothing-contentment system, Peggy hesitated and stated, “[I] think so yes”. Her response, and previous statement that she is feeling low in mood when practicing some of the exercises, influenced my setting of the takeaway tasks. As a result, I prompted Peggy to focus on the tasks which she found less distressing, as I was unsure if they are activating her soothing-contentment system, or her threat-protection system.

5 This session reflected another significant step toward Peggy meeting her outcome goals. At the start of the session, Peggy stated she felt “almost fraudulent” in attending and stated she felt she had “turned a corner” and had had “the most positive week since she began her sessions”. She reported her appetite had returned, she had experienced enjoyment in cooking meals, in addition to “no negative thoughts”, “no anxiety” and better quality sleep. This improvement in mood, behaviour, appetite, and sleep was reflected in Peggy’s reported SUDs score of 0-1. Peggy had continued to practice all her exercises where possible, but that this was not every day as some days she felt she didn’t need them.

I explored if Peggy felt the exercises today had activated her soothing-contentment system, which she confirmed. I then asked her to explain to me how she knew it was activated, as her emotional reactions would sometimes be difficult for me to interpret. Peggy explained she felt she was able to have a “greater peace of mind”, “slow down” and feel a “real sense of calm”. We reflected on how she had developed on her ability to identify and describe feelings attributed to her soothing-contentment system compared to her first session. Peggy confirmed she had noticed a change in how she felt that she felt more “in control”. I investigated what she attributed to this change to which she responded, “I don’t know, I just feel like I have turned a corner”.

6	Peggy did not attend her final session but provided some positive feedback in her cancellation email. Peggy returned the PHQ-9 and GAD-7 in the post, 6 weeks later. With a score of 1 on the PHQ-9, indicating mild to no depression, and a 0 on the GAD-7, indicating no anxiety. This indicates significant improvement in Peggy's low mood and anxiety since starting the intervention (*Table 2*).

Evaluation:

Within healthcare, evaluating an intervention allows you to identify the impact of the intervention, and how this impact was achieved (Clarke, Conti, Wolters & Steventon, 2019). I intended to use a variety of approaches including retaking outcome measures, recording weekly SUDs, and seeking verbal feedback after each exercise, and gaining verbal feedback on the overall intervention, and to what extent Peggy felt her outcome goals had been achieved.

The final session planned to repeat the outcome measures and collect overall intervention feedback. However, Peggy emailed a request to cancel her final session, stating; "after the session last week [she] went backwards and had to "dig herself out" and doesn't want to go there again. Peggy clarified "the best way forward is for [her] to forget the incident that caused so much mayhem and avoid reminders", and the sessions had become a reminder themselves.

I now know that that compassion focussed work can be difficult and often cause an emotional reaction, and that practicing the exercises, rather than avoiding these emotions is important. I reflected that Peggy's avoidance had been identified in her formulation, (such as avoidance of using heat emitting objects due to anxiety) and the nature of this intervention meant Peggy was having to engage with exercises that brought up reminders throughout the week. Additionally, I have reflected how my interpretations of Peggy's emotional reactions led me to encourage her avoidance by promoting her to practice the exercises she found less distressing (*see Table 4*). If I was to deliver a CFT based intervention again in the future, I now have a greater understanding about how people with avoidant coping strategies may engage with the content. In future practice I feel competent to explain and normalise their difficulty, while encouraging them to notice but not avoid these emotions.

The review by Craig, Hiskey and Spector (2020) highlighted the ambiguity around if positive outcomes from CFT interventions are maintained. It was not initially planned to do a follow-up, due to service capacity. However, Peggy's non-attendance in the final session meant the outcome measures were posted to Peggy to complete and return. These were returned six weeks post intervention and provide a follow-up measure of outcomes (*see Figure 2 and 3*).

