

**CONFIRMATORY FACTOR ANALYSIS AND FURTHER VALIDATION OF
THE TRENT MEASURE OF VICARIOUS TRAUMA (TMVT)**

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Statement of Contributions and Involvement

I, Charlotte Tunstall, declare that this research portfolio is the product of my own original work conducted since my commencement of the Trent Doctorate in Clinical Psychology training programme in 2022.

I, Charlotte Tunstall, previously developed and wrote a research protocol and systematic literature review, under supervision of Hannah Merdian (formerly of University of Lincoln) and David Dawson (University of Lincoln), parts of which are now included in the final thesis.

Service users were not involved in Strange et al.'s (2021) original development of the TMVT; and there was no direct service user involvement for the present study. However, members of the Trent DClinPsy's Service User and Carer Panel (SUCAP) provided feedback on research throughout the programme to contribute to the development process.

Software and data support available through the University of Lincoln were accessed during development of this portfolio. Alexis Lamb (Senior Teaching and Learning Librarian) provided insight into academic databases and systematic searches; Tracey Goulding (Psychology Technician) supported with setup of Questionpro, Excel, and SPSS; Polly Atkins (Psychology Technician) gave a tutorial on SPSS Syntax.

Contributor Roles Taxonomy (CRediT)

In accordance with the APA Publication Manual (7th edition; 2020) and Traumatology, "authorship encompasses...not only persons who do the writing but also those who have made substantial scientific contributions to a study." The Contributor Roles Taxonomy (CRediT) in Table 1 details an accurate description of the diverse contributions to this thesis.

Table 6*Contributor Roles Taxonomy (CRediT)*

Role	Description	Contributor(s)
Conceptualisation	Ideas; formulation or evolution of overarching research goals and aims.	Nima Moghaddam, Rachel Sabin-Farrell, Hannah Strange, David Dawson, Hannah Merdian, Charlotte Tunstall
Data curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse.	Charlotte Tunstall, David Dawson, Tracey Goulding, Polly Atkins
Formal analysis	Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data.	Charlotte Tunstall
Funding acquisition	Acquisition of the financial support for the project leading to this publication.	Charlotte Tunstall
Investigation	Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.	Charlotte Tunstall
Methodology	Development or design of methodology; creation of models.	Charlotte Tunstall, Hannah Merdian, David Dawson

Role	Description	Contributor(s)
Project administration	Management and coordination responsibility for the research activity planning and execution.	Charlotte Tunstall
Resources	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.	Charlotte Tunstall, David Dawson, Alexis Lamb, Tracey Goulding, Polly Atkins
Software	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.	N/A
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.	David Dawson, Hannah Merdian, Heather Cogger-Ward
Validation	Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.	Charlotte Tunstall, David Dawson
Visualisation	Preparation, creation and/or presentation of the published work, specifically visualisation/data presentation.	Charlotte Tunstall

Role	Description	Contributor(s)
Writing - original draft	Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).	Charlotte Tunstall
Writing - review and editing	Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision—including pre- or post-publication stages.	Charlotte Tunstall, Hannah Merdian, David Dawson, Heather Cogger-Ward

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Portfolio Abstract

Vicarious Trauma (VT) describes the cumulative cognitive, emotional, and behavioural impact of exposure to clients' trauma on helping professionals. Despite its theoretical distinctiveness, VT has been difficult to measure because of conceptual overlap with related constructs, including burnout, compassion fatigue, and secondary traumatic stress. Inconsistencies in its conceptualisation and measurement have limited theoretical development, research, and clinical implementation. This portfolio aims to advance understanding of VT through evidence synthesis, psychometric evaluation of a new measure, critical reflection, and application to service development.

A systematic literature review synthesised evidence on VT among Sign Language Interpreters through a narrative synthesis of eight studies. Findings demonstrated substantial personal and professional impacts, identifying role demands, limited formal support, and avoidant coping as key risk factors, alongside supervision, peer support, and role clarity as protective factors. The review highlighted methodological limitations and implications for policy, practice, and research, including improved support systems, clearer conceptualisation and measurement of VT, and more robust research.

The principal component of this portfolio is a journal paper reporting the further psychometric evaluation of the Trent Measure of Vicarious Trauma (TMVT). Using data from 418 UK helping professionals, confirmatory factor analysis, construct validity testing, internal consistency, and two-week test-retest reliability were undertaken to evaluate the measure. Findings supported the proposed two-factor structure and demonstrated good internal consistency alongside a theoretically coherent pattern of

convergent and divergent validity. Whilst test-retest reliability was poor at the individual level, the findings provide further evidence that the TMVT measures a distinct construct and suggest that VT may represent a dynamic, context-sensitive phenomenon. This study contributes to the evidence base for VT assessment and has implications for research, supervision, workforce wellbeing, and trauma-informed service provision.

Structured reflexive sections include a Plain English Summary, Critical Appraisal, Exposition of Relevance and Implications, Future Research Topic Outline, Statement of Impact and Dissemination, and Reflections on Learning as a Scientist-Practitioner.

Finally, a Small-Scale Research Project evaluated the new Psychological Interventions Facilitator role within adult community mental health services, illustrating the application of psychological research to service development and clinical practice.

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SYSTEMATIC LITERATURE REVIEW

Vicarious Trauma in Sign Language Interpreters: A Systematic Review and Narrative Synthesis

Abstract

Vicarious Trauma (VT) is the enduring, negative impact that helping professionals (HPs) experience from cumulative exposure to clients' trauma. Despite their critical role in providing equitable access to services for Deaf clients, there is a large research gap for Sign Language Interpreters (SLIs) unique experiences of trauma work and VT. This systematic review explores SLI experiences of VT using a narrative synthesis approach. Eight studies met the eligibility criteria and were identified through systematic database searches and supplementary sources, guided by predefined search terms and inclusion parameters focusing on experiences or assessments of VT and related constructs among SLIs. The Mixed Methods Appraisal Tool (MMAT) was employed to assess study quality, revealing higher methodological rigor in qualitative studies. Findings indicate significant personal and professional impacts of VT, with risk factors including role demands, lack of formal support structures, and avoidant coping strategies. Protective factors, such as professional supervision, peer support, and clear role definitions, were emphasised. Recommendations include integrating structured support systems, supervision, and psychoeducation into professional practice and revising ethical guidelines to balance SLIs' obligations and emotional well-being. This review highlights gaps in the literature, including inconsistent operational definitions and measures of VT, reliance on cross-sectional designs, and limited representation of diverse participants and contexts. The findings underscore the need for systemic changes to support SLIs', ensuring sustainable professional practices and equitable client services.

Keywords

Sign language interpreters, vicarious trauma, assessment, risk, protective, narrative synthesis

Introduction

D/deaf¹ adults and children are reported to experience significantly higher rates of trauma, abuse, and neglect than their hearing counterparts (Todd, 2022). These adverse experiences constitute significant risk factors for lifelong mental and physical health challenges, often requiring specialised support (Rogers et al., 2024). For D/deaf individuals, accessing support frequently requires the involvement of professional Sign Language Interpreters (SLIs). SLIs are essential in bridging communication barriers within a broad spectrum of settings, including medical, mental health, emergency response, legal, and social services (De Meulder, & Haualand, 2021; Macdonald, 2015). However, providing interpreting services in these contexts can expose SLIs to the personal trauma experiences of their clients (Hetherington, 2012). Furthermore, SLI demands a high degree of physical, cognitive, and emotional engagement, often requiring interpreters to embody and convey the content of trauma narratives with accuracy, neutrality, and empathy (Darroch & Dempsey, 2016). Unlike other helping professionals (HPs), SLIs typically communicate in the first person, immersing themselves in the lived experiences of their clients through visualising and internalising traumatic content (such as physical and/or sexual assault) to accurately express the meaning and emotions of these experiences (Daly, 2016; Macdonald, 2015; Mitchell & Braham, 2011). The immersive nature of sign language interpreting can therefore amplify the psychological and emotional impact of exposure to trauma

¹ There continues to be a lack of consensus regarding which labels are preferred by deaf people (Purdans-Smith et al., 2019). The use of capitalisation has often been applied to differentiate between deaf as an experience of impaired audiology, and Deaf as cultural self-identification (Sign Health, 2017). The term D/deaf has also been widely used as “the differences are not always clearly identified in the literature or among the participants” (Stapleton, 2015, p. 570). The discussion of such labels is beyond the scope of the present review and as such the terms Deaf, deaf, and d/Deaf will be used throughout to inclusively reflect preferences and experiences.

and lead to experiences of transference and countertransference similar to those encountered in therapeutic interactions (Todd, 2022).

Previous literature has shown that repeated, indirect exposure to the trauma experiences of others can have significant adverse effects (McCann & Pearlman, 1990b). Over time, *Vicarious Trauma* (VT) can manifest as physical, cognitive, emotional, and psychological symptoms that mirror those of traumatised clients, for example, avoidance, sleep difficulties, hypervigilance and feeling unsafe, and overwhelming sadness, anger, and shame (Newell & MacNeil, 2010; Pearlman & Saakvitne, 1995). Constructs such as *burnout* (Demerouti et al., 2003), *compassion fatigue* (CF; Figley, 1995), and *secondary traumatic stress* (STS; Figley, 1995) have also been used within the literature to conceptualise trauma-related symptoms among HPs. Burnout can be experienced in any profession and encapsulates exhaustion and occupational disengagement linked to work-related stressors (Demerouti et al., 2003). CF refers to physical and emotional tiring and reported burden of empathy and caring for others (Figley, 1995). STS (Figley, 1995; Sabin-Farrell & Turpin, 2003) occurs when health professionals are indirectly exposed to others' trauma (e.g., clients recounting traumatic events) and develop symptoms similar to PTSD (American Psychological Association [APA], 2013), such as sleep disturbance and intrusive thoughts about the traumatic events. These experiences can cause personal and occupational difficulties and symptomology for HPs that are often used interchangeably with VT in the literature; however, it is argued that each represents their own distinct concepts (Hayes, 2013).

VT is proposed to have broader and deeper implications than burnout, CF, and STS (Baum, 2016). In addition to the trauma-related symptoms outlined above, VT is

theoretically underpinned by Constructivist Self-Development Theory (McCann & Pearlman, 1990) of how individuals process and integrate traumatic experiences. CSDT describes how professionals' self-development processes (i.e. sense of self and worldview) can be shaped and disrupted by their exposure to clients' trauma. The impact of such exposure can challenge or negatively change core psychological beliefs about safety, trust, control, intimacy, and self-esteem (Baum, 2016; Pearlman & Saakvitne, 1995). Furthermore, VT is a cumulative process (McCann & Pearlman, 1990b) that can be difficult to identify and address early and can lead to enduring psychological impact for HPs (McNellie & Rose, 2020) as well as implications for service delivery and quality of care (Hernandez-Wolfe et al., 2015).

The concept of VT has been widely studied among HPs (e.g. psychologists) who receive training and supervision to support with managing the psychological impact of working with trauma (British Psychological Society [BPS], 2024). However, less attention has been given to the potential impact on those who support and enable HPs in their roles, such as interpreters and translators (Lai & Costello, 2021). Even further under-researched are the experiences of SLIs who are frequently exposed to trauma narratives as part of the unique demands of their role supporting the communication needs of Deaf individuals (Harvey, 2001). Furthermore, unlike other HPs, SLIs often lack adequate training and support systems necessary to mitigate the adverse effects of trauma exposure, leaving them to navigate the challenges of their work and VT alone (Anderson, 2011; Harvey, 2001).

The expectation for SLIs to remain neutral and impartial while navigating traumatic narratives can further contribute to the complexity to their role (Dickinson & Darby, 2011; Hetherington, 2012). The professional code of conduct for SLIs in the UK

(as outlined by the National Registers of Communication Professionals working with Deaf and Deafblind People; NRCPD, 2010), emphasises confidentiality, professionalism, and impartiality. While these guidelines aim to protect both clients and interpreters, they can inadvertently exacerbate the emotional toll on interpreters by limiting their ability to seek support for their experiences (Anderson, 2011), which could further increase their vulnerability to VT (Darroch & Dempsey, 2016). In recognition of these challenges, the BPS (2017) recommended that psychologists working in health settings be aware of the potential for VT among interpreters and take proactive steps to support their wellbeing. However, these recommendations may conflict with the professional codes of conduct governing SLIs (NRCPD, 2010).

Research suggests that interpreters experiencing VT may face compromised professional effectiveness, leading to burnout and, in some cases, departure from the profession (Daly, 2016). This, in turn, can negatively impact the quality of care and support available to Deaf clients, undermining efforts to provide equitable access to services (Abrams, 2020). Tribe and Thompson (2008) emphasise the importance of ensuring that interpreters can work effectively and sustainably, as their role is vital to the functioning of helping professions.

Darroch and Dempsey's (2016) systematic review explored interpreters' experiences of VT and transference dynamics. They found that interpreters were at high risk of experiencing emotional distress that impacted personal and professional lives. The review highlighted how supervision and support could mitigate against VT, yet interpreters often had limited access to such. Whilst these findings are consistent with previous literature of the experiences of interpreters and HPs, only two papers used in their review included SLIs within larger interpreter samples, and the other nine

focussed only on spoken language interpreters (Darroch & Dempsey, 2016). This limitation highlights the need for research that specifically examines the experiences of SLIs, particularly given the unique physical, cognitive, psychological, and linguistic role demands (Gieshoff et al., 2021).

Aims

The current systematic review aims to provide an overview of existing literature that has reported upon VT experiences among SLIs. This review process was guided by the following research questions:

RSQ1: How is VT in SLIs defined?

RSQ2: How is VT assessed in SLIs?

RSQ3: What is the reported impact of VT in SLIs?

RSQ4: What are the reported risk factors for VT in SLIs?

RSQ5: What are the reported protective factors for VT in SLIs?

RSQ6: What recommendations are proposed to support SLIs at risk of VT?

Method

A qualitative systematic review with narrative synthesis (Popay et al., 2006) was conducted on available research into SLIs' experiences of VT. This review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Page et al., 2021).

Search Strategy

All searches were conducted by the first author following consensus within the research team. Key terms used for the systematic search of titles, abstracts, and

keywords within the literature were informed by the research questions of this review (see Table 1). Six electronic databases were used, including PsychInfo, MedLine, CINAHL, and Academic Search Complete for published research; and Open Dissertation and ProQuest for unpublished, 'grey' literature. Further records were identified through additional scoping searches on Google Scholar and searching of citations and reference lists of relevant papers.

Early searches included additional key words relevant to the research questions (e.g. impact, effect, assessment, risk etc.) however this significantly reduced the number of papers produced. As such, these key terms were manually searched for during full text screening (see Table 2).

Table 2

Key Search Terms

1	2	3
"sign language" or BSL or ASL	AND "vicarious trauma" or "secondary trauma" or "traumatic stress" or "secondary traumatic stress" or "indirect trauma" or burnout or "compassion fatigue" or "well being" or wellbeing or well-being or stress or PTSD or trauma or coping or "quality of life" or "empathic engagement" or "exposure or "mental health" or "psychological" or exposure or experience or traumatisation or traumatization or work or job or occupational or impact or effect or effects	AND interpret or interpreter or interpreters or interpreting

Note. BSL= British Sign Language; ASL= American Sign Language; PTSD= Post-Traumatic Stress Disorder

The review implemented inclusion and exclusion criteria (see Table 3) to further refine the search for eligible papers.

Table 3*Inclusion and Exclusion Criteria*

Included	Excluded
- Experiences of formal, professional, and/or registered SLIs that were over the age of 18 years old. - Explicitly report either first person experiences or measures pertaining to VT, and/or interchangeable terms if these were reported as such within their literature review (e.g. STS). - Available in full text format and published in English¹. - Any publication date, country, setting, or research methodology.	- Specific focus on COVID-19 period². - SLI experiences of physical/musculoskeletal traumas related to their role (e.g. Carpal Tunnel Syndrome³). - Experiences of spoken language interpreters and translators.

Note. SLI= Sign Language Interpreter; VT= Vicarious Trauma; STS= Secondary Traumatic Stress

¹For the authors to comprehensively complete the review.

²Due to the unique factors associated with this time (De Meulder & Sijm, 2024).

³Outside of the scope of this research.

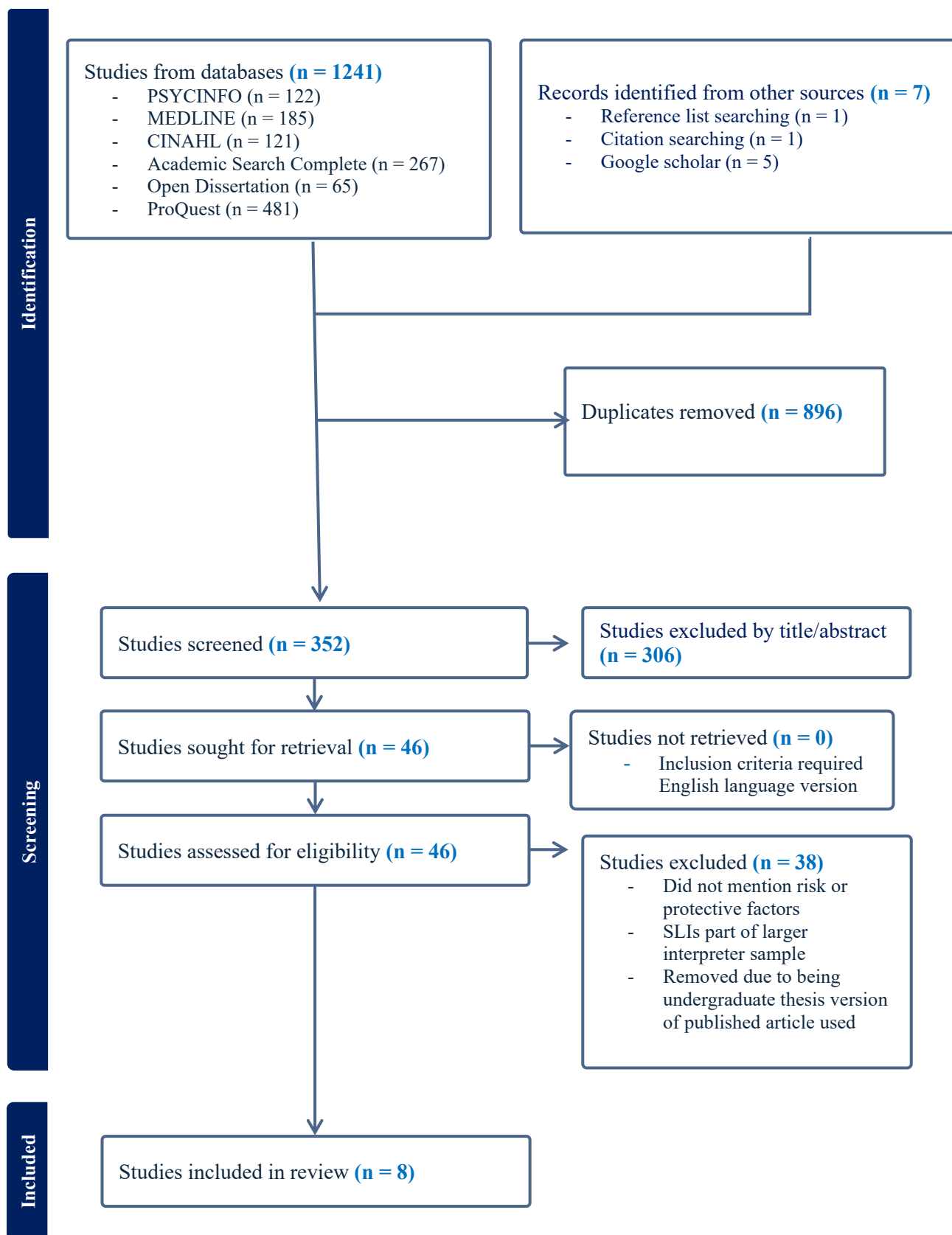
Data Analysis

A narrative synthesis review (NSR; Popay et al., 2006) approach was selected as it allowed for consideration of data from both quantitative and qualitative research in a standardised way (Akers, 2009; Hong et al., 2018; Popay et al. 2006). The current NSR utilises a post-positivist epistemological stance, seeking to identify patterns across diverse research methodologies whilst recognising the limitations inherent in such synthesis; the aim is to balance generalisable insights with context-specific understanding (Pawson et al., 2005).

Results

Study selection

The first author independently conducted structured searches of databases and other sources, informed by the inclusion criteria and PRISMA guidelines (Page et al., 2021; see Figure 1).

Figure 1*PRISMA flow chart for study identification, screening and inclusion*

Quality Appraisal

The quality of all eight eligible studies was critically appraised using the Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018). The MMAT was selected as it can be applied to empirical studies with quantitative, qualitative and mixed methodologies used within the same review (Hong et al., 2019). In addition to PRISMA, all papers included in this review met the MMAT screening criteria, which required papers to have clear research questions and to collect data that allowed them to be answered. Table 4 offers an overview of the methodological quality of each study included in this review.

The first and second authors independently conducted the appraisal process for each study to ensure reliability and minimise bias, as recommended by the MMAT (Hong et al., 2019). Ratings were compared and discussed until consensus was reached.

Critical appraisal indicated that qualitative papers were of overall higher quality than those with different methodologies, followed by quantitative papers. Paper 8 was the only mixed methods paper and achieved the lowest quality rating.

Table 4*Results of Quality Appraisal using Mixed-Methods Appraisal Tool*

	Methodological quality criteria	Study							
		1	2	3*	4	5	6*	7	8*
Screening questions	Are there clear research questions?	Y	Y	Y	Y	Y	Y	Y	Y
	Do the collected data allow to address the research questions?	Y	Y	Y	Y	Y	Y	Y	Y
Qualitative	Is the qualitative approach appropriate to answer the research question?	Y	Y	Y	-	-	-	-	-
	Are the qualitative data collection methods adequate to address the research question?	Y	Y	Y	-	-	-	-	-
	Are the findings adequately derived from the data?	Y	Y	CT	-	-	-	-	-
	Is the interpretation of results sufficiently substantiated by data?	Y	CT	Y	-	-	-	-	-
	Is there coherence between qualitative data sources, collection, analysis and interpretation?	Y	Y	Y	-	-	-	-	-
Quantitative	Is the sampling strategy relevant to address the research question?	-	-	-	Y	Y	Y	Y	-
	Is the sample representative of the target population?	-	-	-	Y	Y	Y	Y	-
	Are the measurements appropriate?	-	-	-	Y	Y	Y	Y	-
	Is the risk of nonresponse bias low?	-	-	-	CT	CT	CT	CT	-
	Is the statistical analysis appropriate to answer the research question?	-	-	-	Y	Y	Y	Y	-
Mixed methods	Is there an adequate rationale for using a mixed methods design to address the research question?	-	-	-	-	-	-	-	CT
	Are the different components of the study effectively integrated to answer the research question?	-	-	-	-	-	-	-	CT
	Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	-	-	-	-	-	-	-	Y

Methodological quality criteria	Study							
	1	2	3*	4	5	6*	7	8*
Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	-	-	-	-	-	-	-	Y
Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?	-	-	-	-	-	-	-	CT
Total	7	6	7	6	6	7	6	5
Mean		6.67			6.25			5

Note. For the purposes of quality weighting, each 'Yes' count was given a score of 1, and each 'No' or 'CT' was scored 0. One additional count was assigned to papers that had been published in peer-reviewed journals due to the inclusion of grey literature within the review. The highest total score for each methodology was 7, with higher scores representing greater methodological quality.

Y = Yes; N= No; CT= Cannot tell; - = Not applicable; *= published/peer-reviewed.

Study characteristics

All studies were conducted in English-speaking countries and with samples of predominantly white, hearing, female SLIs who worked across various professional settings (e.g. community, inpatient, medical, mental health, emergency, legal).

Combined, the overall sample size for this review was 506. Key findings from each paper are displayed in Table 5.

			RSQ1	RSQ2	RSQ3	RSQ4	RSQ5	RSQ6
Paper Country Setting	Research aim(s)	Sample	Construct definition	Methodology	Impact	Risk Factors	Protective Factors	Recommendations
			conceptual distinctions; synonymous use in wider literature justified their interchangeable use of STS and VT.		misunderstood. Informal peer support is preferred.	- Lack of formal support structures		
3 Zafirah et al., * (2020)	Explore the impact and the factors that may prevent CF from developing in mental health SLIs working with deaf children	7 SLIs <u>Reported</u> <u>Gender:</u> Female= 57.14%, Male= 42.86%; <u>Age:</u> range 30-56, <i>M</i> = 43.14, <i>SD</i> = 9.72); <u>Ethnicity:</u> White British= 42.86%, Black British= 42.86%, White Other= 14.29% <u>Not reported</u> Hearing status <u>Sampling</u> Convenience/ opportunity (field)	<u>Main construct</u> CF <u>Definition</u> "The cost of caring (Figley, 2002) – CF is the result of frequent exposure and empathic engagement with traumatic experiences faced by other individuals (Hall, 2016)" "For the purposes of this paper, CF will also encompass VT and STS" <u>Link to Theory</u> DCT <u>Comments</u> Paper states that VT has conceptual overlap with other similar constructs; acknowledged conceptual distinctions; synonymous use in wider literature	<u>Method</u> Qualitative <u>Design</u> Cross-sectional <u>Assessment</u> Semi-structured interviews <u>Analysis</u> Thematic Analysis (TA)	1. Emotional challenges of the job include feeling distressed, and frustrated, 'carrying others' trauma around', impact of work persists post session. 2. Ruminating on patients' traumatic and emotional experiences outside of work: experiencing re- arousal, flashbacks, worry and sadness 3. Feeling responsible for the emotions of clients and for providing support and empathy when clinicians don't. 4. Sense of hopelessness, guilt, and anxiety around deviating from rigid interpreting guidelines, e.g. witnessing oppression but not being able to voice an opinion. 5. Normalisation of emotional and traumatic content, including desensitisation and apathy. 6. Sharing experiences within peer and formal	- Newly qualified as an SLI - Working with deaf children - Perceived additional responsibilities (i.e. to inform clinicians when assessments are not culturally appropriate) - Exposure to emotional and traumatic content - High demands and low control (DCT) - Strict interpreting guidelines	- More experience as an SLI - Peer support, formal supervision, reflective practice - Compassion satisfaction from supporting and empowering clients	- Regular supervision, debriefs, peer support groups and reflective practice - Training to include coping strategies to reduce CF/increase CS

			RSQ1	RSQ2	RSQ3	RSQ4	RSQ5	RSQ6
Paper Country Setting	Research aim(s)	Sample	Construct definition	Methodology	Impact	Risk Factors	Protective Factors	Recommendations
			justified their interchangeable use		support is helpful to manage the emotional impact of SLI work.			
4 Abrams (2020) U.S. Various	Understand the experiences of SLIs' occupational hazards with trauma survivors using a quantitative measure of VT	201 SLIs <u>Reported</u> Age: M= 40.58, SD= 12.60; Gender: Cisgender Woman/Female = 81.10%, Cisgender Man/Male= 12.40%, Transgender Man/Male=2.00 %, Gender Nonconforming = 3.00%, Prefer not to say= 1.50%. <u>Ethnicity:</u> Caucasian or White= 76.60%, Latinx or Hispanic= 10.90%, Two or more= 5.50%, Asian or Pacific Islander= 3.00%, African American or Black= 1.50%, Prefer not to answer= 1.50%, Native American= 1.00%.	<u>Main construct</u> VT <u>Definition</u> "Understood as the changes a professional experiences in his or her inner world due to the cumulative effect of exposure to a client's traumatic material (Pearlman & Saaktvine, 1995)." <u>Link to Theory</u> CSDT <u>Comments</u> Paper states that VT is a distinct phenomenon and conceptually different to STS (a symptom-based model)	<u>Method</u> Quantitative <u>Design</u> Cross-sectional <u>Assessment</u> Online survey <u>Measure: scale: subscales</u> 1. TABS; VT: <i>self-safety, other-safety, self-trust, other-trust, self-esteem, other-esteem, self-intimacy, other-intimacy, self-control, other-control</i> 2. Brief- COPE; Coping with stress or adversity: <i>problem-focussed coping, emotion-focussed coping, avoidant-coping</i> <u>Analysis</u> t-tests; Pearson's	- Average VT score <i>Very High</i> (M= 62.50, SD= 5.38) - SLI's with past trauma had significantly higher VT than SLI's with no reported trauma: $t(199) = -3.55$, $p = 0.007$ - SLI's working with trauma survivors had higher VT than SLIs who did not work with trauma survivors: $t(199) = -2.47$, $p = 0.019$. - VT was significantly negatively correlated with years of experience: $r = -.221$, 95% BCa CI [-.341, -.087], $p = 0.002$. - Self-blame coping, past history of mental health, and age were best predictors of VT: $F(1, 197) = 7.02$, $p = 0.007$, $R^2 = .360$.	- Self-blame - Personal history of trauma - Past or current mental health diagnosis - Working with trauma survivors	- More experience of working as an SLI - Higher age - Use of emotional coping strategies	- Training curriculum to include working with exposure to trauma/trauma survivors - Psychoeducation on mental health, trauma, psychiatric symptoms, impact of VT, and developing coping strategies - Access to EAP - Self-monitoring and evaluation of environment and personal demands and emotional needs - Debriefing, supervision, consultation, peer support - Personal psychotherapy - Further exploratory and/ or mixed methods research on VT

Paper Country Setting	Research aim(s)	Sample	RSQ1	RSQ2	RSQ3	RSQ4	RSQ5	RSQ6
			Construct definition	Methodology	Impact	Risk Factors	Protective Factors	Recommendations
		<i>Years of experience: M=15.47, SD=11.31.</i>		correlation coefficient; stepwise regression				
		<u>Sampling</u> Purposive (online)						
5 Andert & Trites (2014)	1) Understand the extent to which setting and years of experience relate to the presence of VT in ASL interpreters.	67 ASLs (including Deaf, non-Deaf and Hard of Hearing)	<u>Main construct</u> VT	<u>Method</u> Quantitative	- SLIs experience symptoms of VT including intrusion, avoidance, and arousal	- Working frequently in a medical setting	- Fewer hours	- Awareness of VT symptoms to address existing trauma and prevent onset
U.S.			<u>Definition</u> "The effects one experiences as a result of exposure to individuals who may have experienced or are presently experiencing trauma (McCann & Pearlman, 1990)"	<u>Design</u> Cross-sectional	- SLIs working in various settings experience VT, but highest scoring 10% were mostly within medical settings	- Higher hours	- Moderate SLI experience	- Structured support systems
Various	2) Understand what strategies ASL interpreters use to address or cope with VT.	<u>Reported</u> Age: range= 21-70 <u>Not reported</u> Gender, ethnicity, years' experience, distribution of hearing status	<u>Link to Theory</u> CSDT, DCT	<u>Assessment</u> Online survey <u>Measure: scale, subscales</u> STSS; Secondary Traumatic Stress: <i>intrusion, avoidance, arousal</i>	- SLIs can experience personal conflicts that restrict their access to support	- Novel or experienced SLI status		- Take a proactive approach to integrating awareness, prevention and treatment for VT in SLI education programmes, including developing strategies
		<u>Sampling</u> Purposive (online)	<u>Comments</u> Paper states that VT is a distinct phenomenon	<u>Analysis</u> Frequencies and percentages				- Formal learning about emotionally difficult topics, i.e. grief, loss, abuse
								- More research with wider, larger samples
6 Daly & * Chovaz (2020)	Examine the experiences of effects of STS on the professional	85 SLIs <u>Reported</u> Gender: Female=	<u>Main construct</u> STS <u>Definition</u> "A term that is often	<u>Method</u> Quantitative	- 30% of SLIs scored above clinical cutoff for STS ($M= 33.10$, $SD= 14.1$).	- Lower age and experience	- Higher age and experience	- Refine constructs and measures of STS
								- Training and support for SLIs working in

			RSQ1	RSQ2	RSQ3	RSQ4	RSQ5	RSQ6
Paper Country Setting	Research aim(s)	Sample	Construct definition	Methodology	Impact	Risk Factors	Protective Factors	Recommendations
Canada Various	quality of life of SLIs by measuring STS and its relation to compassion satisfaction and burnout.	87.06%, Male= 12.94%; Age: range= 18-65+ ($M= 35.44$); <i>Years experience</i> : range= 0-50 (55.2% <15 years). <u>Not reported</u> Ethnicity, hearing status <u>Sampling</u> Purposive (online)	used synonymously with vicarious trauma, refers to the prolonged anxiety experienced by an individual witnessing or listening to trauma experienced by others (Thompson et al., 2014)." <u>Link to Theory</u> DCT <u>Comments</u> Paper states that VT has conceptual overlap with other similar constructs; acknowledged conceptual distinctions; synonymous use in wider literature justified their interchangeable use	<u>Design</u> Cross-sectional <u>Assessment</u> Online survey <u>Measure: scale, subscales</u> 1. STSS; Secondary Traumatic Stress: <i>intrusion, avoidance, arousal</i> 2. ProQOL; Professional quality of life: <i>compassion satisfaction, burnout, secondary traumatic stress</i> <u>Analysis</u> Pearson's correlation coefficient, multiple regression	- 98% of SLIs scored within moderate to high range for CS ($M= 40.00$, $SD= 6.47$). - 100% of SLIs scored within moderate to low range for burnout ($M= 21.50$, $SD= 5.53$). - Higher avoidance was correlated with lower CS: $r(83)= -.22$, $p= .024$, and higher burnout: $r(83)= .43$, $p<.001$ - Other significant relationships included: • burnout and intrusion (positive): $r(83)= .43$, $p<.001$; • burnout and arousal (positive): $r(83)= .52$, $p<.001$; • age and CS (positive): $r(83) = .28$, $p < .01$; • years' experience and CS (positive): $r(83) = .26$, $p = .038$ - Burnout was the only independent predictor of variance in STS: $F(6,78) = 6.57$, $p < .001$.			trauma-related fields (i.e. mental health) - Further, qualitative research of SLI experiences of STS
7 Hall (2016) Canada	Investigate the effect that VT has on life satisfaction of	85 VLIs <u>Reported</u> <i>Gender:</i>	<u>Main construct</u> VT	<u>Method</u> Quantitative	- Higher VT correlated with lower life satisfaction in SLIs: $r(83)= -.40$, $p<.001$.	- None reported	- None reported	- Training programmes to include self-care component

			RSQ1	RSQ2	RSQ3	RSQ4	RSQ5	RSQ6
Paper Country Setting	Research aim(s)	Sample	Construct definition	Methodology	Impact	Risk Factors	Protective Factors	Recommendations
Various	VLIIs working with Deaf consumers in mental health settings.	Female= 87.06%, Male= 12.94%; Age: range= 18-65+ years; <u>Years experience</u> : <5-50 years. <u>Not reported</u> Ethnicity, hearing status <u>Sampling</u> Purposive (online)	<u>Definition</u> “Used interchangeably with CF and STS, it can best be described as the accumulation of empathetic engagement with another person's traumatic experiences (Harrison & Westwood, 2009; Hook & Rothenberg, 2009; McCann & Pearlman, 1990; Newell & Macneil, 2010).” <u>Link to Theory</u> DCT <u>Comments</u> Paper states that VT has conceptual overlap with other similar constructs; acknowledged conceptual distinctions; synonymous use in wider literature justified their interchangeable use	<u>Design</u> Cross-sectional <u>Assessment</u> Online survey <u>Measure; scale, subscale</u> 1. STSS; Secondary Traumatic Stress: <i>intrusion, avoidance, arousal</i> 2. SWLS; Global life satisfaction <u>Analysis</u> Pearson's correlation coefficient, multiple regression	- VT, gender, age, years of experience, graduating from training explained significant amount of variance in life satisfaction: $F(5, 79) = 3.98, p = .003, R^2 = .201$. - VT was the only variable that significantly predicted life satisfaction, $\beta = -.42, t(79) = -4.01, p < .001$.			- Briefing and debriefing with clinicians before and after sessions - Balance time spent interpreting in mental health setting - Awareness of negative impact on SLI mental health - Further research on how different factors may affect VT and life satisfaction, i.e. setting, personality etc
8 Russell et al. * (2023) U.S. & Canada	Examine experiences of STS, CF, and burnout in D-SLIs' and how they effect and	47 D-SLIs <u>Reported Gender</u> : Female= 59.57%, Male= 40.43%; Age:	<u>Main construct</u> VT and STS (ASL sign is the same for both) <u>Definition</u> “STS occurs when	<u>Method</u> Mixed Method <u>Design</u> Cross-sectional	<u>Quantitative</u> - 32% of D-SLIs experienced STS within clinical range ($M = 37, SD = 13.4$).	- Lack of training - Lack of support structures - Not being welcomed by	- Ensuring advanced, complete understanding of assignment	- Consistent training pathways for D-SLIs - Training in STS, prevention, self-care, and co-interpreting

			RSQ1	RSQ2	RSQ3	RSQ4	RSQ5	RSQ6
Paper Country Setting	Research aim(s)	Sample	Construct definition	Methodology	Impact	Risk Factors	Protective Factors	Recommendations
Various	relate to professional/global quality of life and anxiety.	range= 18-65+ years; Years experience: <5-50 years. <u>Not reported</u> Ethnicity <u>Sampling</u> Purposive (online)	one is exposed to the traumatic experiences of others with whom they have an empathic relationship; this then causes psychological distress and even changes to cognitive aspects of the self (Westmoreland, 2018)". <u>Comments</u> VT is distinct phenomenon but used interchangeably with STS as sign the same	<u>Assessment</u> 1. Online survey 2. Focus group <u>Measure; scale, subscales</u> 1. STSS; Secondary Traumatic Stress: <i>intrusion, avoidance, arousal</i> 2. ProQOL; Professional quality of life: <i>compassion satisfaction, burnout, secondary traumatic stress</i> 3. SWLS; Global life satisfaction 3. BAI; Anxiety <u>Analysis</u> 1. Pearson's correlation coefficient, correlational matrix 2. Thematic Analysis (TA)	- 100% of D-SLIs experienced minimal levels of anxiety ($M=5.54$, $SD=5.54$). - 98% D-SLIs reported CS ($M=46$, $SD=41.2$). - No D-SLIs endorsed burnout within a clinical range ($M=22$, $SD=3.9$). - Higher CS related to lower burnout: $r(47)=-.56$, $p<0.1$. - Higher avoidance related to higher burnout: $r(47)=.36$, $p<0.5$. - Higher burnout related to higher arousal: $r(47)=.36$, $p<0.5$. - Higher experiences of STS endorsed more symptoms of anxiety: $r(46)=.68$, $p<.001$. - 28% of D-SLIs reported extreme satisfaction with their lives ($M=27$, $SD=36.34$) <u>Qualitative</u> 1. Resistance and alienation from colleagues and teams due to label of 'D-SLI'	colleagues or teams	- Ability to decline assignments that may be triggering or traumatic - Being able to choose their ND-SLI - Debriefing - Robust support network - Practicing self-care	strategies - Structured supervision, debriefing processes, and feedback - Identify ways that SLIs can access support

			RSQ1	RSQ2	RSQ3	RSQ4	RSQ5	RSQ6
Paper Country Setting	Research aim(s)	Sample	Construct definition	Methodology	Impact	Risk Factors	Protective Factors	Recommendations
					2. Lack of training on VT may contribute to denial of experiences and not recognising personal/professional impact 3. Reluctant to seek formal or informal support even though impacted by VT 4. Witnessing discrimination and oppression of marginalised communities contributed to VT 5. Coping strategies were helpful when used 6. VT was greater when D-SLIs experienced lack of support from colleagues including ND-SLIs.			

Note. *= published in peer-reviewed journal; VT= Vicarious Trauma; CSDT= Constructivist Self-Development Theory (McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995; Pearlman, 2012); DCT= Demand-Control Theory (Karesek, 1979); BSL= British Sign Language; ISLI= Irish Sign Language Interpreter; STS= Secondary Traumatic Stress; CF= Compassion Fatigue; SLI= Sign Language Interpreter; ASL= American Sign Language; VLI= Visual Language Interpreter; D-SLI= Deaf Sign Language Interpreter; TABS= Trauma and Attachment Beliefs Scale (Pearlman, 2003); Brief COPE= Coping Orientation to Problems Experienced Inventory (Carver, 1997); EAP= Employee Assistance Programmes; STSS= Secondary Traumatic Stress Scale (Bride, 1999; 2004); CS= compassion satisfaction; ProQOL= Professional Quality of Life Scale (Stamm, 2010); SWLS= Satisfaction with Life Scale (Diener et al., 1985); BAI= Beck's Anxiety Inventory (Beck et al., 1988). ND-SLI= Non-Deaf Sign Language Interpreter; M= Mean; SD= Standard Deviation.

RSQ1: How is VT in SLIs defined?

The current review of VT among SLIs highlighted variability in defining concepts that seems to reflect the wider VT literature.

Theoretical Frameworks. Three papers (1, 4, 5) made explicit reference to VT as defined under Constructivist Self-Development Theory (CSDT; McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995; Pearlman, 2012). These three papers emphasise VT as a concept experienced by HPs exposed to the trauma of those they support, which can negatively and cumulatively disrupt cognitions, emotions, sense of self, and sense of safety (McCann & Pearlman, 1990).

Four papers (3, 5, 6, 7) indicated that VT could be considered within the framework of Demand-Control Theory (DCT; Dean & Pollard, 2001; Karasek & Theorell, 1990) due to SLI work involving high demands and low control or autonomy. These outcomes suggest that VT could have different or additional theoretical underpinnings than CSDT, particularly as the papers linking VT to DCT were of collectively higher quality than those that embedded VT in CSDT (papers 1, 4, 5).

Similarity and Interchangeability. The three papers that conceptualised VT through CSDT (1, 4, 5) each distinguished VT as a distinct phenomenon from other, similar constructs (i.e. STS) due to cognitive and enduring dimensions of change within the HP over time. However, paper 1

acknowledged that there is potential for VT to co-occur with other constructs, such as burnout.

Five papers (2, 3, 6, 7, 8) acknowledged conceptual overlap between similar constructs including VT, STS, CF, and burnout. They noted how each construct has its own conceptual distinctions yet there is propensity for the wider literature to use these terms synonymously and interchangeably. The inconsistent and often interchangeable use of VT and other related constructs provided justification for their respective choices to do so within their own research on 'VT' among SLIs. Paper 8 however, defended their choice to use VT and STS interchangeably within their study as the sign used to describe each phenomenon was the same.

Paper 3 discussed VT as its own entity within their literature review, however for their own research purposes they explicitly used the term CF to also encompass VT and STS.

RSQ2: How is VT assessed in SLIs?

VT was assessed among SLIs using various qualitative, quantitative, and mixed methods approaches.

Qualitative (including mixed methods). Solely qualitative studies relied on semi-structured interviews to explore SLI experiences of VT (papers 1, 2, 3), and the qualitative component of the mixed methods study utilised focus groups

(paper 8). Qualitative analysis methods of Thematic Analysis (TA; papers 2, 3, 8) and Interpretive Phenomenological Analysis (IPA; paper 1) were used to explore SLI experiences of VT.

Quantitative (including mixed methods). Quantitative studies predominantly utilised standardised measures that are commonly used in VT research, including the Secondary Traumatic Stress Scale (STSS; Bride, 1999; 2004; papers 5, 6, 7, 8), the Trauma and Attachment Beliefs Scale (TABS; Pearlman, 2003; paper 4), and the Professional Quality of Life scale (ProQOL; Stamm, 2010; papers 6, 8),

Other psychometric measures were used to gain insight into related constructs such as anxiety (Beck's Anxiety Inventory; BAI, Beck et al., 1988; paper 8), life satisfaction (Satisfaction with Life Scale; SWLS, Diener et al., 1985; papers 7, 8) and coping with stress (Coping Orientation to Problems Experienced Inventory; Brief COPE, Carver, 1997; paper 4).

Presence vs scale. In qualitative papers (1, 2, 3) VT is reported dichotomously, in that their samples of SLIs shared personal experiences and symptoms that reflected the presence of their working definitions of VT. Four quantitative papers (4, 5, 7, 8) determined the presence of VT based on cutoff scores of clinical significances. However, papers 4 and 5 discussed how VT (as measured by the TABS, and STSS respectively) existed along a continuum of severity (i.e. low, moderate, high, very high).

Paper 4 utilised the TABS which is the only measure developed from CSDT literature to measure VT, whereas quantitative papers of higher quality (5, 6, 7, 8) utilised tools designed to measure the construct of STS. Papers with a qualitative methodology (1, 2, 3) were of higher quality than those utilising standardised measures in quantitative and mixed method papers (4, 5, 6, 7, 8).

RSQ3: What is the reported impact of VT in SLIs?

VT was found to impact SLIs in several personal and professional domains.

Emotional and Psychological Impact. SLIs interviewed in qualitative studies (papers 1, 2, 3) reported shared themes of emotional distress, sadness, anxiety, overwhelm, helplessness, exhaustion, and burden by their experiences of working with Deaf clients' traumas.

Quantitative studies further emphasised the psychological impact of VT on SLIs. Participants recruited in paper 4 rendered average scores of Very High VT as measured by the TABS. This indicated that due to working with traumatised clients, they experienced significant and long-lasting disruptions to beliefs in the areas of safety, trust, intimacy, control, and esteem (Pearlman, 2003). Papers that utilised the STSS (5, 6, 7, 8) indicated that VT (or interchangeable constructs, see RSQ1 results) was prevalent among SLIs, however emphasised symptoms of intrusion, avoidance, and arousal that are associated with indirect exposure to clients' traumas within professional

relationships (Bride et al., 2004). Similar findings of VT among SLIs were presented in studies that utilised the ProQOL to measure the effects of working with those who have experienced trauma. Symptoms included burnout, compassion fatigue, and secondary traumatic stress (Stamm, 2010) and were in clinically significant ranges in all but paper 6.

Symptoms of VT measured in quantitative papers were also reported in qualitative research, indicating that such experiences were pervasive among SLIs. The most frequently reported and reciprocal impacts included active efforts to emotionally detach from or actively avoid thinking about clients' traumas, and the intrusion into their personal lives, such as unwanted thoughts, dreams, flashbacks, and high levels of arousal (papers 1, 2, 3, 5, 6, 7, 8).