Cognitive and emotional outcomes

Peggy’s SUDs indicate the intervention provided her with techniques to help manage her distress, as her perceived distress scores steadily decreased throughout the intervention (see *Figure 2*). Peggy’s outcome measures indicate an initial jump in low mood between assessment and the first session, possibly due to the assessment causing Peggy to recall traumatic information. However following delivery of the intervention, these scored indicated substantial improvement in low mood and anxiety (*Figure 3*). While this could suggest that the intervention was effective in improving Peggy’s low mood and anxiety, and that this has been maintained for this time. This cannot be confirmed, due to her early discharge, it is unclear exactly *what* Peggy attributes to her change in mood both throughout the intervention, and in the six weeks since her last session.

Peggy was able to provide an example of her threat-protection system being activated in session five when smelling burning from using the oven but reported she felt “able to handle it in a calm way”. This indicates Peggy was able to use the knowledge gained in the intervention to recognise her emotional response to her threat-system being activated and being able to use her skills gained in the intervention to respond to this ‘calmly’.

Behavioural outcomes

The fifth session also identified Peggy as progressing towards achieving her behavioural outcome goals, as she reported returning to ‘normal’ cooking behaviours, experiencing an increased appetite, and increased confidence. Peggy also scored a 0 for the questions on appetite and sleep on the PHQ-9 and GAD-7 which suggests her appetite and sleep had also improved. However, I was unable to evaluate to what extent the intervention had addressed her behavioural outcome goals and can only make inferences based on the feedback detailed above. In hindsight, it could be useful to include outcome measures related to behaviour change, such as an adapted version of the questionnaire developed by Kumari et al., (2020), alongside mood.

Figure 2

A graph showing Peggy's self-reported subjective units of distress to the prompt "How distressed have you felt over the last week from 0- Not at all distressed to 10- Distressed multiple times a day, every day?" over the intervention.

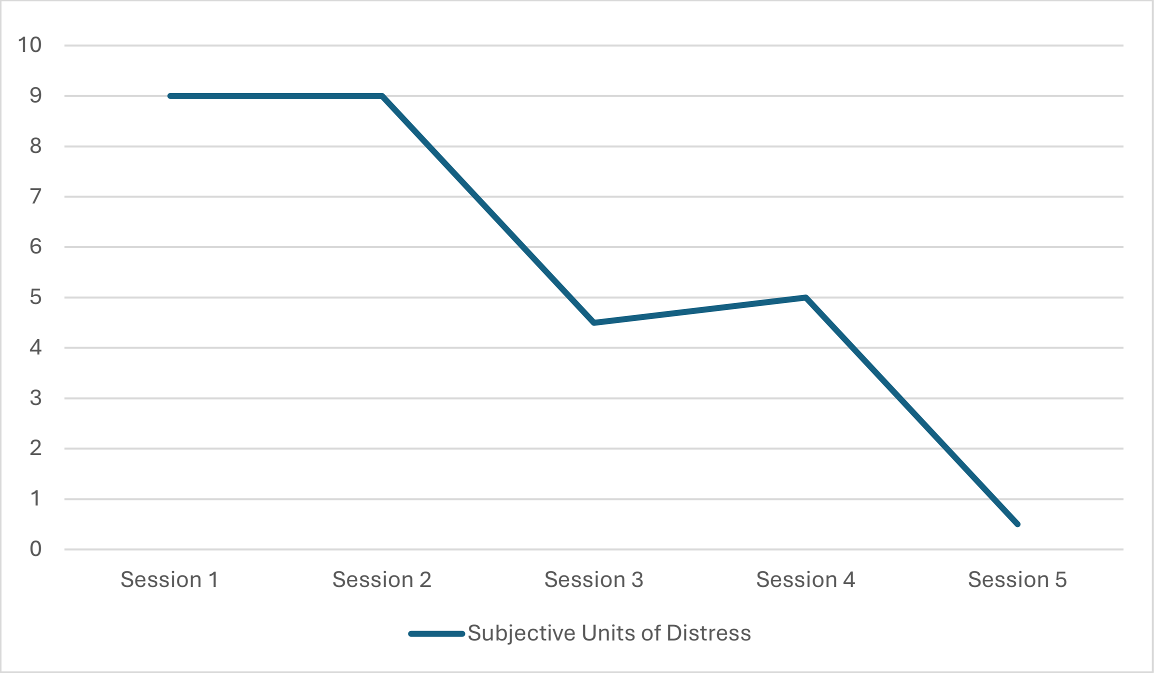


Figure 3

A graph showing Peggy's outcome measures (PHQ-9 and GAD-7) at assessment, session 1 and 6 weeks following the intervention.