Two papers (6, 8) measured life satisfaction among SLIs. Paper 7 indicated that as VT increased for SLIs, their overall satisfaction with their lives decreased. Paper 8 reported that approximately a quarter of SLIs experienced life satisfaction.

Most papers highlighted symptoms of VT within their respective samples. However, one of the mid-quality papers (4) neglected trauma-related symptoms yet was the only one to explicitly explore the impact of core belief changes as part of VT (as measured by the TABS). As well as symptomology, changes to core psychological beliefs were also indicated in qualitative papers with the highest quality ratings (papers 1, 2, 3).

Ethical Dilemmas. Four papers with qualitative components (1, 2, 3, 8) reported that witnessing inherent power imbalances, discrimination, and oppression of clients who are vulnerable and marginalised (i.e. Deaf, immigrant, inpatient, child) contributed to SLI experiences of VT in their roles. SLIs also reported perceived power and responsibility to protect and advocate for Deaf clients due to being the only professional that can understand and communicate with them directly, which contributed to increased pressure and negative impact (papers 1, 2, 3).

A further ethical dilemma that contributed to VT within qualitative papers (1, 2, 3) was the perceived limitations imposed by professional guidelines that state how SLIs are not to voice their personal opinions (even in the face of perceived mistreatment), to interpret verbatim (which may cause further distress to clients), and not to seek clinical supervision for trauma (due to potential breaches of confidentiality). These experiences and ethical conflicts within their roles further contributed to the emotional and psychological impact of VT on SLIs.

Quantitative papers (4, 5, 6, 7) received collectively lower quality appraisal than qualitative papers (1, 2, 3) and were unable to explore SLI specific ethical nuances that interact or contribute to VT, such as rigid guidelines that don't recognise or respond to SLI exposure to trauma. However, in the present review, the paper that utilised a mixed methods approach (8) did not highlight strict adherence to guidelines as a key theme, which might indicate

that D-SLIs may not experience this as much as hearing SLIs. However, due to paper 8 receiving the lowest quality rating, it is difficult to infer from their findings.

Compassion Satisfaction. Working with Deaf clients with trauma experiences had some positive impacts on SLIs. Four papers (2, 3, 6, 8) reported that despite job challenges, SLIs derived pleasure from supporting and empowering their clients; a concept coined compassion satisfaction (Stamm, 2010). In papers that measured compassion satisfaction among SLIs (6, 8) 98% of participants in each sample were reported to be within moderate-to-high, and high ranges of compassion satisfaction (respectively).

RSQ4: What are the reported risk factors for VT in SLIs?

The review highlighted several personal, professional, and systemic factors that reported to increase or predict risk of VT among SLIs.

Professional Environment. Working in settings where SLIs are exposed to trauma experiences of others was reported as a significant risk factor for VT (papers 1, 2, 3, 4, 8). High-demand settings such as medical and mental health facilities were notably associated with increased VT risks due to the intensity and variety of tasks performed (papers 1, 3, 5, 6). Working longer hours was also highlighted as a risk factor (paper 5). Within paper 3, SLIs reported that compared to interpreting for adults, working with children

contributed to greater emotional and psychological challenges associated with VT.

Lack of formal support structures. Lack of professional training and formal support were highlighted as risk factors for VT and contributed to experiences that felt personally and professionally unsafe and uncontained (papers 1, 2, 3, 8). Inadequate time or support to prepare or debrief with other professionals were reported to further impact SLI risk of VT (papers 1, 2, 3, 8). Papers with qualitative components were rated as being of highest quality (papers 1, 3, 2 respectively) and lowest quality (paper 8), however each reported lack of formal support structures as key risk factors for VT. Due to the symptom-focussed psychometric measures utilised in mid-quality quantitative papers (4, 5, 6, 7) there was not scope to consider these wider factors in relation to VT and risk.

Role and responsibilities. High role expectations and low perceived control were reported to contribute to VT experiences throughout each of the eight papers, with five papers (1, 3, 5, 6, 7) making explicit reference to DCT (Karesek, 1979).

SLIs frequently reported ways in which they felt they were required or expected to go above and beyond the linguistic interpretation duties of their role; for example, to facilitate empathy or compassion not portrayed by

professionals, to raise awareness of cultural needs and barriers, and to mitigate against perpetuation of oppression (papers 1, 2, 3, 4, 8).

Ethical constraints. Strict adherence to interpreting guidelines contributed to a sense of isolation within the SLI role (papers 1, 3) particularly as these were reported to restrict the opportunity for feedback and support with distress or VT due to confidentiality issues.

Avoidant coping. The perceived expectation of SLIs to suppress their emotional responses and personal impact of their work due to narratives of “unprofessionalism” was also highlighted as a risk factor for VT among SLIs (papers 1, 2, 3, 8). Implementing avoidant or resistant strategies to the emotional, cognitive, and physical impact of working with trauma as an SLI were frequently reported (papers 1, 2, 3, 6, 8).

Avoidance was also considered within mid-quality quantitative papers utilising the avoidance subscales on the STSS (papers 4, 5, 6, 7, 8) and Brief-COPE (paper 3). However, these papers only measured the extent to which avoidance symptoms were present for SLIs rather than exploring how experiences and expectations of avoidance may increase risk of VT, as explored in more detail in higher quality qualitative papers (1, 2, 3).

Personal factors. Being newly qualified or having less experience of working as an SLI were associated with higher risk of VT (papers 3, 4, 5). There

were mixed outcomes when it came to greater or longer SLI experience, as some papers reported this to be a risk factor of VT (papers 1, 5) whereas others indicated that experience was protective (papers 3, 4) or had no impact on VT experiences (paper 7).

Personal experiences of trauma and/or mental health difficulties were reported to increase risk of VT among SLIs (papers 1, 4).

RSQ5: What are the reported protective factors for VT in SLIs?

Protective factors against VT among SLIs were highlighted within individual strategies, professional structures, and contextual supports.

Professional support and supervision. Formal, structured supervision and reflective practice were emphasised as being crucial protective factors against VT for SLIs (papers 1, 2, 3, 8). Informal peer support and supervision were also reported to be effective at mitigating VT (papers 1, 2, 3, 8). Both support structures provided SLIs with opportunities for emotional validation and processing, containment, and guidance.

Clearly defined roles. SLIs reported that clear understanding of their role and responsibilities in advance of their assignments contributed to feeling informed, contained, and protected against experiences of VT (papers 1, 2, 8). Identifying and refining boundaries were also important for SLIs (papers 1, 2, 8).

The opportunity to prepare for and debrief from sessions with clinical staff and other interpreters were also protective in reducing uncertainty and distress among SLIs (papers 1, 2, 3, 8).

Autonomy and control. The ability to choose or refuse assignments and to ensure a work-life balance were reported to increase a sense of control among SLIs to reduce their exposure to traumatic content and to reduce the impact of work-related distress that can contribute to VT (papers 2, 8). Furthermore, being able to choose which clinicians or interpreters they professionally partnered with contributed to protective experiences based upon mutual respect, collaboration, and support (paper 8). Engaging in freelance SLI work increased perception of control (paper 2).

Positive coping strategies. Self-care strategies such as taking time off and limiting working hours or time in certain settings were reported to protect emotional and professional sustainability (papers 2, 8). Actively seeking emotional support by talking to a trusted other (i.e. colleague, supervisor, partner, therapist) was also protective for SLIs (paper 8).

Avoidance was highlighted as a helpful coping strategy to reduce emotional distress in the short term, however the danger of becoming a “vicious cycle” and perpetuating distress was recognised (paper 1).

Experiences of satisfaction. Compassion and job satisfaction from supporting and empowering Deaf clients were reported to be rewarding and

fulfilling aspects of the SLI role that served as protective factors against VT (papers 2, 3, 6, 8).

Personal Factors. Moderate to high levels of work experience as an SLI were reported to lower the risk of VT and increase resilience and compassion satisfaction (papers 4, 5, 6). Similar correlations were also found as age increased (papers 4, 6).

Most protective factors were sourced from higher quality qualitative papers (1, 2, 3) due to mid- and lower-quality papers focussing upon VT symptomology (papers 4, 5, 6, 7, 8).

RSQ6: What recommendations are proposed to support SLIs at risk of VT?

Papers within this review proposed several recommendations that could support SLIs at risk of VT both in and out of their workplace.

Structured support systems. Five papers (1, 2, 3, 4, 8) made explicit recommendations for SLIs to have formal supervision with a further two recommending 'structured support' (papers 5, 6). Five papers (1, 3, 4, 7, 8) emphasised the importance of briefing and debriefing opportunities around sessions. Reflective space to share and process emotional experiences was also suggested (papers 3, 8), as was protected time for peer support (papers 3, 4) to normalise discussions around VT and to provide further avenues for

professional and personal support. However, paper 1 reported that individual support was preferred over group support due to the propensity to divert onto interpreter and linguistic content rather than the emotional impact of working in trauma settings. Paper 4 further recommended SLI access Employee Assistance Programmes (EAP) and personal psychotherapy as additional support structures to mitigate against VT.

Training and Education. Seven papers (1, 2, 3, 4, 6, 7 8) highlighted the importance of training and education programmes to support SLIs at risk of VT. Papers 4, 5, 6, 7 and 8 highlighted training needs included enhancing SLI awareness of trauma and associated challenges i.e. mental health, grief, abuse, and personality. Six papers (2, 3, 4, 5, 6, 7) proposed specific psychoeducation to recognise symptoms and impact of VT in self and others, and six recommended to teach and learn coping strategies to support SLIs at risk of VT (papers 1, 2, 3, 5, 7, 8).

Paper 1 also indicated that organisations should provide awareness training for other employees to understand the roles and responsibilities of SLIs, to ensure that they are integrated into teams, and supported to carry out their duties.

Workload balance. Monitoring demands (i.e. emotional, interpersonal, environmental etc) and limiting exposure to traumatic assignments by taking

regular time off and limiting working days in certain settings was also recommended to protect SLIs at risk of VT (papers 2, 4, 7).

Further research. Six papers (1, 2, 4, 5, 6, 7) made recommendations for further research to explore the understudied area of VT among SLIs including quantitative, qualitative and mixed methods studies across diverse settings and geographical locations with larger sample sizes to gain more generalisable results. Refinement of constructs and measures of VT was also recommended to ensure validity (paper 6).

Discussion

SLIs are crucial to support Deaf people to access equitable services; however, research has indicated that like other HPs, they may be at risk of VT. The purpose of this systematic review was to synthesise the experiences of VT among SLIs across a range of research methodologies within the existing literature.

The narrative review of eight papers highlighted inconsistencies in how VT and related constructs (e.g. STS, CF) are defined and measured. Whilst this was acknowledged within most papers, it also served as their justification to use terms interchangeably, which made it difficult to compare findings across studies. Like Darroch and Dempsey's (2016) review, current findings found that higher quality qualitative papers yielded more detailed reports of VT experiences than quantitative papers, which might indicate how current

measures may not adequately capture the concept. Lack of conceptual clarity can make it difficult to accurately measure VT, as instruments most used within reviewed papers were designed to measure symptoms of similar concepts (STS, CF, and burnout), i.e. the STSS and ProQOL (Hayes, 2013). The TABS measure of VT is underpinned by CSDT (McCann & Pearlmann, 1990) and as such measured changes in core psychological beliefs about safety, trust, control, intimacy, and self-esteem (Pearlman & Saakvitne, 1995). However, the TABS neglects trauma-related symptoms, despite also being a defining feature of VT (Strange et al., 2021). To avoid further ambiguity and interchangeability, further research could be improved by operationalising terms and developing psychometrically robust measure to accurately identify VT and ensure validity, reliability, generalisability, and applicability (Bermingham 2020; Strange et al., 2021).

More papers in this review considered VT/STS/CF through DCT (Karesek, 1979) which emphasises structural aspects of working environment (e.g. autonomy in role), compared to CSDT which focuses on individual internal processes and disruptions (Pearlman & Saakvitne, 1995). These theoretical differences provide additional evidence of how variability in constructs and outcome measures can inhibit conclusions over consistent findings (Popay, et al., 2006). However, both theories emphasise support systems that could be integrated to protect SLIs from personal and organisational factors that are reported to contribute to VT. For example, SLI experiences of tension between adherence to guidelines and being able to access self-care.

Darroch and Dempsey's (2016) review of VT was conducted nearly ten years ago, relied on limited, mostly qualitative research, and generalised findings from spoken language interpreters to SLIs. A strength of the current review was the inclusion of diverse methodologies, quality assessed by the MMAT. This allowed for a more comprehensive understanding of VT in SLIs by synthesising research from qualitative, quantitative, and mixed methods studies within the same review (Hong et al., 2018). Qualitative studies provided rich, in-depth explorations of the lived experiences of SLIs experiences of VT using TA and IPA from interviews and focus groups. However, these four studies (including qualitative component of mixed methods) yielded data from a small sample size of 28 SLIs which constrained the generalisability of their findings to wider populations. In contrast, a larger sample of 475 SLIs completed surveys across four quantitative and one mixed methods study. However, psychometric instruments are susceptible to self-report biases that can reduce validity and generalisability. Combining both qualitative and quantitative approaches in the mixed-methods study could have provided a more comprehensive understanding of VT in SLIs. However, this study received the lowest quality rating during critical appraisal; highlighting methodological weaknesses that undermined its strengths. Further research on SLI experiences of VT could address these issues to provide more rigorous designs.

VT literature highlights its cumulative development, and as such, a pervasive limitation within this review was the cross-sectional design of all eight

studies. In addition, some studies found that as age and SLI experience increased, VT decreased: indicating these factors to instead be protective. However, it has been proposed that HPs may becoming desensitised to VT after longer periods of time which may impede their ability to recognise impact (Rauvola et al., 2019). Further research should include longitudinal studies to provide insight into the effects of VT over time.

The inclusion of both peer-reviewed and grey literature in this review broadened the scope of the synthesised research. Published papers are subject to rigorous and peer-reviewed quality standards to ensure their reliability and validity (Roll, 2019), however may be subject to publication bias (Joobee, 2012). Unpublished grey literature has reduced risk of publication bias and can provide diverse and most-recent empirical findings; however, may be at risk of organisational bias, and lack standardisation and rigorous review (Paez, 2017).

There was limited reporting on diversity within the present review. Most studies highlighted a higher prevalence of women in their sample, and only two papers reported ethnicity, with most participants being white. However, the Association of Sign Language Interpreters (ASLI, 2021) reported that this homogeneity is reflective of the SLI profession. Three studies commented on Deaf culture and hearing status, with significant underrepresentation of D-SLIs. All studies were conducted within Western, English-speaking geographical locations which further failed to address cultural diversity. However, this could be due to the inclusion criteria requiring papers to be available in English.

Furthermore, the constructs, measures, and quality appraisal tool within this review were developed by and with samples from Westernised, Educated, Industrialised, Rich, Democratic populations (WEIRD; Henrich et al, 2010), and therefore may not be generalisable to non-Western contexts (Chilisa, 2012). Further research should include considerations of diversity and intersectionality within samples to ensure ethical, inclusive, and equitable research practices, as outlined by the APA (2017) and BPS (2017).

Implications for Policy, Practice, and Research

This review highlights important avenues for policy, practice and research (see Table 6). Policymakers should consider changes to interpreter guidelines to balance ethical obligations of SLIs and allow them to receive clinical supervision and peer support to address emotional and psychological challenges of their work and to prevent VT. Organisations should implement policies for SLIs to attend training on trauma and VT in their professional settings, and for those who work with SLIs to receive training on SLI roles and how to support them. There should also be mandated limitations on hours or consecutive days that SLIs can work in high-risk settings (such as medical or mental health) to prevent VT.

In practice, attendance to individual and group supervision, reflective space, peer support, and training should be permitted and embedded from induction and within the working day. Workshops for self-care and coping strategies could also be offered. Regular breaks and adequate recovery time

between assignments could help to mitigate against VT. Managers or supervisors should have access to SLI timesheets to monitor frequency and intensity of assignments, and SLIs should be able to request regular time off. Moderations to practice should be context-specific and adaptable to individual SLIs and assignments.

Further, mixed methods research is required to gain a greater understanding of VT among SLIs, including D-SLIs, and from larger and more diverse samples. Standardised measures and quality assessment tools developed by WEIRD populations should be modified and adapted to more generalisable cultures and regions.

Findings from this review emphasised interchangeability and divergence among VT and related constructs. Further research should endeavour to adopt clear operational definitions that can ensure validity, consistency and comparability. Longitudinal studies should also be conducted to explore the cumulative nature of VT and possible desensitisation to symptoms over time. Development of a psychometrically robust measure would further help to identify VT among SLIs (and other HPs) so that appropriate support can be accessed.

Table 6
Implications of the Review for Policy, Practice, and Research

Policy	• Update interpreter guidelines to allow for SLIs to receive supervision and support with work challenges.
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	• Implement policies to provide relevant training for SLIs, and for those working with them. • Limitations on working patterns in high-risk settings.
Practice	• Regular supervision, reflective space, peer support and training. • Workshops for self-care and coping strategies. • Managers or supervisors to monitor frequency and intensity of assignments. • Adapt practices to context and individual.
Research	Further research should include: • Mixed methods and longitudinal studies with more diverse samples. • Standardisation and wider validation of psychometric measures and quality appraisal tools (beyond WEIRD populations). • Operationalisation of similar but distinct constructs.

Note. SLI= Sign Language Interpreter; WEIRD= Westernised, Educated, Industrialised, Rich, Democratic (Henrich et al, 2010).

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JOURNAL PAPER

Confirmatory Factor Analysis and Further Validation of the Trent Measure of Vicarious Trauma (TMVT)

Abstract

Vicarious Trauma (VT) describes how cumulative exposure to client trauma can have cognitive, emotional, and behavioural impact on helping professionals. Despite its theoretical distinctiveness, VT has been difficult to measure accurately due to conceptual overlap with similar constructs including burnout, compassion fatigue, and secondary traumatic stress. This study followed best practice guidelines to conduct further psychometric evaluation of the new Trent Measure of Vicarious Trauma (TMVT).

A sample of 418 UK helping professionals completed the 13-item TMVT alongside validated measures of occupational distress, wellbeing, and trauma exposure. Confirmatory Factor Analysis (CFA) was conducted to test the previously proposed two-factor structure (Impact on the Individual; Dangerous World). Convergent and divergent validity were examined using correlational analyses. Internal consistency and two-week test–retest reliability were also assessed.

CFA supported the two-factor structure, indicating essential unidimensionality characterised by a strong general VT factor and two theoretically meaningful subfactors. The Dangerous World factor demonstrated particularly strong and coherent loadings, consistent with Constructivist Self-Development Theory. The TMVT showed good-to-excellent internal consistency

and a theoretically coherent validity profile, demonstrating expected associations with related concepts while remaining a distinct construct. Two-week test-retest reliability was poor at the individual level despite stable group means, suggesting short-term variability in VT experiences.

Findings provide confirmatory evidence for the TMVT's structural validity and conceptual coherence, while highlighting VT as a dynamic, context-sensitive phenomenon. The TMVT shows promise as a targeted measure of VT, with implications for research, supervision, and workforce wellbeing, however further longitudinal and refinement work is warranted.

Keywords

Vicarious Trauma, scale development, dimensionality, validity, reliability

1. Introduction

1.1 The Impact of Trauma

Traumatic events are highly prevalent worldwide, with large-scale epidemiological studies indicating that more than 70% of individuals have experienced at least one traumatic incident in their lifetime, including accidental injury, bereavement, interpersonal violence, natural disaster, or war-related trauma (Benjet et al., 2016; Kessler et al., 2017). Exposure to multiple traumatic experiences across the lifespan can have profound and lasting consequences for physical health, psychological wellbeing, and social functioning (Sacchi et al., 2020). Those affected by trauma frequently seek support from a range of health, social care, and justice professionals, including psychologists, nurses, social workers, therapists, police officers, and solicitors (Magruder et al., 2017). Through the very nature of their roles, 'helping professionals' are routinely exposed to detailed client accounts of distressing and traumatic events (Figley, 1995).

Indirect exposure to client trauma, whether through verbal disclosure, written material, behaviour, or observation, can have significant consequences on practitioner physical and psychological health (McCann & Pearlman, 1990). Early theorists highlighted that professionals working closely with trauma survivors are vulnerable to experiencing negative emotional, cognitive, and behavioural changes, including symptoms that mirrored those of post-traumatic stress (McCann & Pearlman, 1990). These consequences can accumulate over

time and affect practitioners' wellbeing, functioning, and capacity to carry out their roles effectively.

Occupational health research has reported that helping professionals consistently report elevated levels of stress, burnout, and poor mental health compared to the general working population both globally (Søvold et al., 2021) and in the United Kingdom (UK; Curran et al., 2021). In 2024, mental health conditions including stress, anxiety and depression remained the most reported reason for sickness absences within the National Health Service (NHS), accounting for over seven million working days lost that year (NHS Digital, 2024²). Understanding how trauma-related work impacts practitioners is therefore essential not only for individual wellbeing but also for workforce sustainability, service capacity, and the delivery of compassionate, high-quality care (McNellie & Rose, 2020; Hernandez-Wolfe et al., 2015; Saakvitne & Pearlman, 1996; Trippany et al., 2004).

1.2 Vicarious Trauma

Vicarious Trauma (VT) is a widely recognised framework for understanding the impact of repeated indirect exposure to trauma on helping professionals. Throughout this paper, Strange et al.'s (2021) definition of VT is utilised: "Vicarious trauma is the notion that through cumulative exposure to client accounts of trauma, the practitioner is affected; changes in beliefs, in

² 2025 statistics will be published in March 2026.

addition to experiencing symptoms that mirror the trauma-related symptoms of their clients, can occur” (p. 63).

Introduced by McCann and Pearlman (1990), VT describes the cumulative, enduring changes that can occur in practitioners’ beliefs about self, others, and the world from empathic engagement with traumatised clients. VT is conceptualised as a deeper, more pervasive form of impact than immediate emotional reactions to client stories as it reflects a gradual shift in core assumptions related to safety, trust, esteem, intimacy, and control (Pearlman & Saakvitne, 1995). These cognitive shifts can fundamentally disrupt practitioners’ worldviews, including increased hypervigilance and perceptions of the world as threatening, unpredictable, and dangerous (Baird & Kracen, 2006; Janoff-Bulman, 1992).

Alongside cognitive changes, VT is associated with a range of psychological symptoms that closely resemble those experienced by trauma survivors themselves. These include intrusive imagery, avoidance, hyperarousal, sleep disturbance, irritability, low mood, and emotional numbing (Evces, 2015; Newell & MacNeil, 2010). Practitioners may find themselves re-experiencing aspects of clients’ trauma, experiencing heightened anxiety and distress in everyday environments, or perceiving the world as more dangerous than before (McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995).

Existing research suggests that trauma-related impact varies across professional groups, with higher levels reported among women, younger, and less experienced clinicians, and those working with relational trauma or vulnerable client populations (Cleary et al., 2024; Crivatu et al., 2023; Endsjø et

al., 2024; Lev et al., 2022; Park et al., 2025; Miller Itay et al., 2023; Schwegler et al., 2025; Xu et al., 2024). However, much of this evidence is derived from studies using constructs and measures that are conceptually related to, but distinct from, VT, which limits the validity of their findings.

1.3 Conceptual Overlap and Conflated Terminology

The literature on trauma-related occupational distress is complex and characterised by considerable conceptual overlap. Terms such as *Burnout*, *Compassion Fatigue*, and *Secondary Traumatic Stress* are often used alongside VT, and sometimes interchangeably, despite representing theoretically distinct constructs (Hayes, 2013).

Burnout is broadly defined as a state of emotional exhaustion, depersonalisation, and reduced personal accomplishment resulting from chronic occupational stress (Demerouti et al., 2003). Although common within human services, burnout is not exclusive to trauma-related professions and can occur across any occupation where demands exceed resources (Leiter & Schaufeli, 1996).

Compassion Fatigue (CF) is conceptualised to occur amongst those serving in a helping capacity. It refers to the emotional depletion that arises from prolonged empathy and exposure to others' suffering (Figley, 1995; 1999; 2002; Sabin-Farrell & Turpin, 2003). It reflects the "cost of caring" for those in distress (Rothschild & Rand, 2006) and is often positioned as the negative counterpart to compassion satisfaction (Stamm, 2010).

Secondary Traumatic Stress (STS) focuses primarily on trauma-related symptoms arising from indirect exposure to clients' traumatic experiences (Figley, 1995). These symptoms mirror diagnostic criteria for Post-Traumatic-Stress-Disorder (PTSD) that can develop following experiences of direct trauma, including intrusive thoughts, avoidance, and hyperarousal (American Psychological Association [APA], 2000; Figley, 1995). Within the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders ([DSM-5] APA, 2013), diagnostic criteria for PTSD was expanded to include indirect exposure to trauma, providing formal recognition that trauma can occur vicariously through professional work.

Despite these conceptual similarities, VT is theorised to be uniquely disruptive due to its emphasis on durable cognitive changes that alter practitioners' personal beliefs and worldview (Figley, 1995; Kim et al., 2022; Caringi & Pearlman, 2009; Pearlman & Saakvitne, 1995). Whereas similar concepts may resolve with rest or organisational change (Sinsky et al. 2024), VT is thought to reflect deeper, cumulative shifts. Distinguishing VT from related constructs is essential because its consequences can extend beyond individual distress and have significant professional impact for practitioners (McNellie & Rose, 2020; Saakvitne & Pearlman, 1996), such as impact on decision-making, therapeutic relationships, and ultimately the quality of care provided (Barros et al., 2020; Hernandez-Wolfe et al., 2015; Moulden & Firestone, 2007; Trippany et al., 2004). VT has also been associated with increased absenteeism, reduced productivity, and broader systemic implications for service provision (Lonergan et al., 2004; Saakvitne & Pearlman, 1996). Accurate identification,

conceptual clarity, and robust measurement of VT are therefore critical for understanding its prevalence, mechanisms, and effects, and for developing effective prevention and intervention strategies for practitioners, clients, and services (Strange et al., 2021).

1.4 Measurement of Vicarious Trauma

Psychometric scales are essential tools for assessing psychological phenomena that cannot be directly observed (Boateng et al., 2018). However, measurement of VT has been hindered by aforementioned conceptual overlap within the literature and by adaptation of measures originally developed for related, but distinct, constructs such as Burnout, CF, or STS (Hayes, 2013; Najjar et al., 2009; Sabin-Farrell & Turpin, 2003). Widely used instruments include the Secondary Traumatic Stress Scale (STSS; Bride et al., 2004) that measures symptoms related to indirect exposure to traumatic events in professional relationships; and the Professional Quality of Life Scale (ProQOL-5; Stamm, 2010) that measures positive (compassion satisfaction) and negative (compassion fatigue, burnout, and secondary traumatic stress) aspects of professional quality of life. Whilst both measures have been validated to assess constructs similar to VT, they do not capture its full cognitive and relational dimension (Strange et al., 2021).

Researchers have also employed PTSD symptom checklists to explore VT, including the Trauma Symptom Checklist-40 (TSC-40; Elliot & Briere, 1992) and the Impact of Events Scale (IES and IES-R; Horowitz et al., 1979; Weiss & Marmar, 1997). Although useful for assessing trauma symptoms, these tools

were developed for direct trauma and do not assess schema changes central to VT (Strange et al., 2021).

The Trauma and Attachment Beliefs Scale (TABS; Pearlman, 2003) is the most widely cited tool intended to measure VT. Grounded in Constructivist Self-Development Theory (CSDT), the TABS assesses disruptions in beliefs related to safety, trust, esteem, intimacy, and control (McCann & Pearlman, 1990; 1992; Pearlman & Saakvitne, 1995). However, multiple conceptual and methodological critiques have been raised (Strange et al., 2021). For example, the TABS was adapted from earlier scales including the Traumatic Stress Institute Belief Scale Revision L (TSIBS-RL; Pearlman, 1996), and the McPearl Belief Scale (MBS; McCann & Pearlman, 1990a). Both earlier versions were originally developed to assess belief changes in people that had experienced direct trauma as opposed to indirect or vicarious trauma. Data norms and references for the TABS still come from the TSIBS, despite measuring different constructs and only 25% of current TABS items being carried over from previous versions (Buchanan et al., 2016; Pearlman, 2003). Additionally, the reference-value scoring of the TABS assumes that clinicians' belief systems are distinct from clients', an assumption not supported by empirical evidence (Pearlman & McCann, 1995; VanDeusen & Way, 2006; Way et al., 2007). Furthermore, factor-analytic studies have produced inconsistent structures of the TABS, raising questions about construct validity (Buchanan et al., 2016; Millard, 2015; Varra et al., 2008). The scale also excludes trauma-related symptoms despite acknowledgement that these form a key feature of VT (Pearlman & Saakvitne, 1995).

Alternative measures, such as the Vicarious Trauma Scale (VTS; Vrkleviski & Franklin, 2008), focus on distress related to working with traumatised clients but omit theoretically important cognitive shifts. The VOTE Index (Stelson et al., 2024) emphasises current sources, frequency, and severity of exposure to trauma within the workplace, but fails to capture cumulative impact, a core feature of VT (Stelson et al., 2024). Furthermore, the authors recommend concurrent use of additional measures (i.e. the STSS) to supplement the VOTE Index (Stelson et al., 2024). These limitations in existing measures reflect insufficient ability to fully represent the construct of VT.

Most VT studies rely on cross-sectional designs, limiting understanding of how VT persists or evolves over time (Hernandez-Wolfe et al., 2015; McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995; Sprang et al., 2019). Furthermore, many existing measures used to assess VT or related constructs have been criticised for their length and burden, which can limit their feasibility in demanding clinical and organisational environments (Aparicio et al., 2013). For example, the TABS consists of 84 items, creating a substantial burden for busy practitioners. This could be particularly problematic in occupational groups already experiencing high workloads, emotional fatigue, and stress. Lengthy scales can lead to reduced completion rates, lower engagement, and increased measurement error due to respondent fatigue (Egleston et al., 2011; Ghafourifard, 2024).

Collectively, these limitations underscore need for a targeted, conceptually coherent, and psychometrically robust measure of VT that can be

used efficiently in real-world settings without adding to practitioners' already significant demands.

1.5 The Trent Measure of Vicarious Trauma

In response to these issues, Strange et al. (2021) developed the Trent Measure of Vicarious Trauma (TMVT; Appendix C) using a Delphi methodology to integrate expert consensus with empirical evidence. The process generated a comprehensive 146-item pool reflecting both cognitive changes and trauma-related symptoms associated with VT that were gathered from existing measures and novel proposal from experts. Initial psychometric evaluation with a sample of UK practitioners identified a 13-item, two-factor structure of Impact on Individual (II) and Dangerous World (DW). This structure aligns with VT's theoretical foundations and distinguishes it from constructs such as Burnout or STS by representing vicarious re-experiencing, distress, and altered beliefs about safety and the world (Figley, 1995; Strange et al., 2021).

Although the TMVT demonstrated promising preliminary validity and internal consistency, Strange et al. (2021) also found overlap with related constructs, consistent with broader difficulties in conceptually isolating VT. These findings supported existing concerns about the ability to fully separate concepts (such as Burnout, CF, and STS) and indicated that some may experience more than one form of distress when working with clients that have experienced trauma (Strange et al., 2021). However, the TMVT has to date undergone only initial exploratory analysis and as such, comprehensive validation is required to establish its' psychometric robustness.

Both Boateng et al.'s (2018) structural frameworks of best practices and the COnsensus-based Standards for the selection of health Measurement Instruments Study Design Checklist (COSMIN-SDC³, Mokinkk et al., 2019) recommend that next steps for scale evaluation should include tests of dimensionality (e.g. Confirmatory Factor Analysis; CFA), reliability (e.g. internal consistency, test-retest reliability), and validity (e.g. criterion and construct validity). These steps are critical to determine whether the TMVT can serve as a reliable and valid tool for assessing VT among helping professionals and for supporting future research, policy development, and workforce wellbeing initiatives.

2. Rationale

Due to the potential negative impact of VT, concerns around existing measures of the construct, and ability to fully separate related concepts, there is rationale to further develop the TMVT as a new measure of VT. A psychometrically robust measure would help to accurately identify VT amongst practitioners so that appropriate individual and systemic interventions could be considered. To substantiate Strange et al.'s (2021) preliminary findings, the TMVT requires additional testing within a framework of best practice guidelines for scale evaluation.

³ Throughout this thesis portfolio, the COSMIN Study Design Checklist is referred to as the COSMIN-SDC to avoid ambiguity and to distinguish it from the wider collection of published COSMIN guidelines.

3. Aims

The current research aims to further evaluate the TMVT's psychometric properties by completing the next steps of scale evaluation recommended in the COSMIN-SDC and Boateng et al.'s (2018) best practice framework, including tests of:

1. Dimensionality: undertaking CFA on the previously hypothesised 13-item, two-factor TMVT with a larger, independent sample of UK helping professionals;
2. Reliability: establishing the TMVT's stability over time by incorporating a test-retest component alongside internal consistency measures;
3. Validity: evaluating the TMVT's relationship with theoretically related constructs of personal and interpersonal impact (including burnout, and general and psychological wellbeing).

4. Method

4.1 Design

A quantitative, deductive psychometric validation design was employed to examine the factor structure, reliability, and construct validity of the Trent Measure of Vicarious Trauma (TMVT; Strange et al., 2021). The study was designed to evaluate whether the proposed latent structure of the TMVT could be replicated within an independent sample, alongside further assessment of the measure's psychometric performance.

The primary study variables were participants' TMVT total scores and subscale scores, specifically the dimensions of Impact on Individual (II) and Dangerous World (DW). These variables were examined to assess the

structural validity of the measure through Confirmatory Factor Analysis, as well as its internal consistency and temporal stability.

To assess construct validity, TMVT scores were examined in relation to theoretically relevant comparator variables measured using established self-report instruments. These included constructs expected to demonstrate convergent associations with VT, reflecting conceptual overlap, as well as theoretically distinct constructs included to evaluate discriminant validity. Occupational trauma exposure was also examined as a contextual variable, given its theoretical relevance to the development of VT. See 4.4 Measures for detailed breakdown of convergent and divergent variables.

A longitudinal repeated-measures component was incorporated to assess test–retest reliability, whereby TMVT scores were collected at two time points (T1 and T2) separated by a two-week interval, consistent with psychometric recommendations for evaluating temporal stability (Streiner et al., 2015).

Data were collected using a secure online survey administered via QuestionPro Survey Software and distributed through Prolific (see Recruitment). Following data collection, responses were exported to IBM Statistical Package for the Social Sciences (SPSS) for preliminary screening and statistical analysis, with psychometric analyses conducted using the statistical procedures outlined below.

4.2 Epistemology

The present study holds the view that concepts such as VT exist due to shared theoretical understandings of the world with acceptance that there will be variations of individual realities (e.g. contexts, experiences, appraisals, perceptions). This epistemological position aligns with that of Critical Realism (CR) which emphasises that knowledge about the reality of a concept is based on practical engagement with and collective appraisal of that concept socially, historically, and theoretically (Bhaskar & Danermark, 2006; Maxwell, 2012; Uher, 2018). CR also posits that whilst there may be an objective reality, there are multiple interpretations of that reality and as such, knowledge is relative and subjective (Bhaskar, 2013) as well as partial and changeable (Albert et al., 2020). Constructs such as VT are therefore only accessible through socially mediated accounts and fallible measurement tools (Bhaskar, 2008; Fletcher, 2017; Maxwell, 2012).

The COSMIN-SDC standards and Boateng et al.'s (2018) best-practice framework both support a CR approach by combining robust psychometric evaluation with theoretically informed scale development, ensuring that the TMVT approximates the underlying causal structure of VT as closely as possible (De Vet et al., 2011; Streiner, 2003). Furthermore, CSDT also aligns with CR by viewing VT as emerging from real causal processes, interpreted through socially constructed cognitive schemas (Bhaskar, 1978; McCann & Pearlman, 1990; 1992).

4.3 Participants

4.3.1 Eligibility Criteria. Participants were required to meet replicable inclusion criteria to be eligible to participate in the study, outlined in Table 7.

Table 7

Inclusion and exclusion criteria

<i>Time One (T1)</i>		
Inclusion criteria	Exclusion criteria	Prolific custom screeners
At least one year's experience of working as a helping professional who is exposed to the [psychological] trauma narratives of clients as part of their job	Currently in receipt of intervention(s) for psychological health and/or trauma ⁶	UK location ¹ Subject [Counselling, Health and Medicine, Law, Medicine, Nursing, Psychology, Social Work]
Based in the UK ¹		
Over the age of 18 years old ^{2, 3}		
Provide informed consent ²		
Sufficient understanding of written English ⁴		
Have access to a device with internet ⁵		
<i>Time Two (T2)</i>		
Inclusion criteria	Exclusion criteria	Prolific custom screeners
Completed the survey at T1 ⁷		Completed the survey at T1 ⁷
Confirm that they still meet the eligibility criteria from T1 ^{2, 7}		

Notes.

¹ To minimise potential extraneous variables that may be caused by location e.g. clinical guidelines, service provision; to provide continuity with Strange et al.'s [2021] earlier validation research; and to allow the present research to have relevance and impact within the location and context that the TMVT was developed.

² To satisfy ethical approval.

³ Legal requirement of eligible practitioner roles.

⁴ To allow for full participation.

⁵ To be able to access and complete the study online.

⁶ As this might mitigate against the impact of VT and could skew data and results.

⁷ So that test-retest reliability analysis can be completed in line with the study aims.

4.3.2 Recruitment. Participants were recruited from a community, non-clinical sample through Prolific paid survey platform due to its propensity to recruit large numbers of representative participants in a timely way. Peer et al. (2022) found that Prolific produced significantly higher data quality (i.e. attention, comprehension, honesty, and reliability) than other survey platforms.

4.3.3 Compensation. Participants were compensated in accordance with Prolific's payment principles and upon completion of T1 and T2 to increase attrition rate (Appendix D).

4.3.4 Sampling. At T1, purposive sampling targeted Prolific advertisement towards registered members with specified characteristics of inclusion criteria and filtered by representative characteristics. Custom screening settings ensured that the survey was only distributed to participants located in the UK.

Participants were pre-screened to ensure adherence to the eligibility criteria of having at least one year's work experience as a helping professional. Additional custom screening measures ensured that distribution only included those registered on Prolific as experienced in areas deemed most representative of helping professions (e.g 'Psychology' was included, 'Personal Trainer' was excluded).

Eligible participants self-selected and provided informed consent to participate. Upon opening the survey link, participants were again asked to confirm that they met required eligibility criteria as part of additional screening which automatically terminated the survey if participants responded 'no'. Inclusion and exclusion criteria were outlined for a further time on the participant consent form prior to commencing the survey.

Purposive and self-selected sampling were used to send the T2 survey directly to participants that had completed T1.

4.3.5 Sample size. CFA requires large samples (DeVellis, 2017; Kline, 2016). For the two-factor, two-indicator structure of the TMVT hypothesised by Strange et al. (2021), a prospective sample size for CFA within the current study needed to be greater than 400 to be a 'good' sample size for factor analysis (Comrey & Lee, 1992). To adhere to Prolific's ethical payment principles and to remain within budget, the present study could compensate 425 participants to complete both test-retest parts of the survey (see Appendices 3 and 4 for cost breakdowns and invoices). Final sample size for T1 was 418, of which 318 returned to complete T2.

4.4 Measures

At T1, participants completed a demographic questionnaire including age, profession, years of experience, identified gender, and identified ethnicity to facilitate contextual understanding of the research findings.

Participants were then required to complete the TMVT and additional self-report measures to assess whether the TMVT converged with measures of theoretically related variables, diverged from measures of theoretically distinct variables, and correlated in expected direction with established outcome measures of psychological distress. These included:

- Depression Anxiety Stress Scales–21 (DASS-21; Lovibond & Lovibond, 1995; Henry & Crawford, 2005)
- EuroQOL Five Dimension, Five Level Version (EQ-5D-5L; Herdman et al., 2011 – mobility item only)
- Professional Quality of Life Scale–5 (ProQOL-5; Stamm, 2010)
- Oldenburg Burnout Inventory (OLBI; Demerouti et al., 2003)
- Short Warwick–Edinburgh Mental Wellbeing Scale (SWEMWBS; Stewart-Brown et al., 2009)
- Life Events Checklist for DSM-5 (LEC-5; Weathers et al., 2013).

See Table 8 for details of use and psychometric properties.

Table 8*Psychometric Properties and Use of Measures in the Present Study*

Measure (Author)	Aim	No. of items, subscales	Sample item	Item scaling	Directionality	Psychometric Properties	Validity role in present study	Prediction
TMVT (Strange et al., 2021)	Capture the subjective experiences of VT amongst helping professionals that are cumulatively exposed to client accounts of trauma	13 items 2 subscales: Impact on Individual (II); Dangerous World (DW)	'I feel cut off from people'	Five-point Likert scales Frequency (from 0: 'Never' ¹ to 4: 'Always') Intensity (0: 'Not At All' to 4: 'Extremely')	Higher scores indicate greater VT	<u>Validity</u> Moderate to Strong correlations with theoretically related constructs (Strange et al., 2021). <u>Reliability</u> Impact on Individual $\alpha=.84$ and Dangerous World $\alpha=.88$; Strange et al., 2021). <u>Test-Retest</u> Not yet established (present study adds test-retest)	Focal construct to be tested against convergent and divergent measures	-

Measure (Author)	Aim	No. of items, subscales	Sample item	Item scaling	Directionality	Psychometric Properties	Validity role in present study	Prediction
DASS-21 (Lovibond & Lovibond, 1995; Henry & Crawford, 2005)	Measures severity of depression, anxiety, and stress symptoms	21 items 3 subscales: Depression, Anxiety, Stress	'I found myself getting agitated'	Four-point Likert scale: 0: 'Did not apply to me at all' to 3: 'Applied to me very much or most of the time').	Higher scores indicate greater distress	<u>Validity</u> Moderate to Strong relationships with other measures of depression, anxiety, and stress (Brown et al., 1997). <u>Reliability</u> Good internal reliability (.82-.97; Henry & Crawford, 2005; Lovibond & Lovibond, 1995). <u>Test-Retest</u> Stable across 2–4 week intervals (Antony et al., 1998).	Convergent	Higher VT on the TMVT will correlate with higher depression, higher anxiety, and higher stress on the DASS-21

Measure (Author)	Aim	No. of items, subscales	Sample item	Item scaling	Directionality	Psychometric Properties	Validity role in present study	Prediction
EQ-5D-5L (Herdman et al., 2011) Mobility item only ²	Measure health-related quality of life	5 items/ subscales: mobility, self-care, usual activities, pain/ discomfort, and anxiety/ depression.	'I have no problems in walking about'	Five-point Likert scale: 'no problems' to 'extreme problems'	Higher scores indicate greater severity of health problems.	<u>Validity</u> Systematic review reported validity as full scale and subscales across populations (Feng et al., 2021). <u>Reliability</u> Excellent scale agreement (ICC, Feng et al., 2021). <u>Test-Retest</u> Good–excellent (Feng et al., 2021)	Divergent (mobility)	VT on the TMVT will not correlate with physical mobility on the EQ-5D-5L.
ProQOL-5 (Stamm, 2010) ³	Measure work-related stress and professional quality of life	30 items 3 subscales: Compassion Satisfaction (CS), Burnout	'I feel "bogged down" by the system'	Five-point Likert Scale: 'Never' (1) to 'Very Often' (5).	Higher subscale scores indicate higher CS, higher BO,	<u>Validity</u> Strongly correlated with scales of workplace wellbeing	Convergent (BO, STS) Divergent (CS)	Higher VT scores on the TMVT will correlate with lower CS, higher

Measure (Author)	Aim	No. of items, subscales	Sample item	Item scaling	Directionality	Psychometric Properties	Validity role in present study	Prediction
	in helping professions.	(BO), Secondary Traumatic Stress (STS)			and higher STS	and distress (Geoffrion et al., 2019). <u>Reliability</u> CS $\alpha = .88$; BO $\alpha = .75$; STS $\alpha = .81$ (Stamm et al., 2010) <u>Test-Retest</u> High correlations over 3 weeks for each subscale: BO $r \approx .97$; STS $r \approx .94$; CS $r \approx .97$ (Misouridou et al., 2021)		BO, and higher STS on the ProQOL-5.
OLBI (Demerouti et al., 2003)	Measure personal and interpersonal aspects of occupational distress	16 items 2 subscales: Exhaustion (physical, affective, cognitive), Disengagement	'One can become disconnected from this type of work'	Four-point Likert scale: 'Strongly agree' (1) to 'Strongly disagree' (4)	Higher scores indicate greater degree of burnout	<u>Validity</u> Excellent validity based on strong correlations with other measures of burnout	Convergent	Higher VT on the TMVT will correlate with higher exhaustion and higher disengagement

Measure (Author)	Aim	No. of items, subscales	Sample item	Item scaling	Directionality	Psychometric Properties	Validity role in present study	Prediction
		t (distancing and negative attitudes)				(Halbesleben & Demerouti, 2005). <u>Reliability</u> $\alpha > .70$ (Halbesleben & Demerouti, 2005) <u>Test-Retest</u> Demonstrated across time		ent on the OLB.
SWEMWBS (Stewart-Brown et al., 2009)	Captures general emotional and mental wellbeing and psychological functioning	7 items	'I've been feeling useful'	Five-point Likert scale: 'None of the time' (1) to 'All of the time' (5).	Higher scores represent greater levels of positive wellbeing	<u>Validity</u> Strong correlations found good construct, convergent, and divergent validity (Koushede et al., 2019). <u>Reliability</u> $\alpha = .84$ (Ng Fat et al., 2017)	Divergent	Higher VT on the TMVT will correlate with lower wellbeing and psychological functioning on the SWEMWS

Measure (Author)	Aim	No. of items, subscales	Sample item	Item scaling	Directionality	Psychometric Properties	Validity role in present study	Prediction
						<u>Test-Retest</u> High at one week (0.83 for full 14-item scale; Tennant et al., 2007).		
LEC-5 (Weathers et al., 2013)	Screen for individual lifetime exposure to objectively traumatic events	17 items	'Fire or Explosion'	Six- point scale of 'Happened to me', 'Witnessed it', 'Learned about it', 'Part of my job', 'Not sure', 'Doesn't apply'	Higher scores indicate higher frequency and closer proximity to traumatic events	No standardised way to interpret or evaluate the LEC-5 due to not being a unidimensional measure of a single, latent construct (each item represents a heterogeneous concept; Netland, 2001; Tavakol & Dennick, 2011).	Response items will be analysed collectively and separately ('part of my job') Divergent (used as a full scale of objective exposure vs subjective VT) Convergent ('Part of my job' responses)	Higher VT scores on the TMVT will have strongest positive correlations with 'Part of my job' responses on the LEC-5.