	Assessment	Session 1	6 weeks after Intervention
🟧 PHQ-9	6	10	1
🟦 GAD-7	13	8	0

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5.4 Remote 1:1 Intervention Reflective Commentary

Introduction:

Kok and ten Hoor (2023) state that in Health Psychology reflection is important for encouraging personal growth and highlighting lessons learned. Additionally, therapists' reflections when delivering psychological interventions can enhance their skills and are a key factor in the development of expertise (McGillivray, Gurtman, Boganin & Sheen, 2015).

This intervention highlighted many learning opportunities and challenges relating to assessment, formulation and delivery of a theory informed online intervention undertaken within an NHS setting. It required me to learn, retain and recall new theoretical knowledge, present this in an accessible way, be flexible with the number and content of sessions, and how to respond to a client's distress. Whilst initially daunting, the skills and learning points gained from this intervention will help inform my future practice.

Assessment:

I have improved confidence of conducting assessments using a clinical interview (Allen & Becker, 2019). I have also clarified what information I would want to gain, and how this may differ depending on whether a Clinical Health Psychology is taken perspective. I realised how assessment can be challenging in an NHS setting, where time is limited. Assessments provide an opportunity for clients to share their difficulties (Finn, Fischer & Handler, 2012), and it can be difficult to balance allowing the client space to feel listened to, while also being efficient with questions to collect the information needed for formulation (Bekhit, Thomas, Lalonde & Jolley, 2002). Additionally, completing the assessment online highlighted some issues with technology use. I shared the generalised anxiety disorder scale (GAD-7; Spitzer, Kroenke, Williams, Löwe, 2006), and the patient health questionnaire (PHQ-9; Kroenke, Spitzer & Williams, 1999) on screenshare, alongside reading them out, however, Peggy would ask me to repeat questions, meaning it felt very disjointed and my awareness of this made me feel anxious and incompetent.

Formulation:

Dale-Hewitt and Irons (2015) state that when developing the formulation using the Compassion Focussed Therapy (CFT) therapists should avoid trying to ‘fit people in to boxes’. I know from reflections in my regular supervision that I occasionally try to ‘make things fit’ a model and can conflate other difficulties and life stressors with the presenting problem. Therefore, while being wary of information such as historical influences, I tried to keep the formulation focussed on her current difficulties. I achieved this by developing a second formulation using the three-circle model. This was particularly helpful for facilitating both mine, and Peggy’s understanding of the presenting difficulties themselves.

I delivered psychoeducation relating to the three-circles model, by screen sharing the text (Gilbert, 2010) and verbally delivering the information. To check if Peggy had understood the psychological concept and formulation, I asked a closed question, and while Peggy verbally confirmed she had understood, her body language suggested her understanding may have been limited. Reflecting on this, I felt a little incompetent and worried that Peggy would also perceive me this way, however, my supervisor provided me with feedback relating to the teach-back technique to clarify understanding of psychological concepts (Neenan, 2008; Yen & Leasure, 2019). Following this feedback, I screen shared Peggy’s three-circle formulation as a visual image each session, zooming into each circle to collaboratively discuss how they interact and why they are being maintained. I also asked Peggy to summarise the model in her own words to check understanding, which was improved.

Delivery:

Rodgers (1957) identified three core conditions that are necessary to facilitate change within a person attending therapy; unconditional positive regard, congruence and empathy. Having my supervisor observe two of the sessions and provide feedback meant I was able to identify and reflect on my use of these to establish rapport with Peggy and create an environment where she felt listened to, understood, and able to engage in behaviours such as practicing the exercises. There was an instance during the intervention where Peggy became emotional, and my supervisor’s feedback and my own reflections highlighted some key learning points around empathy. On one occasion, I acknowledged and responded with a sympathetic statement, my supervisor highlighted how empathy, and showing genuine understanding and compassion for the person can have a stronger effect than sympathy (Bloom, McNeil, Flasch & Sanders, 2018). In future practice, I can use statements such as “I can see this is really difficult for you” to display active listening and a shared feeling of the persons emotions.