Notes.

TMVT= Trent Measure of Vicarious Trauma (Strange et al., 2021); LEC-5 = Life Events Checklist for DSM-5 (Weathers et al., 2013); EQ-5D-5L= EuroQOL Five Dimension, Five Level Version (Herdman et al., 2011); ProQOL-5= Professional Quality of Life Scale–5 (Stamm, 2010); OLBI= Oldenburg Burnout Inventory (Demerouti et al., 2003); SWEMWBS= Short Warwick–Edinburgh Mental Wellbeing Scale (Stewart-Brown et al., 2009); DASS-21= Depression Anxiety Stress Scales–21 (Lovibond & Lovibond, 1995; Henry & Crawford, 2005)

¹ As proposed by Strange et al. (2021), if participants select ‘Never’ for frequency on a TMVT item, the survey omits access to the severity component of the same item and instead automatically redirects them to the next item.

² EQ5D5L Only the mobility item of the EQ-5D-5L was used to assess divergent validity within the present study, in the same way that Golijani-Moghaddam et al. (2023) used it to good effect to assess divergent validity with the construct of psychological flexibility.

³ Strange et al. (2021) used the ProQOL-5 in both the development and testing phases of the TMVT as it captures theoretically related, but distinct, constructs to VT.

4.5 Procedure

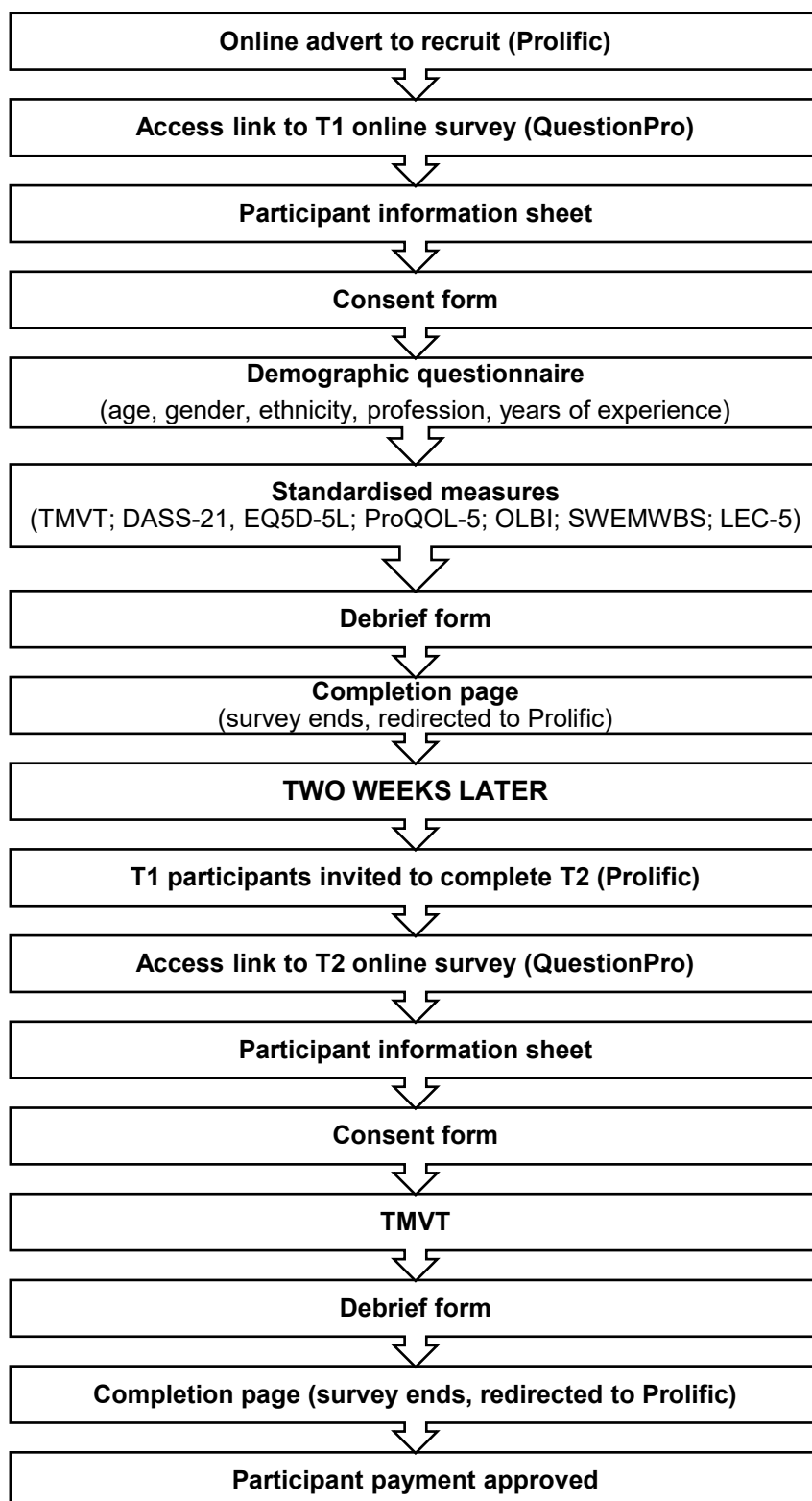
Time One (T1). Standardised study description and recruitment materials were published on Prolific (Appendix F) with a redirection link to the survey on QuestionPro.

As an additional failsafe for screening on Prolific, the first page of the survey questioned 'Are you exposed to the [psychological] trauma narratives of clients as part of your job as a helping professional?'. If participants responded 'yes' then they were permitted to continue with the survey, however if they selected 'no', their session was terminated due to not meeting required inclusion criteria.

Participants were then presented with an information sheet (Appendix F) and consent form (Appendix G) before proceeding to the demographic questionnaire (Appendix H) the TMVT, and the measures outlined above.

Time Two (T2). Two weeks after completing T1, participants were contacted through Prolific (Appendix I) with the second survey consisting of only the TMVT. The mean interval between T1 and T2 completion was 19.3 days (SD = 5.4), with a median interval of 18.3 days.

The complete procedure is summarised in Figure 2.

Figure 2*Participant procedure (T1 and T2)*

4.6 Ethics

Participants were required to provide informed consent and were assured of principles of anonymity, confidentiality, voluntary participation, withdrawal processes and unanticipated but potential risks due to content (British Psychological Society [BPS], 2021). Formal ethical approval was obtained from the University of Lincoln's Research Ethics Committee (Appendix J). All participant data was electronically and securely collected, stored, used, disseminated, and destroyed in line with the UK General Data Protection Regulation (UK GDPR) and the UK Data Protection Act 2018 (DPA).

4.7 Data Analysis

Raw data was downloaded from QuestionPro and cleansed in Microsoft Excel, including reverse and conversion scoring. Data was then imported into SPSSv.31 (and SPSS AMOSv.30 for CFA). All analyses adhered to COSMIN-SDC and Boateng et al.'s (2018) recommendations for tests of dimensionality, validity, and reliability in scale evaluation as outlined in the study aims. Analyses were independently reproduced by a second researcher using the same dataset and analytic decisions, in line with APA quantitative reporting standards (Appelbaum et al., 2018).

5. Results

5.1 Removal of invalid data

Prolific allowed for automatic rejection of ineligible participants, invalid or empty responses, and unrealistic completion times. These were manually

inspected prior to removal from the dataset before commencing analysis to safeguard data quality and validity (Peer et al., 2022).

5.2 Normality Testing

Parametric correlations and CFA with large sample sizes ($N > 300$) are considered robust to deviations of normality (Comrey & Lee, 1992; Fagerland & Sandvik, 2012; Kline, 2016). However, COSMIN-SDC and Boateng et al.'s (2018) guidelines both emphasise model-based evaluation over perfect distributional assumptions or reliance on standalone normality or significance testing (e.g. Kolmogorov-Smirnov & Shapiro-Wilk, Field, 2018).

Consistent with guidance, continuous scales and subscales (TMVT, ProQOL-5, OLBI, SWEMWBS, DASS-21) were evaluated through visual inspection of histograms and boxplots, and Skewness/Kurtosis calculations. Values were all within acceptable visual and statistical ranges for approximate univariate normality (skewness between -1 and $+1$; kurtosis between -2 and $+2$) and therefore appropriate for parametric and CFA analyses.

5.3 Univariate and Multivariate Outliers

Extreme responses or 'outliers' are expected within large datasets of measures designed to capture a wide range of responses (Field, 2018; Wada, 2020). Univariate outliers were examined using standardized z-scores (± 3.29 criterion; Tabachnick & Fidell, 2019). Some cases ($N=23$) exceeded the ± 3.29 threshold but all values were below ± 4 and fell within plausible participant variability ranges for psychological scale scores (Mokkink et al., 2019). No values represented data-entry errors or impossible totals as these had been

removed during initial data cleansing. In line with COSMIN-SDC guidance to retain valid participant responses and avoid artificially constraining variability, these cases were not removed, and all data was retained for subsequent analyses.

Mahalanobis distance identified 10 cases of potential multivariate outliers that exceeded the $\chi^2(8, p<.001)$ cutoff of 26.12 for chance (Tabachnick & Fidell, 2019). Manual inspection indicated that these cases fell within valid response ranges for each scale and subscale, thus representing plausible psychological profiles rather than data-entry errors or impossible combinations (i.e. high and low symptom scores were consistent across measures). In accordance with COSMIN-SDC, these cases were retained for analysis to preserve construct variability and avoid artificial restriction of variance.

5.4 Participant Demographics

After removing ineligible and invalid responses (N=103), 418 participants completed T1 of the study. Most participants (N=318, 76.1%) completed T2 for test-retest reliability analysis.

Analyses of differences were conducted to evaluate potential attrition bias by comparing demographics of participants who returned to complete T2 with those who did not. There were no statistically significant differences between time points which suggested that attrition was not systematically related to any measured demographic characteristic.

Participant demographic information is displayed in Table 9.

Table 9*Participant Demographics at Time 1, Retained Sample at Time 2, and Difference Testing*

Variable	T1 (N = 418)	T2 (N = 318)	Difference Test
Age (years)			
Mean (SD)	32.26 (9.03)	32.61 (8.88)	$t(416) = -1.41, p = .159$
Range	19–71	19–64	—
Gender identity, N (%)			$\chi^2(4) = 5.85, p = .210$
Female (incl. trans woman)	341 (81.6)	257 (80.8)	
Male (incl. trans man)	61 (14.6)	47 (14.8)	
Non-binary	12 (2.9)	11 (3.5)	
Identity not listed	3 (0.7)	3 (0.9)	
Prefer not to say	1 (0.2)	0 (0)	
Ethnic identity, N (%)			$\chi^2(20) = 22.66, p = .306$
Welsh/English/Scottish/Northern Irish/British	300 (71.8)	234 (73.6)	

Variable	T1 (N = 418)	T2 (N = 318)	Difference Test
African	25 (6.0)	18 (5.7)	
Pakistani	12 (2.9)	9 (2.8)	
Mixed/multiple background	11 (2.6)	8 (2.5)	
Indian	10 (2.4)	9 (2.8)	
Other ethnic groups ¹	56 (13.4)	26 (8.2)	
Years of experience, N (%)			$\chi^2(6) = 6.17, p = .404$
<2	85 (20.3)	64 (20.1)	
2–4	166 (39.7)	129 (40.6)	
5–9	99 (23.7)	69 (21.7)	
10–14	39 (9.3)	32 (10.1)	
15–19	14 (3.3)	13 (4.1)	
20+	13 (3.1)	10 (3.1)	
Prefer not to say	2 (0.5)	1 (0.3)	
Subject area ² , N (%)			$\chi^2(5) = 3.78, p = .582$
Health & Medicine ³	124 (29.7)	91 (28.6)	

Variable	T1 (N = 418)	T2 (N = 318)	Difference Test
Psychology ⁴	107 (25.6)	84 (26.4)	
Nursing ⁵	68 (16.3)	49 (15.4)	
Counselling ⁶	51 (12.2)	41 (12.9)	
Law ⁷	35 (8.4)	25 (7.9)	
Social Work ⁸	33 (7.9)	28 (8.8)	

Notes.

¹ Including Caribbean, Chinese, Arab, Filipino, Latin American, Nepalese, Taiwanese, and other groups with ≤1.7% representation.

² As listed and custom screened for on Prolific.

³ Professional role titles included Psychiatrist, Paramedic, General Practitioner.

⁴ Professional role titles included Clinical Psychologist, Psychotherapist, Assistant Psychologist.

⁵ Professional role titles included Staff Nurse, Midwife, Mental Health Nurse.

⁶ Professional role titles included Counsellor, Trainee Counsellor, Wellbeing Advisor.

⁷ Professional role titles included Police Officer, Solicitor, Probation Officer.

⁸ Professional role titles included Social Worker, Health Visitor, Support Worker.

5.5 Dimensionality

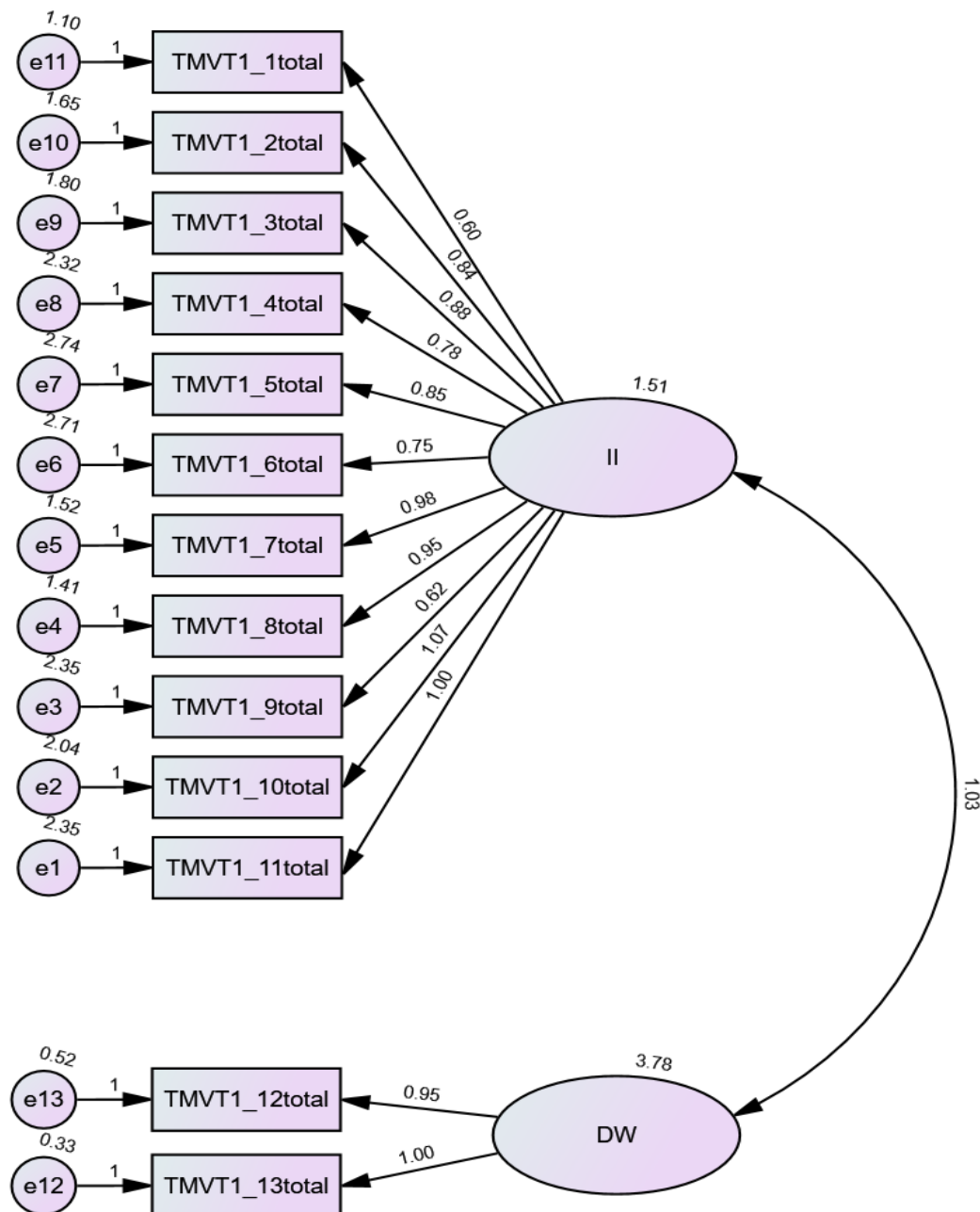
5.5.1 Confirmatory Factor Analysis. Building on initial Exploratory Factor Analysis (EFA) and in line with best practice guidance (Boateng et al., 2018; Mokkink et al., 2019), CFA was conducted to test the two-factor structure proposed by Strange et al. (2021). All items loaded significantly onto their hypothesised factors with no cross-loading items, supporting the a priori two-factor structure proposed by Strange et al. (2021). Cross-loadings were examined during the preceding EFA but in the present study were constrained to zero in accordance with standard CFA model specification and were therefore not empirically estimated within this analysis.

The latent correlation between II and DW was .43, supporting empirical distinction between dimensions of worldview disruption and individual emotional/behavioural impact.

Figure 3 presents the unstandardised CFA path diagram generated in AMOS.

Figure 3

Confirmatory Factor Analysis (CFA) Model for the 13-Item Trent Measure of Vicarious Trauma (TMVT) showing unstandardised regression weights for the two-factor TMVT structure.



Notes. Unstandardised regression weights are shown on each path. Circles represent error variances, rectangles represent observed indicators, and ovals represent latent constructs (II = Impact on Individual; DW = Dangerous World). Standardised factor loadings are reported in Table 10.

5.5.2 Model Fit. The hypothesised two-factor model demonstrated an acceptable-to-good overall fit to the data, with fit indices meeting or approaching recommended cut-offs $\chi^2(64)=192.16$, $p < .001$, $\chi^2/df = 3.00$, (CFI=.94, TLI=.93, GFI =.93, RMSEA=.069).

5.5.3 Standardised Factor Loadings. The DW factor showed very strong item loadings (.93–.96), indicating excellent alignment between the items and the construct. In contrast, item loadings for the II factor ranged from .44 to .70. Several items demonstrated moderate loadings (.53–.63), while others showed weaker associations with the latent construct (e.g., Item 9: .44; Item 6: .49). This pattern suggests that the II construct is more heterogeneous, with some items capturing the factor more strongly than others.

Cross-loadings were not estimated because they were constrained to zero within the specified CFA model. Evidence for factor distinctiveness was instead provided by the moderate latent correlation between factors ($r = .43$) and satisfaction of the Fornell-Larcker criterion ($\sqrt{AVE_{II}} = .58$; $\sqrt{AVE_{DW}} = .95 > r = .43$), supporting discriminant validity (see 5.5.6).

5.5.4 Item Reliability (Squared Multiple Correlations). SMCs indicated excellent reliability for DW items ($R^2=.87$ and $.92$), meaning that most of their variance was explained by the latent factor. II items showed variable reliability that were mostly adequate to weak ($R^2=.20$ – $.49$). Items 7, 8, and 10 performed strongly, whereas several items (items 4, 5, 6, 9) exhibited lower reliability, reflecting the broader and more complex nature of the II dimension.

5.5.5 Latent Factor Correlation. The latent correlation between II and DW was moderate ($r=.43$). This indicates that while the factors are related, they

remain empirically distinct. The two constructs therefore measure different aspects of VT.

5.5.6 Composite Reliability and Average Variance Extracted.

Composite reliability was adequate for II (CR=.67) and good for DW (CR=.81), suggesting that II items are reasonably consistent at measuring the factor, but not as strongly as DW items.

AVE values suggested strong convergent validity for the DW factor (AVE=.89) but weaker convergent validity for II (AVE=.34), suggesting that II items have greater variability in how strongly they capture the heterogeneous experiences of the construct.

Discriminant validity was supported, with the square root of each factor's AVE exceeding the inter-factor correlation ($\sqrt{\text{AVE_II}}=.58$; $\sqrt{\text{AVE_DW}}=.95 > r=.43$), in line with the Fornell–Larcker criterion.

5.5.7 Overall Measurement Evaluation. CFA supported Strange et al.'s (2021) two-factor structure of the TMVT in this sample. The DW factor performed strongly across all indicators, whereas the II factor showed more variability in item performance, reflecting the complexity of the construct. The two factors were moderately related but clearly distinct, which aligns with the theoretical structure of the TMVT and wider VT literature. Despite weaker performance for some II items, the overall model fit and factor separation were acceptable, and the overall structure aligned with Strange et al.'s (2021) findings, thus providing support for the two-factor TMVT structure with this sample (see Table 10).

TABLE 10*Summary of CFA Loadings, Item Reliability, and Factor Validity*

Item	Factor	Loading (λ)	Interpretation ¹	R ² (SMC)	Interpretation ²
1. I have been affected by the traumatic stress of [clients] I have worked with	II	.56	Good	.33	Moderate
2. I find it difficult to separate my personal life from my professional life	II	.63	Good	.39	Moderate
3. It is hard to stay positive and optimistic given some of the things I encounter	II	.63	Good	.39	Moderate
4. I am overwhelmed by worries about the safety of [clients] I have worked with	II	.53	Good	.29	Weak
5. I feel cut off from people	II	.53	Good	.28	Weak
6. I want to avoid working with some [clients]	II	.49	Acceptable	.24	Weak
7. I think about my work with [clients] when I don't intend to	II	.70	Excellent	.49	Moderate
8. I find myself thinking about distressing material related to my work with [clients] at home	II	.70	Excellent	.49	Moderate
9. I avoid people, places, or things that remind me of my work with [clients]	II	.44	Acceptable	.20	Weak
10. I feel worn out because of my work with [clients]	II	.68	Good	.46	Moderate

Item	Factor	Loading (λ)	Interpretation ¹	R ² (SMC)	Interpretation ²
11. Sometimes I feel helpless to assist [clients] in the way I would like	II	.63	Good	.39	Moderate
12. I believe the world is dangerous	DW	.93	Excellent	.87	Substantial
13. I see the world as a dangerous place	DW	.96	Excellent	.92	Substantial

Factor-level Indices	Factor	CR	AVE	$\sqrt{\text{AVE}}$	r
Impact on Individual	II	.67	.34	.58	.43
Dangerous World	DW	.81	.89	.95	

Notes. II= Impact on Individual, DW= Dangerous World, CR= composite reliability, AVE= average variance extracted.

¹ Factor loading cut-offs: <.40= possibly problematic; .40-.49= acceptable; .50-.69= good; $\geq$.70= excellent (Hair et al., 2019).

² Reliability of item variance cut-off: <.30= weak; .30-.49= moderate; $\geq$.50= substantial (Hair et al., 2019).

5.6 Reliability (T1)

Reliability of the TMVT at T1 was assessed through internal consistency (Cronbach's alpha and corrected item-total correlations) for the full scale and subscales.

The full TMVT demonstrated good internal consistency ($\alpha=.86$). Corrected item-total correlations ranged from .42 to .63, indicating that all items contributed meaningfully to the total scale score. No item deletion would have improved alpha (.85 to .86), suggesting that the scale was functioning cohesively as a 13-item measure. Item distributions showed appropriate variability, with means and standard deviations indicating no floor or ceiling effects. Overall, the TMVT showed strong internal reliability at baseline.

The II subscale demonstrated good reliability ($\alpha=.85$). Corrected item-total correlations ranged from .47 to .62, all within acceptable-strong ranges. Alpha if item deleted values (.84–.85) indicated strong internal coherence. No items displayed problematic performance.

The DW subscale showed excellent internal consistency given its two-item structure ($\alpha=.94$). Corrected item-total correlations were extremely high ($r=.89$), indicating tightly focused measurement of Dangerous World beliefs.

All psychometric measures administered at T1 demonstrated acceptable-to-excellent internal consistency as measured using Cronbach's alpha (Table 11). These outcomes indicate strong reliability across constructs and confirm suitability for use in subsequent testing of validity and dimensionality (Boateng et al., 2018).

Table 11*Internal Consistency Reliability for all T1 scales and subscales*

Scale / Subscale	Items	Cronbach's α	Interpretation ¹
TMVT	13	.86	Good
Impact on Individual	11	.85	Good
Dangerous World	2	.94	Excellent
DASS-21	21	.95	Excellent
Depression	7	.95	Excellent
Anxiety	7	.87	Good
Stress	7	.89	Good
ProQOL-5 Compassion Satisfaction	10	.91	Excellent
ProQOL-5 Burnout	10	.80	Good
ProQOL-5 Secondary Traumatic Stress	10	.83	Good
OLBI	16	.85	Good
Disengagement	8	.73	Acceptable
Exhaustion	8	.80	Good
SWEMWBS	7	.89	Good
LEC-5 Total Exposure ²	17	.85	Good

Notes.

¹Interpretive guidelines: $\geq .70$ = Acceptable; $\geq .80$ = Good; $\geq .90$ = Excellent (George & Mallery, 2019).

²While reliability is not typically emphasised for exposure checklists (Weathers et al., 2013) the LEC-5 was scored as a full-scale objective exposure count as part of validity testing in the present study.

5.7 Validity

Validity analyses were conducted using Pearson correlations to examine the relationships between continuous variables and for point-biserial correlations involving dichotomous variables (e.g. LEC-5 item responses;

Cohen et al., 2013). All associations between the TMVT and other measures were consistent with predictions and demonstrated a theoretically coherent validity profile for the TMVT.

5.7.1 Convergent Validity. TMVT total scores demonstrated moderate-to-strong positive associations with theoretically related constructs.

The TMVT correlated strongly with symptoms of emotional distress as measured by the DASS-21. Higher TMVT demonstrated significant positive associations and correlated strongly with the DASS-21 total score ($r=.65$, $p<.001$) and all subscales of depression ($r=.57$), anxiety ($r=.55$), and stress ($r=.64$), all $p<.001$. These results provide strong evidence of concurrent validity, indicating that higher VT is associated with greater psychological distress.

TMVT scores correlated significantly with ProQOL-5 subscales of Burnout ($r=.46$, $p<.001$) and Secondary Traumatic Stress ($r=.57$, $p<.001$), indicating that participants reporting higher VT also experienced elevated occupational burnout and trauma-related symptoms.

Significant correlations were observed with the OLBI total score ($r=.58$, $p<.001$) and both subscales of exhaustion ($r=.57$, $p<.001$) and disengagement ($r=.46$, $p<.001$). Collectively, these medium-to-large effects provide strong evidence of convergent validity of the TMVT with theoretically related constructs.

LEC-5 responses of 'exposed to it as part of my job' were analysed separately to total scores to explore its association with VT. TMVT scores demonstrated small but statistically significant positive correlations with the LEC-5 job-related exposure scale (TMVT Total $r=.24$, $p<.001$). These findings

indicated that individuals that reported greater occupational exposure to trauma tended to experience higher levels of VT, consistent with theoretical expectations.

5.7.2 Divergent validity. TMVT scores demonstrated weak or negligible associations with constructs that are theoretically unrelated to VT.

TMVT scores exhibited only a small correlation with physical mobility on the EQ-5D-5L ($r=.14$, $p=.005$), supporting the conceptual distinction between psychological trauma and physical functioning.

TMVT total scores were moderately negatively correlated with Compassion Satisfaction ($r=-.43$, $p<.001$) indicating that higher VT is associated with lower professional satisfaction and fulfilment whilst still representing a distinct construct.

TMVT scores were also only weakly related to cumulative trauma exposure on the LEC-5 ($r=.27$, $p<.001$), indicating that subjective VT is not simply a reflection of greater objective exposure count.

TMVT scores correlated moderately negatively with wellbeing on the SWEMWBS ($r=-.43$, $p<.001$), supporting the prediction that higher VT would relate to lower overall wellbeing while still representing a distinct construct.

Table 12 displays correlations between the TMVT and other measures.

Table 12*Correlations between TMVT and other measures (N = 418)*

Scale / Subscale	TMVT Total	TMVT-II	TMVT-DW
DASS-21 Total	.65*	.63*	.40*
Depression	.57*	.55*	.36*
Anxiety	.55*	.52*	.32*
Stress	.64*	.62*	.39*
ProQOL-5 Compassion Satisfaction	-.43*	-.44*	-.19*
ProQOL-5 Burnout	.46*	.46*	.35*
ProQOL-5 Secondary Traumatic Stress	.57*	.63*	.39*
OLBI Total	.58*	.54*	.43*
Disengagement	.46*	.42*	.35*
Exhaustion	.57*	.53*	.43*
SWEMWBS	-.43*	-.44*	-.19*
EQ-5D-5L Mobility	.14*	.13*	.05**
LEC-5 Total Exposure	.27*	.25	.12*
LEC-5 Job Exposure	.24*	.23*	.13*

Notes. $p < .001^*$, $** p = 0.006$.Effect sizes were interpreted using Cohen's (1988) conventional benchmarks: $r = .10$ = small; $r = .30$ = medium; $r = .50$ = large.All correlation coefficients were tested using two-tailed significance tests. Given the relatively large sample size ($N = 418$), small correlation coefficients may reach statistical significance despite representing weak effect sizes (Tabachnick & Fidell, 2019).

5.8 Attrition Analysis

To assess potential attrition bias, scores on psychological measures were compared between participants who completed both T1 and T2 surveys (N=318) and participants who completed only the T1 survey (N=100). As shown in Table 13, independent-samples t-tests revealed no significant differences in between completers (T1 and T2) and non-completers (T1 only), as measured by total and subscale scores for the TMVT, DASS-2, ProQOL, OLBI, SWEMWBS, and LEC-5 scores (all $p > .05$). These findings suggest limited evidence of systematic attrition bias and indicate that participants who completed the retest element were broadly comparable to those who did not on self-reported experiences of VT, psychological distress, wellbeing, occupational burden, professional quality of life, trauma exposure, or job-related trauma exposure.

Table 13

Comparison of Baseline Psychological Measures Between Participants Who Completed T1 and T2 and Those Who Did Not Complete T2

Measure	Completed T1 & T2 (N=318) M (SD)	Did Not Complete T2 (N=100) M (SD)	Difference t(416)	p
TMVT Total	36.64 (14.44)	37.24 (14.11)	-0.36	.72
Impact on Individual	28.38 (12.51)	28.92 (12.07)	-0.38	.71
Dangerous World	8.26 (3.88)	8.32 (4.01)	-0.13	.90
DASS-21 Total	33.31 (26.63)	34.70 (23.17)	-0.47	.64
Depression	10.42 (10.19)	10.26 (8.85)	0.14	.89
Anxiety	8.44 (8.83)	8.84 (7.61)	-0.41	.68

Measure	Completed T1 &	Did Not Complete	Difference t(416)	p
	T2	T2		
	(N=318) M (SD)	(N=100) M (SD)		
Stress	14.44 (9.79)	15.60 (9.42)	-1.04	.298
ProQOL-5 Compassion Satisfaction	36.63 (9.61)	36.85 (7.90)	-0.21	.84
ProQOL-5 Burnout	23.96 (7.49)	24.34 (6.67)	-0.46	.65
ProQOL-5 Secondary Traumatic Stress	23.31 (7.96)	23.42 (7.07)	-0.13	.90
OLBI Total	10.43 (7.68)	11.27 (7.79)	-0.95	.34
Disengagement	6.91 (5.14)	7.44 (5.17)	-1.01	.32
Exhaustion	3.52 (3.07)	3.83 (3.01)	-0.82	.42
SWEMWBS	21.93 (4.21)	21.90 (3.51)	0.06	.95
LEC-5 Total Exposure	42.41 (28.20)	40.82 (25.41)	0.50	.62
LEC-5 Job-related Exposure	5.02 (4.19)	4.31 (4.08)	1.48	.14

5.9 Test–Retest Reliability (T2)

Reliability of the TMVT full scale and subscales was assessed through internal consistency (Cronbach's alpha and corrected item-total correlations) and temporal stability over a mean retest interval of 19.3 days using Pearson correlations, paired-samples analyses, and intraclass correlation coefficients (ICCs), as displayed in Table 14.

Table 14

Reliability Coefficients for TMVT Total Scale and Subscales at Time 1, Time 2, and Test–Retest

Scale / Subscale	α (T1)	α (T2)	Pearson r (T1–T2)	ICC (avg)	ICC 95% CI
TMVT Total	.86	.95	.117*	.208	[.013, .365]
II	.85	.94	.112*	.201	[.003, .359]
DW	.94	.96	.109	.195	[–.002, .354]

Note.

* $p < .05$

5.9.1 Internal Consistency (T2). Internal consistency improved further at T2, with $\alpha=.95$, reflecting excellent reliability. Corrected item-total correlations ranged from .55 to .85, suggesting stronger item cohesion at retest. This increase may reflect reduced measurement error and increased construct stability at the second administration.

Internal consistency of the II subscale remained excellent at T2 ($\alpha=.94$). Corrected item-total correlations strengthened further (.64–.85), suggesting increased homogeneity on retest.

Reliability of the DW subscale also remained excellent, with $\alpha=.96$ and item–total correlations of .93, again reflecting very strong shared variance.

5.9.2 Test-Retest. Test–retest reliability was evaluated over a two-week interval in the subsample who completed both assessments (N=318). The recommended approach for test-retest reliability is the ICC two-way mixed model, absolute agreement, which evaluates the consistency of absolute scores

across time. Test-retest reliability was poor for the TMVT full scale and subscales despite strong internal consistency, indicating substantial short-term variability in individual vicarious trauma responses.

Pearson's correlation reflected weak associations between T1 and T2 individual scores on the TMVT full scale ($r=.117$, $p=.038$), and both subscales (II: $r=.112$, $p=.047$; DW: $r=.109$, $p=.053$). This indicated poor temporal stability over approximately two weeks and low test-retest reliability. The ICC (two-way mixed, absolute agreement) similarly indicated poor reliability, with an average-measures ICC of .208 (95% CI [.013, .365]), $F(317, 317)=1.26$, $p=.019$. These findings suggest substantial within-person variability in total TMVT scores over approximately two weeks.

Test-retest reliability for the II subscale was very low. The correlation between T1 and T2 was small, $r=.112$, $p=.047$. The ICC indicated poor temporal stability (average-measures ICC = .201, 95% CI [.003, .359]), $F(317, 317)=1.25$, $p=.024$.

The DW subscale showed similarly low test-retest reliability. The correlation between T1 and T2 was small and non-significant, $r=.109$, $p=.053$. ICC analysis again showed poor stability (average-measures ICC = .195, 95% CI [-.002, .354]), $F(317, 317)=1.24$, $p=.026$.

A paired-samples t-test further examined whether group average VT levels changed over time. Mean TMVT scores did not significantly differ between T1 ($M=36.64$, $SD=14.44$) and T2 ($M=35.77$, $SD=15.68$), $t(317)=0.78$, $p=.437$. The mean difference (0.87) was small, with a negligible effect size

(Cohen's $d=.04$). This indicates that in contrast to individual responses, group-level levels of VT remained stable over the two-week period.

To further illustrate the degree of individual variability underlying the stable group-level means, individual changes in TMVT scores between T1 and T2 were examined. Of the 318 participants who completed the TMVT at both time points, 171 (53.8%) demonstrated lower TMVT scores at T2, 142 (44.7%) demonstrated higher scores, and only five participants (1.6%) showed no change. The mean absolute change in TMVT score was 15.53 (SD=12.67), indicating substantial individual variability despite relatively stable group-level means. These findings indicate considerable variability in individual variability despite relatively stable mean scores across the sample.

Furthermore, attrition analyses (section 5.8) indicated that participants who completed the retest component did not differ significantly from non-completers on measures of psychological distress. As such, low test–retest reliability observed for the TMVT is unlikely to be explained by systematic dropout of participants with particular psychological characteristics.

6. Discussion

The present study aimed to further evaluate the TMVT in accordance with best-practice guidelines for instrument development and validation (Boateng et al., 2018; Mokkink et al., 2019). Building upon Strange et al.'s (2021) exploratory development work, this study further evaluated the dimensionality, validity, and reliability of the TMVT within a larger, independent sample of UK helping professionals. Findings suggest that the TMVT

demonstrates promising psychometric properties and strong theoretical coherence. With further evaluation and refinement, it has potential to function as a robust measure of VT. However, several important psychometric and conceptual considerations remain, particularly regarding dimensionality, temporal stability, and subscale composition.

6.1 Dimensionality

CFA supported Strange et al.'s (2021) 13-item TMVT with a two-factor structure comprising the II and DW subdomains. These results indicated an essentially unidimensional structure characterised by a strong general VT factor alongside two theoretically meaningful subcomponents. This is consistent with contemporary psychometric theory which recognises that complex psychological constructs may manifest as multidimensional at item level while remaining empirically dominated by a general latent construct that justifies the use of a total score (Reise, 2012; Rodriguez et al., 2016). From the critical realist perspective, VT is conceptualised as a real but non-observable generative mechanism with causal influence on practitioners' cognitive, emotional, and relational functioning, while remaining accessible only through socially mediated and fallible indicators such as psychometric measures (Bhaskar, 2008; Fletcher, 2017). The II and DW subfactors can therefore be understood as differentiated empirical expressions of a single underlying mechanism of VT, shaped by occupational context and engagement with trauma-exposed clients, rather than as ontologically distinct constructs. This interpretation avoids the reification of statistical factors as discrete psychological

entities and aligns with longstanding critiques of over-fragmentation within psychological measurement (Edwards & Bagozzi, 2000; Messick, 1995).

Identification of essential unidimensionality is particularly important given historical inconsistency of factor structures and theoretical drift within VT measurement tools; most notably the TABS (Pearlman, 2003) that has failed to demonstrate stable dimensionality across samples and contexts (Strange et al., 2021). In contrast, the TMVT's structure appears replicable and theoretically interpretable, strengthening confidence in its psychometric integrity and conceptual grounding, consistent with COSMIN-SDC standards for structural validity (Mokkink et al., 2019).

CFA provided further evidence for the theorised two-factor structure, demonstrating acceptable-to-good model fit according to widely used SEM benchmarks (Hu & Bentler, 1999; Kline, 2016). DW items showed exceptionally strong factor loadings, suggesting that schema-level beliefs about danger and safety represent a coherent and central aspect of VT. This finding is theoretically consistent with CSDT which positions such worldview disruptions as core cognitive consequences of VT (McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995). However, the DW subscale comprised only two items which is inconsistent with methodological guidance recommending a minimum of three items per subscale to adequately represent a latent structure, with four or more items preferable for robust evaluation of unidimensionality and internal structure (Clark & Watson, 1995; Costello & Osborne, 2005). Two-item subscales may limit content coverage, constrain reliability estimation, and restrict formal evaluation of structural validity (Clark & Watson, 1995; Kline, 2016). However, this limitation reflects the original scale construction decisions made by Strange

et al. (2021), following substantial theory-driven item reduction rather than a limitation introduced by the present study which adopted a confirmatory stance consistent with guidance for later-stage validation (Boateng et al., 2018; Mokkink et al., 2019). In line with COSMIN-SDC standards, subscales comprising fewer than three items should be interpreted with caution, indicating that the DW domain might benefit from theoretically guided item expansion rather than elimination to strengthen psychometric robustness while preserving conceptual distinctiveness as a core feature of VT (Mokkink et al., 2019).

In contrast to the DW, factor loadings for the II subscale were more variable, reflecting heterogeneity of individual emotional, cognitive, and behavioural responses to trauma work. This variability is theoretically plausible, as affective and behavioural manifestations of VT can be shaped by multiple contextual influences, including individual coping styles, professional role, organisational climate, and caseload composition (Hernandez-Wolfe et al., 2015; McNellie & Rose, 2020). Lower-loading items may therefore capture more context-dependent or state-like aspects of VT (e.g. avoidance or emotional withdrawal) which may be driven by multiple occupational stressors and constructs rather than VT alone (Strange et al., 2021). Despite this variability, internal consistency remained strong, suggesting that these items remain theoretically coherent and contribute meaningfully to the underlying construct rather than representing psychometric noise (Clark & Watson, 1995; Cronbach & Meehl, 1955; Reise, 2012). As Strange et al. (2021) undertook substantial theory-driven item reduction during scale development, item removal based solely on factor loadings would risk narrowing a complex construct and should

be guided by theory and content validity rather than statistical criteria alone (Clark & Watson, 1995; 2019; Messick, 1995; Mokkink et al., 2019).

6.2 Validity

The TMVT demonstrated moderate-strong convergent and divergent validity through patterns of associations with theoretically related and unrelated measures. As hypothesised, TMVT scores were positively associated with burnout, secondary traumatic stress, depression, anxiety, and stress, and negatively associated with psychological wellbeing, compassion satisfaction, professional quality of life, and physical mobility. These findings are consistent with broader literature documenting partial overlap between VT and other forms of occupational distress, while still representing a distinct concept (Figley, 1995; Hayes, 2013; Najjar et al., 2009; Newell & MacNeil, 2010; Strange et al., 2021).

Weak associations with lifetime trauma exposure suggested that this may be somewhat relevant to VT, but not solely or in the same way as described in previous literature (e.g. Pearlman, 2003). In contrast, stronger associations with job-related trauma exposure are consistent with the theoretical distinction between vicarious and direct trauma (Figley, 1995; Sabin-Farrell & Turpin, 2003). These findings further highlight the importance of appraisal and context in shaping VT experiences and impact, rather than focus on indexing symptom counts or exposure frequency (Leffler & Godfrey, 2025; Pearlman & Saakvitne, 1995; Strange et al., 2021).

6.3 Reliability

The TMVT demonstrated high internal consistency across the total scale and subscales at both time points. This is consistent with Strange et al. (2021), indicating that the current measure is internally robust, not compromised by item redundancy, and that the 13 items function cohesively to capture the underlying construct of VT.

Test-retest reliability over the mean 19.3 day interval was poor, with low correlations and intraclass correlation coefficients despite stable group-level means. This finding raises important questions regarding both the temporal stability of VT and the specificity of its measurement. Low ICC may suggest substantial short-term fluctuation in individuals' experiences of VT, however, given the conceptual framing of the TMVT, this may not be the only interpretation. The TMVT instructs respondents to reflect on changes associated with their work since the beginning of their professional career, implying assessment of a cumulative and historically anchored phenomenon rather than a transient psychological state. Consequently, substantial variation over a two-week period is difficult to attribute solely to genuine changes in underlying trauma-related schemas, which are typically conceptualised as relatively enduring cognitive structures that develop over time through cumulative experience (Beck & Haigh, 2014; Janoff-Bulman, 1992).

One possible interpretation is that VT contains both enduring and context-sensitive elements. Although trauma-related schemas may be relatively stable, their salience and activation may vary according to contextual factors such as recent exposure to distressing material, caseload demands, organisational pressures, and emotional labour (Bercier & Maynard, 2015;

Leffler & Godfrey, 2025; McNellie & Rose, 2020). From this perspective, fluctuations in TMVT scores may reflect changes in the accessibility of trauma-related cognitions rather than instability of the underlying construct itself. This interpretation is broadly consistent with cognitive theories in which schemas remain relatively enduring but are differentially activated by situational triggers (Beck & Haigh, 2014; Janoff-Bulman, 1992).

An alternative explanation is that the TMVT may lack sufficient specificity to distinguish enduring schema change from transient occupational distress. Retrospective self-report measures requiring respondents to evaluate cumulative change over long periods may be vulnerable to mood-congruent recall, recency effects, and reconstructive memory processes, whereby current emotional state influences the retrieval and interpretation of past experiences (Podsakoff et al., 2003; Schwarz, 2012). Under this interpretation, fluctuations in scores may reflect variation in retrospective reporting rather than genuine variation in VT. As such, a two-week interval may be too short for meaningful change to occur in a cumulative construct such as VT, yet sufficiently long for mood and contextual influences to affect retrospective judgements (Schwarz, 2012).

The present findings cannot determine whether the observed temporal instability reflects fluctuations in the expression of VT, limitations in retrospective self-report measurement, or a combination of both processes. This ambiguity has important implications for the conceptualisation and measurement of VT. The observed pattern of individual score changes, whereby 53.8% of participants demonstrated lower TMVT scores at T2, 44.7% demonstrated higher scores, and only 1.6% showed no change despite

relatively stable group-level means, further illustrates the substantial individual variability underlying the low test–retest reliability. This pattern is consistent with either context-dependent fluctuations in the salience and activation of trauma-related schemas or limitations in the TMVT's ability to distinguish enduring schema transformation from transient occupational distress. Consequently, if VT represents enduring schema transformation, as proposed within traditional VT theory (McCann & Pearlman, 1990; Saakvitne & Pearlman, 1996), the observed temporal instability may raise concerns regarding the TMVT's ability to capture this construct reliably over time. Conversely, if VT reflects a dynamic process characterised by context-dependent schema activation (Beck & Haigh, 2014), fluctuations in scores may not necessarily indicate poor construct stability.

7. Strengths and Limitations

This study is the first to conduct CFA and test-retest of the TMVT, addressing a gap in prior validation work. A key strength lies in the rigorous adherence to best-practice guidelines for psychometric evaluation through explicit integration of COSMIN-SDC standards (Mokkink et al., 2019) and Boateng et al.'s (2018) framework to enhance transparency, replicability, and theoretical coherence, and not reduced to statistical model fit alone. Furthermore, explicitly situating psychometric findings within a critical realist epistemology avoided over-claiming by acknowledging the partial and provisional nature of measurement, while still advancing a more robust approximation of the underlying construct (Bhaskar, 2008; Fletcher, 2017).