On another occasion I failed to see that Peggy becoming emotional and due to the barrier of the screen, did not acknowledge this. It is important to normalise and validate when a person displays emotion to encourage clients to acknowledge and process negative emotions (Thompson, 2011). This highlighted a difficulty with delivering the intervention online, combined with my inexperience, as I was both unable to see clearly if Peggy was displaying emotion over the video call, and was also trying to focus on remembering the content of the session, and anxious about my delivery, in addition to being observed. On reflection, I may have appeared that I was not fully present. This is something I anticipate will reduce in time, as my theoretical knowledge improves, I believe I will have more confidence in my delivery. Additionally, when delivering future online intervention, I plan to be more attentive to body language and facial expressions, as the video call adds an extra barrier to natural communication cues (Cataldo, Chang, Mendoza & Buchanan, 2021).

I also noticed that there was countertransference between how Peggy's emotional response would cause feelings of anxiety that I had contributed to her distress. Resulting in me feeling a pull to reduce this distress, and in turn my anxiety (Dahl, Røssberg, Bøgwald, Gabbard & Høglend, 2012). For example, I was worried the exercises were activating her threat-protection system, because of her emotional reaction. Resultingly, I encouraged Peggy to practice the exercises she found to reduce emotional response. Following this session, my supervisor provided me with feedback that compassion focussed work can often cause an emotional reaction, and people may struggle to identify if their soothing-contentment system is activated at first, and that practicing the exercises, rather than avoiding these emotions is important (Lee & James, 2012). This was a key learning point for me as it revealed how my own anxieties around not wanting to cause Peggy more distress led to me directly encourage avoidance of exercises which needed to be practiced to be effective.

This was additionally problematic, as through supervision I realised Peggy would on occasion display a tendency to avoid situations which caused her anxiety. For example, Peggy was signposted to her GP following disclosure of concerns around weight loss. When asking if Peggy had contacted her GP regarding this, Peggy responded she "knows what [I was] getting at, and it makes [her] anxious, so can [we] leave the conversation there?". Peggy also described herself as feeling "fraudulent" for attending her fifth session, and her request to cancel her final session cited "the best way forward is for [her] to forget the incident that caused so much mayhem and avoid reminders".

This intervention has taught me how to reflect-in-action (Schön, 2017) to notice when I feel the need to reduce a client's distress, to in turn reduce my own anxiety. I have realised that becoming emotional is commonplace in psychological interventions, and this should be validated and normalised, but encouraging avoidance in people who are typically avoidant may be unhelpful and perpetuate the problem (Hofmann & Hay, 2018).

Evaluation and Conclusion:

Reflecting on Peggy’s avoidance and her own disclosure that the best way forward is to avoid reminders, reassured me that my delivery and our rapport hadn’t contributed to her decision to end the intervention. I was also reassured by Peggy’s feedback about the therapeutic rapport, stating in her cancellation email; “[you] have been brilliant with your therapy … [you] will make an excellent therapist”.

However, a combination of the chosen outcome measures, and Peggy not attending her final session meant evaluation of her behavioural outcome goals was limited. However, the outcome measures collected have provided a good insight into the extent to which the psychological outcome goals were met, and indicated that her distress, anxiety and low mood had improved. This was based on a review of responses to specific questions in the PHQ-9 and GAD-7, alongside qualitative feedback, to capture if her cooking, eating, sleeping, and socialising behaviours had changed. I reflected on this in discussions with the module lead, and in future, plan to consider the suitability of applying more health-based outcome measures, such as measurements of quality of life. This highlighted how there can be difficulties in delivering health-based interventions in a clinical setting, where psychological distress presents as the greatest clinical need, and the appropriateness of outcome measures would have to be considered on a case-by-case basis.

Overall, I feel my confidence in developing, delivering, and evaluating psychological interventions has improved greatly. I also feel more proficient in recognising my competence as a Trainee Health Psychologist and I am keen to continue to develop on these further.

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