The large, independent sample size was sufficient to support robust CFA and included a broad range of UK helping professionals. However, whilst demographic information was collected, subgroup analyses were not feasible due to uneven and small group sizes. Several professional groups were represented by very small numbers, and the distribution of gender and ethnicity was highly unequal, which substantially limited generalisability. Conducting subgroup or invariance analyses under these conditions could increase the risk of Type I and Type II errors, produces unstable estimates, and does not meet recommended minimum sample-size thresholds for reliable comparative analysis (Putnick & Bornstein, 2016; Tabachnick & Fidell, 2019).

Prolific yielded large response and attrition rates, afforded additional screening and failsafe options, and offered high data quality (Peer et al., 2022). However, the present study was unable to control for variability in factors such as caseload number, stability, complexity, supervision quality, organisational climate etc. Self-report scales are useful to measure constructs such as VT, as they provide access to participants' subjective experiences and meaning, which are understood as real causal mechanisms that influence psychological functioning (Bhaskar, 2008; Maxwell, 2012; Sayer, 2000). Nevertheless, self-report measures are inherently imperfect due to necessary reliance on respondents' introspective access (Cronbach & Meel, 1955) and can be susceptible to contextual and motivational influences such as social desirability, satisficing effects, mood-state bias, measurement error, measurement reactivity, and respondent fatigue (Egleston et al., 2011; Ghafourifard, 2024; Podsakoff et al., 2003). This may have been particularly prevalent during T1 which consisted of multiple measures (105 items). However, this study's further

psychometric validation of the brief 13-item TMVT will substantially reduce respondent burden compared to other existing measures of VT (e.g. the 84-item TABS; Pearlman, 2003) and reflect a theoretically driven, Delphi-informed development process (Strange et al., 2021).

8. Future Research Directions

Future TMVT research should continue to adhere to best practice standards for measurement development and validation, as outlined in the COSMIN-SDC framework (Mokkink et al., 2019) and Boateng et al.'s (2018) guidelines.

The present study retained Strange et al.'s (2021) 13-item, two-factor structure and did not examine alternative scoring approaches (e.g. frequency versus intensity) or conduct item-level modification, consistent with its confirmatory aims. Further research could examine the stability and utility of the TMVT's scoring structure across different professional groups and settings, including alternative modelling approaches (e.g. bifactor indices or item-level analyses) to further evaluate essential unidimensionality and inform any theoretically justified refinement of subscale or total score use (Mokkink et al., 2019; Reise, 2012; Rodriguez et al., 2016).

Further evaluation of the TMVT's structural validity would require larger and more diverse samples alongside alternative modelling approaches. For example, multi-group CFA could measure variance across professions, gender, and cultural groups, while bifactor modelling may offer additional insight into item functioning, shared variance, and the degree of essential unidimensionality

underpinning the scale (Reise, 2012; Rodriguez et al., 2016). Specific aims could examine the subscales given II's comparatively weaker psychometric indices, and DW's two similar items (Clark & Watson, 1995; 2019; Mokkink et al., 2019). Item-level analyses may help to identify redundancy or overlapping content (e.g. items related to avoidance). However, consistent with COSMIN-SDC guidance, item removal should not be driven solely by statistical criteria and should also be considered through theoretical significance (Mokkink et al., 2019).

Future research could extend construct validity testing through known-groups designs and longitudinal hypothesis testing to consider how VT manifests across roles, contexts, and time (Mokkink et al., 2019). Longitudinal studies across extended intervals (e.g. 3-12 months and beyond) could consider whether observed VT scores reflect real change or measurement limitations. Explicit time frame specification (e.g. "over the past two weeks") may also improve interpretability and comparability across existing studies.

Consideration of when the TMVT is administered would be useful given the present findings and potential state-like elements of VT, as completion directly following exposure to client trauma may result in higher TMVT scores than if completed following annual leave. Mixed-methods and qualitative research could usefully compliment quantitative validation by exploring contextual, relational, cultural influences, and interpretations of VT that could inform TMVT item refinement or expansion.

Both Strange et al.'s (2021) exploratory work and the present confirmatory study relied on UK-based, English-speaking samples. While appropriate for early-stage validation of new psychometrics, generalisability

remains limited (Mokkink et al., 2019). Future TMVT research should conduct group-based analyses and cross-cultural validation, including formal tests of measurement invariance across professions, genders, ethnic groups, and cultural and organisational contexts to ensure that the TMVT can function equivalently and measure VT across diverse populations (McCann & Pearlman, 1990; Schwegler et al., 2025; Van de Vijver & Tanzer, 2004). This work should explicitly incorporate principles of equality, diversity, and inclusion, recognising that practitioners from marginalised groups may experience additional occupational stressors, such as discrimination, precarity, or inequitable pay that may interact with VT processes (Bernal & Domenech Rodríguez, 2012; Naqvi et al., 2019; Nguyen et al., 2024; Periera & Leary, 2024; Williams et al., 2019). Cross-cultural adaptation should attend not only to linguistic translation but also to conceptual and cultural equivalence to avoid construct bias and inequitable assessment (Beaton et al., 2000; Terwee et al., 2018). This would align with professional multicultural guidelines and strengthen the ethical legitimacy of use across diverse populations (APA, 2017; BPS, 2025; Health and Care Professions Council [HCPC], 2023).

Responsiveness should also be formally evaluated through a-priori hypotheses concerning expected change, either through comparison with external measures, known-groups designs, or pre-post intervention studies to establish longitudinal validity (Mokkink et al., 2019). This would enable further theorisation of how contextual variables (e.g. demographics, role, setting, retest interval etc) may influence VT variance over time.

Further validation within specific trauma-exposed sectors including NHS services, social work, psychology, policing, emergency medicine etc could

enable the development of role-specific norms and strengthen applied relevance. Test-retest at shorter (e.g. two weeks) and longer (e.g. one year) intervals within NHS samples could be particularly valuable, albeit with careful consideration of ethical burden, feasibility, and attrition risk inherent in longitudinal occupational research (Mokkink et al., 2019; Polit, 2014; Terwee et al., 2018). Development of an even shorter TMVT could further reduce respondent burden and enhance feasibility in high-pressure clinical settings (Coste et al., 1997; Kruijen et al., 2013). However excessive abbreviation may risk undermining content validity (Mokkink et al., 2019; Streiner et al., 2015).

Future studies might examine the predictive validity of TMVT scores in relation to clinical decision-making, workforce retention, ethical practice, and organisational outcomes. Intervention research could evaluate the TMVT as an outcome measure in trauma-informed supervision, reflective practice, or organisational wellbeing initiatives which could further establish its utility in service development, policy, and governance. Such work may be strengthened by integrating CSDT (McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995) with occupational frameworks such as the Job Demands-Resources model (JD-R; Bakker & Demerouti, 2017) or Demand-Control Theory (DCT; Karasek, 1979) to consider the organisational conditions under which schema-level belief changes of VT may fluctuate over time. This could further support system-level interventions without reducing VT purely to burnout or individual pathologies (Hobfoll, 2001; Leffler & Godfrey, 2025; Schaufeli & Taris, 2014), whilst aligning with a critical realist understanding of interacting psychological and structural mechanisms (Bhaskar, 2008; Danermark et al., 2002).

Future psychometric research could also examine the temporal structure of TMVT scores across multiple assessment points to determine whether observed variability reflects instability in measurement, fluctuations in schema activation, or meaningful change in the underlying construct. Such work would contribute to clarifying the extent to which VT is best conceptualised as a stable consequence of cumulative trauma exposure or a more dynamic and context-sensitive process.

9. Conclusion

The present study provided further evidence for the 13-item, two-factor TMVT as a reliable, valid, and theoretically coherent measure of VT among UK helping professionals. By addressing key psychometric gaps and aligning closely with best-practice guidelines for psychometric evaluation, this research has advanced theoretical understanding and measurement of VT. Furthermore, it has highlighted the importance of conceptual clarity, evidential and epistemic humility, methodological rigour in scale evaluation, and in understanding and responding to the profound impact of trauma-focused work. Continued evaluation is required to establish the TMVT's cross-cultural validity, responsiveness, and applied utility, however the measure shows promise for research, clinical practice, and organisational governance in trauma-exposed workforces.

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STRUCTURED REFLEXIVE SECTIONS

Plain English Summary

Helping professionals (such as psychologists, nurses, social workers etc) are often exposed to the traumatic experiences of their clients, which can be distressing. Several terms have been used to describe the types of impact on professionals, including *Vicarious Trauma* (VT). VT refers to negative physical, emotional, and behavioural symptoms, and negative changes in professionals' core beliefs about themselves, others, and the world. This can have a significant impact on wellbeing, personal lives, work, and clients. It is important to be able to accurately recognise VT so that the right support can be given to reduce and prevent these negative impacts. So far it has been difficult to properly identify VT in professionals as previous research has used questionnaires that look for different types of distress (such as *Burnout*, *Compassion Fatigue*, and *Secondary Traumatic Stress*), or that focus on only one part of VT.

A new questionnaire to measure VT (called the Trent Measure of Vicarious Trauma, TMVT) was recently created by researchers and experts and then tested on a large group of experienced UK helping professionals. The questionnaire found two important areas of VT: the 'impact on individual', and 'dangerous world' beliefs. These findings suggest that the new questionnaire may be helpful to measure VT in helping professionals. However, it needed further testing to ensure that it is good enough to be used more widely.

In this research, we tested the new questionnaire on a different, larger group of 418 experienced UK helping professionals who completed two online questionnaires approximately two weeks apart. We then followed best practice

guidelines to test whether it measured VT like it is supposed to, and not something similar but different. Secondly, we tested if the questionnaire found the same two areas that were found previously when it is completed by different professionals. Thirdly, we tested whether the questionnaire produced consistent results when repeated at another time.

The two areas of 'impact on individual' and 'dangerous world beliefs' were connected but separate because each represented different parts of overall VT experiences. This supports existing theory and previous results that VT negatively influences the ways that helping professionals think, feel, and act. Results also found that all 13 questions worked well together to measure VT, and that TMVT scores related to other measures in expected ways. For example, higher TMVT was linked with higher stress, anxiety, depression, burnout, and secondary traumatic stress, and with lower wellbeing and job satisfaction. Higher TMVT scores were more strongly linked to trauma exposure through work than to personal trauma history. This supports the idea that VT is specifically related to professional exposure rather than past experiences. This study also found that TMVT scores from the whole group of participants stayed similar after approximately two weeks. However, individual TMVT scores changed by going up or down considerably. This suggests that VT may not stay the same over time but might change in the short-term in response to different situations, such as work demands, contact with clients, or other pressures.

Overall, this research shows that the new questionnaire is a promising tool to understand and measure VT in helping professionals. It captures important aspects of VT that are not well measured by other tools. At the same time, it also highlights that VT is complex and experiences might change for

individuals over short time periods. This is important to recognise that VT and distress can be influenced by work-related factors. The questionnaire could be used to help monitor and support the wellbeing of helping professionals.

However, more work needs to be done to understand how the new questionnaire works with different individuals in different roles, workplace settings, and countries.

Critical Appraisal

1. Introduction and Justification

The use of a structured critical appraisal tool can ensure transparency, rigor, and reflexivity in evaluating the quality of both methods and outcomes (Mokkink et al., 2018; 2019; Terwee et al., 2012; 2018; Prinsen et al., 2018). For the present thesis of confirmatory factor analysis and further validation of the Trent Measure of Vicarious Trauma (TMVT), the COnsensus-based Standards for the selection of health Measurement INstruments Study Design Checklist (COSMIN-SDC) was selected as the most epistemologically and methodologically congruent appraisal framework.

1.1 The COSMIN-SDC Study Design Checklist

The COSMIN Study Design Checklist (COSMIN-SDC) was developed through international consensus to assess the methodological quality of unpublished studies on measurement properties (Mokkink et al., 2019; Prinsen et al., 2018). The COSMIN-SDC consists of nine domains to provide a systematic framework of the requirements for psychometric validation studies, including: content validity, structural validity, internal consistency, reliability, measurement error, cross-cultural validity, hypothesis testing for construct validity, and responsiveness. The COSMIN-SDC was initially created for patient-reported outcome-measures (PROMs) but has also been applied to clinician-reported outcome measures (ClinROMs, Wehr et al., 2024; Weigel et al., 2025).

From the critical realist perspective underpinning this thesis, psychological constructs such as vicarious trauma (VT) are considered ontologically real phenomena with causal impacts on practitioners yet are only accessible through fallible measurement tools and socially mediated accounts (Bhaskar, 2008; Fletcher, 2017; Maxwell, 2012). Confirmatory Factor Analysis (CFA) and further tests of validity and reliability of the TMVT therefore required a critical appraisal framework capable of considering both the quantitative methodological robustness of factor analysis models and the broader theoretical

and contextual considerations underpinning validity (Kane, 2013; Messick, 1995).

The COSMIN-SDC facilitated systematic scrutiny of how well the TMVT captured the underlying causal mechanisms of VT by evaluating statistical indices of fit and theoretical coherence, relevance, and comprehensiveness of its items. For example, COSMIN-SDC's prioritisation of content validity resonated with the realist concern for representational adequacy, i.e. items must approximate the construct as it exists in practice rather than simply fitting statistical models (Haynes et al., 1995; Zamanzadeh et al., 2015). COSMIN-SDC's emphasis on reliability and measurement error encourages reflection on the fallibility of indicators and the limits of observed data, aligning closely with the critical realist view that empirical findings are always mediated (De Vet et al., 2011; Fletcher, 2017; Streiner, 2003).

1.2. Integration of Best Practice Guidelines

Within this thesis, the integration of the COSMIN-SDC guidelines (Mokkink et al., 2018) and Boateng et al.'s (2018) best-practice framework was epistemologically coherent. Boateng et al.'s (2018) framework aligns with the critical realist view that constructs must be grounded in theoretically identified causal tendencies rather than surface-level indicators alone (Boateng et al., 2018). The framework provides a structured, theory-driven process for item development (e.g. item generation, evaluation by experts, content validation), scale development (e.g. survey administration, Exploratory Factor Analysis [EFA]), and scale evaluation (e.g. further testing of validity, reliability, and dimensionality). It provided clear direction for continuation from Strange et al.'s (2021) preliminary development of the TMVT. Additionally, COSMIN-SDC standards provided internationally accepted criteria for robust and transparent methodical evaluation of psychometric properties (e.g. structural validity, reliability, measurement precision) and to test whether Strange et al.'s (2021) hypothesised causal structure was empirically supported without assuming that statistical fit alone captures the full reality of the construct (Mokkink et al., 2018).

Using both frameworks in combination served to enhance this thesis by acknowledging that although measurement models cannot directly capture the ontological depth of VT, they can be systematically refined to provide the best possible approximation of its underlying structure (Borsboom, 2006; Edwards & Bagozzi, 2000). For example, Boateng et al. (2018) highlighted the need to test dimensionality, and COSMIN-SDC specified criteria for adequate sample size, appropriate estimation methods, and reporting standards in CFA. Similarly, Boateng et al. (2018) emphasised reliability, but COSMIN-SDC distinguished between internal consistency, test-retest reliability, and measurement error. This dual-framework approach is particularly important given longstanding limitations in VT measurement (such as construct overlap, item redundancy, and inconsistent definitions; Strange et al., 2021) and supports development of a measure that is both scientifically credible and philosophically defensible.

2. General Standards for Study Design

General recommendation for the design of a study on measurement properties include clarity of research study aims, construct definition and origin, development process, structure and scoring approach, existing evidence of measurement properties, context of use, and target population. This section outlines each general recommendation from the COSMIN-SDC and discusses criteria in relation to the TMVT, with ratings displayed in Tables 15-27.

2.1. Clarity of Research Aim

Table 15

COSMIN-SDC Criteria and Ratings for the Stated Research Aim

COSMIN-SDC Criteria	COSMIN-SDC Rating
Provide a clear research aim, including (1) the name and version of the PROM, (2) the target population, and (3) the measurement properties of interest	Very Good - Research aim clearly described*^

Notes.

* Strange et al.'s (2021) development stage

^ Evaluation stage within present thesis

COSMIN-SDC emphasises the need for a clearly articulated research aim specifying the specific measurement properties being evaluated (Mokkink et al., 2019). This criterion was considered early in the research design, leading to well-defined aims to further evaluate the TMVT's psychometric properties by completing the next steps of scale evaluation recommended in Boateng et al.'s (2018) best practice framework. Three research aims were outlined clearly to include further tests of:

1. Dimensionality: undertaking a Confirmatory Factor Analysis on the previously hypothesised 13-item, two-factor TMVT with a larger, independent sample of UK helping professionals;
2. Reliability: establishing the TMVT's stability over time by incorporating a test-retest component alongside internal consistency measures;
3. Validity: evaluating the TMVT's relationship with theoretically related constructs of personal and interpersonal impact (including burnout, and general and psychological wellbeing).

From a critical realist perspective, the explicit articulation of research aims reflects a commitment to epistemic clarity and explanatory restraint, ensuring that empirical analyses are appropriately aligned with the specific aspects of the

underlying construct being investigated, rather than extending claims beyond what the study design is capable of justifying (Bhaskar, 2008; Danermark et al., 2002; Sayer, 2000).

2.2 Clarity of Construct Definition

Table 16

COSMIN-SDC Criteria and Ratings for the Clarity of Construct Definition

COSMIN-SDC Criteria	COSMIN-SDC Rating
Provide a clear description of the construct to be measured	Very Good - Construct clearly described*^

Notes.

* Strange et al.'s (2021) development stage

^ Evaluation stage within present thesis

The construct of VT has been inconsistently operationalised, leading to overlapping constructs such as secondary traumatic stress, compassion fatigue, and burnout (Hayes, 2013; Strange et al., 2021). This thesis addressed these conceptual ambiguities by grounding VT within critical realism, treating it as a real but non-observable causal mechanism that influences practitioners' cognitions and emotional experiences (Bhaskar, 2008; Fletcher, 2017; Maxwell, 2012).

Clear definitions support transparent hypothesis formulation, CFA model structuring, and reduces risks associated with poorly specified constructs and psychometric inconsistency (Mokkink et al., 2019). For example, within the VT literature, measurement of conflated terms (e.g. Bride et al., 2004) or focus on trauma-related symptomology (e.g. Elliot & Briere, 1992), or cognitions (e.g. Pearlman & Saakvitne, 1995) have been criticised for not fully capturing the emotional, cognitive, relational, and professional impact of VT (Strange et al., 2021).

The present thesis explicitly adopted the definition of VT developed and utilised by Strange et al. (2021) “Vicarious trauma is the notion that through cumulative exposure to client accounts of trauma, the practitioner is affected; changes in beliefs, in addition to experiencing symptoms that mirror the trauma-related symptoms of their clients, can occur” (p. 63). This clear definition as required by the COSMIN-SDC aligns with Messick’s (1995) conceptualisation of validity as theory-dependent and with Kane’s (2013) argument that construct clarity is the foundation for meaningful score interpretation.

As a psychometric, the TMVT is considered a reflective model (Mokkink et al., 2019). In line with the critical realist perspective, reflective model measurement assumes that latent constructs (or ‘variables’) cannot be measured directly but are inferred from (‘reflected by’) other directly observable variables that are measured by items responses (Avila et al., 2015). TMVT items are therefore indicative (‘reflective’) of an underlying VT construct.

While construct clarity strengthened model specification, limitations include acknowledgement of the complexity and heterogeneity of constructs such as VT that may not be fully captured within unidimensional or bifactor measurement structures (McCann & Pearlman, 1990; Rauvola et al., 2019; Reise et al., 2010). However, this limitation is inherent to reflective measurement models in general (Bollen & Lennox, 1991; Edwards & Bagozzi, 2000). This is explicitly addressed through critical realist and epistemic humility regarding the partial nature of measurement (Bhaskar, 2008; Danermark et al., 2002; Sayer, 2000).

2.3 Description of Development Process (including Target Population)

Table 17

COSMIN-SDC Criteria and Ratings for the Description of the Development Process (including Target Population)

COSMIN-SDC Criteria	COSMIN-SDC Rating
Provide a clear description of the development process of the PROM, including a description of the target population for which the PROM was developed	Very Good - Developmental process clearly described*^

Notes.

* Strange et al.'s (2021) development stage

^ Evaluation stage within present thesis

COSMIN-SDC requires documentation of the development history of the instrument (Mokkink et al., 2019). The TMVT is a new measure of VT developed by Strange et al. (2021) in response to criticisms of existing VT measures. During their scale development process, Strange et al. (2021) generated an initial item pool of 146 qualitative items from existing measures of VT and related constructs and novel items proposed by the researchers from the VT literature. Thirteen Delphi experts reached consensus on 16 items which were administered via survey methodology to 206 UK participants to enable preliminary analysis of psychometric properties. Their Exploratory Factor Analysis (EFA) retained a 13-item, two-factor structure: 'Impact on Individual' and 'Dangerous World'. The TMVT performed as expected compared to other measures and had high internal consistency as a full measure and for each factor. This procedure aligned with Boateng et al.'s (2018) recommendations for iterative, theory-guided item development and initial dimensionality assessment.

Whilst the 13-item, two-factor TMVT demonstrated good preliminary validity and reliability, Strange et al.'s (2021) sample size and development context were constrained. Best practice guidelines (Boateng et al., 2018; Mokkink et al., 2019) stipulate replication and further testing of validity,

reliability, and dimensionality of the proposed reflective model structure with a new and larger sample. These recommendations informed the rationale and aims for the present thesis.

From a critical realist perspective, the transparent documentation of the TMVT's development process and target population supports an explicit link between theoretically generated mechanisms of VT and their empirical operationalisation, acknowledging that early-stage item content provides provisional indicators of underlying processes that require subsequent testing and refinement across contexts (Bhaskar, 2008; Danermark et al., 2002; Sayer, 2000).

2.4 Origin of the construct

Table 18

COSMIN-SDC Criteria and Ratings for the origin of the construct

COSMIN-SDC Criteria	COSMIN-SDC Rating
The origin of the construct should be clear: provide a theory, conceptual framework (i.e. reflective or formative model) or disease model used or clear rationale to define the construct to be measured	Very Good - Origin of the construct clear*^

Notes.

* Strange et al.'s (2021) development stage

^ Evaluation stage within present thesis

COSMIN-SDC recommends that the origin and theoretical foundation of a PROM are clearly articulated, including the conceptual model underpinning item development (Mokkink et al., 2018). Constructivist Self-Development Theory is the most widely cited theoretical framework of VT as a cumulative, work-related transformation in cognitive, emotional, and relational functioning

resulting from sustained exposure to clients' trauma (McCann & Pearlman, 1990; 1992; Pearlman & Saakvitne, 1995). In response to methodological and conceptual criticisms of existing VT measures, Strange et al. (2021) developed the TMVT from theory and practice by using a Delphi methodology to integrate expert consensus with empirical evidence.

The theoretically driven origin of the TMVT is consistent with best-practice guidance for early-stage scale development, which emphasises the primacy of construct definition prior to empirical testing (Boateng et al., 2018; Mokkink et al., 2019). From a critical realist perspective, this approach reflects recognition that psychological constructs are not reducible to observable indicators alone but are theorised representations of underlying generative mechanisms operating within specific contexts (Bhaskar, 2008). The TMVT's origin therefore demonstrates conceptual coherence, with items designed to index theoretical manifestations of VT rather than surface correlates or outcomes. The present thesis builds on this theoretical foundation by further evaluating the psychometric properties of the TMVT rather than revisiting item generation and reduction. This staged progression is consistent with COSMIN-SDC and Boateng et al.'s (2018) recommendations for cumulative validation.

Future research could further evaluate item content through qualitative methods to explore whether emerging clinical roles or service contexts give rise to additional manifestations of VT that were not fully captured in Strange et al.'s (2021) original item pool.

2.5. Structure of the TMVT and Scoring Approach

Table 19

COSMIN-SDC Criteria and Ratings for the Structure and Scoring Approach

COSMIN-SDC Criteria	COSMIN-SDC Rating
Provide a clear description of the structure of the PROM (i.e. the number of items and subscales included in the PROM, instructions given and response options) and its scoring algorithm	Very Good - Structure and scoring algorithm clearly described*^

Notes.

* Strange et al.'s (2021) development stage

^ Evaluation stage within present thesis

COSMIN-SDC specifies that the structural and scoring characteristics of a measure should be clearly described (Mokkink et al., 2019). Strange et al.'s (2021) recommended scoring system was developed to ensure theoretical coherence and that no items were retained purely for statistical convenience. This is consistent with Messick's (1995) warning against privileging statistical model fit over conceptual grounding, emphasising that construct validity depends on the theoretical interpretability and intended use of scores, not solely on favourable fit indices. This study preserved the recommended scoring system to maintain continuity with Strange et al.'s (2021) preliminary work while remaining open to theoretically justified modifications following CFA (Tavakol & Wetzel, 2020). Each of the 13 items (e.g. 'I feel cut off from people') were rated on five-point Likert scales for both Frequency (0: 'Never' to 4: 'Always'), and Intensity (0: 'Not At All' to 4: 'Extremely'). Both parts of each item were totalled (range 0-8) and combined to provide a full TMVT total score (range 0-104, higher scores indicate higher VT experiences).

The TMVT's total score indexing VT represents two theoretically meaningful subfactors which capture distinct components of one broader latent construct (VT) rather than independent dimensions (Reise, 2012; Rodriguez et al., 2016). The two subscales reflected VT characteristics of cognitive shifts

(Dangerous World factor; e.g. 'I believe the world is dangerous') and individual/practice-related impacts (Impact on Individual factor, e.g. 'I find it difficult to separate my personal life from my professional life'). These two factors were initially found within Strange et al.'s (2021) scale development and confirmed within the present thesis. Multidimensional solutions were considered, however the current version of the TMVT aligns with contemporary psychometric theory of 'essential unidimensionality' (Reise, 2012; Rodriguez et al., 2016). This is also evidenced by the moderate latent correlation between II and DW which indicated that both distinct subscales together measured different aspects of VT. As such, the use of a total TMVT score and essential unidimensionality is theoretically and methodologically justified and consistent with COSMIN-SDC guidance for reflective PROMs (Mokkink et al., 2019).

In line with critical realism, the retention of a total TMVT score alongside theoretically meaningful subscales reflects an understanding that observed item responses are context-dependent empirical indicators of a single underlying mechanism of VT, with subscales representing differentiated manifestations rather than ontologically distinct constructs (Bhaskar, 2008; Danermark et al., 2002; Sayer, 2000).

Further research could examine the stability and utility of the TMVT's scoring structure across different professional groups and contexts, including testing alternative modelling approaches (e.g. bifactor indices or item-level analyses) to further evaluate essential unidimensionality and inform any theoretically justified refinement of subscale or total score use (Reise, 2012; Rodriguez et al., 2016; Mokkink et al., 2019).

2.6 Existing Evidence of Measurement Properties

Table 20

COSMIN-SDC Criteria and Ratings for the existing evidence of measurement properties

COSMIN-SDC Criteria	COSMIN-SDC Rating
Provide a clear description of existing evidence on the quality of the PROM	Very Good - Existing evidence on the quality of the PROM clearly described [^]

Notes.

* Strange et al.'s (2021) development stage

[^] Evaluation stage within present thesis

COSMIN-SDC encourages researchers to consider existing validation evidence before conducting new analyses (Prinsen et al., 2018). Strange et al.'s (2021) study yielded good outcomes for convergent, divergent, and concurrent validity of the TMVT with other existing measures of theoretically related and unrelated concepts. Internal consistency for each TMVT subscale was high. These findings offered preliminary support for the validity and reliability of the TMVT as a new measure of VT as part of the 'early-stage development' stage described by Boateng et al. (2018). However, in line with guidance recommendations, further stages of scale evaluation were required to strengthen the psychometric robustness of the TMVT, including CFA and test-retest reliability (Boateng et al., 2018; Mokkink et al., 2018). These stages were conducted within the present thesis.

From a critical realist perspective, this staged approach reflects recognition that construct validity is not established through a single empirical study but is progressively strengthened through the accumulation and triangulation of evidence across methods and contexts (Danermark et al., 2002; Messick, 1995). Critical realism emphasises epistemic fallibility and the partial nature of measurement, such that early validation findings are treated as provisional indicators of underlying generative mechanisms rather than

definitive proof of construct adequacy (Bhaskar, 2008; Sayer, 2000). This thesis aligns with best-practice frameworks for scale development, evaluation, and validation by building sequentially on Strange et al.'s (2021) prior exploratory work, while explicitly acknowledging the limitations of preliminary evidence and the need for further testing (Boateng et al., 2018; Danermark et al., 2002; Mokkink et al., 2018).

2.7 Context of Use

Table 21

COSMIN-SDC Criteria and Ratings for the context of use

COSMIN-SDC Criteria	COSMIN-SDC Rating
Provide a clear description of the context of use	Very Good - Context of use clearly described* [^]

Notes.

* Strange et al.'s (2021) development stage

[^] Evaluation stage within present thesis

COSMIN-SDC requires the intended context of use and target population to be clearly specified (Mokkink et al., 2019). The TMVT is designed to target 'helping professionals' who have been exposed to the trauma of clients as part of their jobs. The present study's sample sought to reflect this context and to enhance ecological validity. However, COSMIN-SDC also highlights the need for representativeness (Mokkink et al., 2019) and the critical realist perspective underscores the necessity of considering contextual mechanisms influencing measurement outcomes (Maxwell, 2012).

Both Strange et al. (2021) and the present study administered the TMVT as an anonymous online survey, however, it could also be completed and scored on paper. Potential context of use would include all occupational settings where helping professionals are exposed to the trauma narratives of their clients. Strange et al. (2021) conducted inductive content analysis (Erlingsson & Brysiewicz, 2017) on participant responses about their experience of completing

the TMVT. They reported high frequencies of the TMVT being a ‘good’ and ‘thought provoking’ measure to reflect on personal and professional impact, challenges, and strengths. As such, Strange et al.’s (2021) proposed that the TMVT could be a beneficial tool for helping professionals to develop as ‘reflective practitioners’ by using it to reflect on clinical work (Fook, 2002; 2011; Mann et al., 2009), professional development and competencies (Spendelow & Butler, 2016), and personal awareness (Cropley et al., 2010; Körkkö et al., 2016). The TMVT therefore could be utilised as a PROM to collect subjective experiences either independently, or as part of wider and ongoing discussions within workplace supervision and/or wellbeing monitoring.

2.8 Target Population

Table 22

COSMIN-SDC Criteria and Ratings for the target population

COSMIN-SDC Criteria	COSMIN-SDC Rating
Provide a clear description of in- and exclusion criteria to select patients, e.g. in terms of disease condition and characteristics like age, gender, language or country, and setting (e.g. general population, primary care or hospital/rehabilitation care)	Very Good - In- and exclusion criteria for patients clearly described
Provide a clear description of the method used to select the patients for the study (e.g. convenience, consecutive, or random)	Very Good - Method for patient selection clearly described
Describe whether the selected sample is representing the target population in which the PROM will be used in terms of age,	Very Good - Study sample representing the target population clearly described

COSMIN-SDC Criteria	COSMIN-SDC Rating
gender, important disease characteristics (e.g. severity, status, duration)	

Notes.

- * Strange et al.'s (2021) development stage
- ^ Evaluation stage within present thesis

COSMIN-SDC guidance specifies that the target population for a PROM should be clearly defined and justified, and that validation evidence should be interpreted with reference to the population in which the measure is intended for use (Mokkink et al., 2019). Strange et al. (2021) developed and initially validated the TMVT within a sample of UK-based helping professionals, reflecting the measure's intended application for those working in psychologically demanding roles involving exposure to trauma narratives.

The present thesis retained this target population, further evaluating the TMVT within similar professional contexts in the UK. This continuity strengthened the interpretability and relevance of the findings, as COSMIN-SDC cautions against extrapolating psychometric properties beyond the populations in which they have been established. From a critical realist perspective, maintaining alignment between construct, context, and population is essential, as the activation and expression of VT mechanisms could be shaped by occupational roles, organisational environments, and systemic pressures (Danermark et al., 2002; Sayer, 2000).

Both Strange et al.'s (2021) study and the present thesis are limited by their focus on predominantly UK-based, English-speaking samples. While appropriate for early-stage validation, generalisability is thus far constrained. Furthermore, the current sample may not have been generalisable to all helping professionals due to required screening and accessible sample on Prolific. This reflects broader challenges in VT research where heterogeneous role demands may influence how VT manifests (Sabin-Farrell & Turpin, 2003). Future research should extend validation to a broader range of professional groups and cultural contexts, incorporating principles of equality, diversity, and

inclusion to ensure the TMVT functions equivalently across diverse populations (Van de Vijver & Tanzer, 2004).

3. COSMIN-SDC Measurement Property Domains

Measurement property domains include content validity, structural validity, internal consistency, cross-cultural validity and measurement invariance, measurement error and reliability, criterion validity, hypotheses testing for construct validity, responsiveness, and translation process. As with general recommendations, this section outlines each measurement property domain from the COSMIN-SDC and discusses criteria in relation to the TMVT, with ratings displayed in Tables 17-21.

3.1. Content Validity

Table 23

COSMIN-SDC Criteria and Ratings for Content Validity

COSMIN-SDC Criteria	COSMIN-SDC Rating
<i>Design Requirements</i>	
1. From the perspective of the patients: use an appropriate method for assessing (1) the relevance of each item for the patients' experience with the condition, AND (2) the comprehensiveness of the PROM, AND (3) the comprehensibility of the PROM instructions, items, response options, and recall period	Very Good - Widely recognized or well justified method for qualitative research will be used to assess the three aspects*
2. From the perspective of professionals: use an appropriate method for assessing (1) the relevance of each item for the construct of interest, AND (2) the	Very Good - Widely recognized or well justified method for qualitative research will be used to assess the two aspects*

COSMIN-SDC Criteria	COSMIN-SDC Rating
comprehensiveness of the PROM	
3. Include professionals from all relevant disciplines	Very Good - Professionals from all required disciplines included*
4. Evaluate each item in an appropriate number of patients or professionals: For qualitative studies, For quantitative (survey) studies	Very Good - ≥ 7 for qualitative*^, ≥ 50 for quantitative*
5. Use skilled group moderators or interviewers	Adequate - Group moderators or interviewers have limited experience or will be trained specifically for the study*
6. Base the group meetings or interviews on an appropriate topic or interview guide	Very Good - Appropriate topic or interview guide will be used*
7. Record and transcribe verbatim the group meetings or interviews	Very Good - All group meetings or interviews will be recorded and transcribed verbatim*
<i>Analyses</i>	
8. Use an appropriate approach to analyse the data	Very Good - A widely recognized or well justified approach will be used*^
9. Involve at least two researchers in the analysis	At least two researchers will be involved in the analysis*^

Notes.

* Strange et al.'s (2021) development stage

^ Evaluation stage within present thesis

COSMIN-SDC regards content validity as the most important measurement property to ensure that items are relevant, comprehensive, and comprehensible for the construct and population studied (Mokkink et al., 2019; Terwee et al., 2018). From a critical realist stance, content validity is crucial because scale items are the bridge between the 'real' domain (causal mechanisms of VT) and the 'empirical' domain (observable participant responses; Fletcher, 2017; Maxwell, 2012). Reflexively, this meant acknowledging that while items can approximate the phenomenon, they remain fallible representations, shaped by theoretical commitments and professional discourses. Within the current thesis, content validity is not the primary focus as this has already been established within preliminary scale development stages completed by Strange et al. (2021) to standards appropriate to Boateng et al.'s (2018) and COSMIN-SDC guidelines (Mokkink et al., 2019).

The COSMIN-SDC outlines standards for designs involving the perspectives of professionals and of patients, with emphasis on both qualitative and quantitative methods of evaluation. Within Strange et al.'s (2021) earlier development study, TMVT items went through systematic processes of critical review to ensure that they captured essential aspects of VT without being overly reductive or biased. The initial item pool was generated by the primary research team, including research supervisors with experience and expertise in structured scale development and in field VT research. The Delphi stage consulted 13 VT experts to consider whether 146 items (from existing scales or from VT literature and field experience) represented the key characteristics of VT. Two Delphi rounds gained consensus on 16 TMVT items which were administered to a UK sample of helping professionals for validation and EFA.

As part of Strange et al.'s (2021) initial survey of quantitative measures, participants were asked to comment on their experience of completing the TMVT. Qualitative responses were subject to inductive content analysis (Erlingsson & Brysiewicz, 2017). Six categories were identified as follows (in order of descending frequency): Good measure; Thought provoking; Difficult to score; Challenging to complete; Acknowledging personal strengths; Difficult to separate personal and client trauma. Categories and codes informed Strange et

al.'s (2021) revision of item scoring for further testing, and their consideration of the TMVT as a beneficial reflective tool (see 2.7 Context of Use).

Further evaluation of the TMVT could consider broad cross-cultural validity with different professional groups, service contexts, and geographical locations to enhance generalisability. Greater qualitative input from participants could also be considered to compliment quantitative findings.

3.2 Structural Validity

Table 24

COSMIN-SDC Criteria and Ratings for Structural Validity

COSMIN-SDC Criteria	COSMIN-SDC Rating
<i>Statistical methods</i>	
For CTT	
1. Perform confirmatory factor analysis	Very Good – Confirmatory factor analysis performed [^]
2. Provide clear information on how the factor analysis will be performed, e.g. software program, method of estimation, whether and how assumptions will be checked, rotation method, criteria for model fit.	Clear information on the performance of the analysis is provided ^{*^}
3.&4. For IRT/Rasch	Not Applicable ^{*^}
5. Perform the analysis in a sample with an appropriate number of patients (taking into account expected number of missing values)	Very Good - FA: 7 times number of items and ≥ 100 ^{*^}
6. Provide a clear description of how missing items will be handled	The way missing items will be handled is clearly described ^{*^}

Notes.

* Strange et al.'s (2021) development stage

^ Evaluation stage within present thesis

Structural validity refers to the degree to which the scores of a PROM adequately reflect the dimensionality of the construct being measured (Mokkink et al., 2019). Strange et al. (2021) conducted EFA which proposed a two-factor structure for the TMVT that corresponded to theoretically distinct but related components of VT (Impact on Individual, and Dangerous World).

In the present thesis, CFA was performed on items responses from a different, larger sample of self-reported helping professionals to explicitly test the dimensional structure of the TMVT in line with best-practice recommendations for structural validity assessment (Boateng et al., 2018; Mokinkk et al., 2019). Model fit was evaluated following conventional guidelines (Kline, 2016). Decisions were informed by theory and not solely by modification indices, consistent with Messick's (1995) argument that model refinement should be conceptually defensible. Present findings upheld Strange et al.'s (2021) two-factor structure of the TMVT as an essentially unidimensional structure characterised by a strong general VT scale with two subfactors (II and DW). This is consistent with contemporary psychometric theory, which recognises that complex psychological constructs may be conceptually multidimensional while remaining empirically dominated by a general factor that justifies the use of a total score (Reise et al., 2010; Reise, 2012).

Structural validity can be viewed from a critical realist perspective of the underlying construct structure rather than a definitive representation (Edwards & Bagozzi, 2000). This interpretation avoids expressing statistical factors as ontologically distinct entities as the structure recognises theoretical influences and not just statistical grounding of the model. As such, the two subfactors of the TMVT can be understood as different empirical expressions of a single underlying generative mechanism of VT, shaped by contextual and relational conditions (Bhaskar, 2008).

Future research could further evaluate the structural validity of the TMVT by using larger samples and alternative modelling approaches, for example multi-group CFA to measure variance across professions, gender, and cultural groups, and bifactor modelling to refine understanding of item functioning and dimensionality.

3.3. Internal Consistency

Table 25

COSMIN-SDC Criteria and Ratings for Internal Consistency

COSMIN-SDC Criteria	COSMIN-SDC Rating
<i>Design Requirements</i>	
1. Check whether a scale or a subscale is unidimensional	Very Good - Evidence provided that each scale or subscale is unidimensional [^]
2. Perform the analysis in a sample with an appropriate number of patients (taking into account expected number of missing values)	Very Good - ≥ 100 patients ^{*^}
3. Provide a clear description of how missing items will be handled	Very Good - The way missing items will be handled is clearly described
<i>Statistical Methods</i>	
4. For continuous scores: calculate Cronbach's alpha or Omega for each unidimensional scale or subscale	Very Good - Cronbach's alpha, or Omega will be calculated ^{*^}
5. For dichotomous scores: calculate Cronbach's alpha or KR-20 for each unidimensional scale or subscale	Very Good - Cronbach's alpha or KR-20 will be calculated ^{*^}

COSMIN-SDC Criteria	COSMIN-SDC Rating
For IRT-based scores: calculate standard error of theta (SE (θ)) or reliability coefficient of estimated latent trait value (index of (subject or item) separation) for each unidimensional scale or subscale	Not Applicable*^
<i>Notes.</i>	
* Strange et al.'s (2021) development stage	
^ Evaluation stage within present thesis	

COSMIN-SDC states that internal consistency should only be evaluated for reflective patient-reported outcome measures with demonstrated unidimensionality (Mokkink et al., 2019). This reflects the conceptual requirement that items within a scale are expected to be manifestations of the same latent construct (Avila et al., 2015; Edwards & Bagozzi, 2000). As such, COSMIN-SDC emphasises that structural validity (typically through factor analysis) must be established before reliability coefficients (Terwee et al., 2018). In line with these requirements, Strange et al. (2021) conducted EFA which found a two-factor structure for the TMVT. Internal consistency was calculated for each factor, reporting Cronbach's alpha values that demonstrated good initial reliability and indicated that items within each factor were statistically, and conceptually coherent. However, Strange et al.'s (2021) sample was modest (N=206), and COSMIN-SDC recommends replication with larger, more diverse samples to ensure reliability generalises across populations (Prinsen et al., 2018).

The present thesis sought to replicate and extend Strange et al.'s (2021) analyses (including internal reliability) with a different, larger sample of the target population of UK helping professionals exposed to client traumas. Reliability at both test-retest timepoints was assessed through internal consistency (Cronbach's alpha and corrected item-total correlations) for the TMVT full scale and both subscales. At Time One (T1; N=418), Cronbach's alpha calculations demonstrated that the TMVT full scale and subscales had

‘good’ to ‘excellent’ internal consistency. Corrected item-total correlations indicated that all items contributed meaningfully to total scale and subscale scores, and Alpha if item deleted values further indicated strong internal coherence. Internal consistency scores at Time Two (T2; N=318) remained or improved to ‘excellent’.

From a critical realist perspective, interpreting internal consistency required reflexive attention to the nature of psychological constructs, as VT represents a real but non-observable generative mechanism that can only be accessed through imperfect indicators (Bhaskar, 2008; Fletcher, 2017; Maxwell, 2012). High internal consistency of the TMVT suggests that items captured related reflections of the underlying mechanism, however, they do not guarantee that the full scope of the construct has been adequately represented (Streiner, 2003). Very high coefficients (e.g., $> .90$) such as the two-item DW subscale may signal item redundancy rather than conceptual robustness (Streiner, 2003). This aligns with COSMIN-SDC’s position that internal consistency should demonstrate sufficient interrelatedness without compromising the breadth of construct coverage (Terwee et al., 2018).

As the VT is defined as encompassing cognitive, emotional, relational, and worldview impact (McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995), internal consistency analysis was conducted alongside other psychometric properties of validity and dimensionality to further evaluate the TMVT. Strange et al. (2021) proposed that the TMVT could be interpreted as reflecting a single overarching VT construct with two distinct yet interconnected domains (II and DW). As such, it is psychometrically defensible to report both a total scale score of VT and two separate subscale scores (Reise, 2012; Rodriguez et al., 2016). Artificial collapse or homogenisation of factors could risk narrowing the construct which would undermine both conceptual clarity and theoretical coherence (Edwards & Bagozzi, 2000).

Consistent with COSMIN-SDC statistical criteria and emphasis on preserving data integrity, the present study ensured transparency around missing data (Mokkink et al., 2018). The decision to retain missing data and

handle using model-based estimation aligned with established methodological guidance that replacing with series mean substitutions can distort and bias data in psychometric reliability, validity and factor analysis (Baraldi & Enders, 2010; Schafer & Graham, 2002). Further evaluation studies should ensure that internal consistency of the TMVT is reassessed when modified or applied to new samples (Mokkink et al., 2019).

3.4. Cross-cultural validity/measurement invariance – Not Applicable

The COSMIN-SDC encourages invariance testing of whether PROM items perform similarly across different and multiple populations (e.g. different ethnicity or language groups; Mokkink et al., 2019). Neither Strange et al. (2021) nor the present thesis evaluated cross-cultural validity. This was a deliberate scope decision, as the TMVT was developed and validated within a UK context and in the English language.

Demographic characteristics of participants within both Strange et al.'s (2021) preliminary study and the current thesis described a predominantly female-identifying, white sample aged in their thirties. The present study captured additional demographic information regarding participants professional role and subject area, however due to insufficient subgroup sizes (<200 per group), invariance testing was not feasible (Kline, 2016; Mokkink et al., 2019).

The absence of cross-cultural validation and invariance testing is recognised as a limitation. Future research should consider systematic adaptation and validation of the TMVT across linguistic and cultural contexts (e.g. professions, countries etc), in line with COSMIN-SDC recommendations for measurement invariance and differential item functioning (Terwee et al., 2018). Such work is particularly important in relation to equality, diversity, and inclusion, as unvalidated use of psychological measures across cultural groups risks construct bias, reduced interpretability, and inequitable assessment practices (Van de Vijver & Tanzer, 2004). As such, further cross-cultural

evaluation would not only strengthen the generalisability of the measure but also align its use with professional and ethical commitments to inclusive, culturally responsive psychological research and practice (American Psychological Association, [APA], 2017; British Psychological Society [BPS], 2021; 2025). Furthermore, cross-cultural validation would align with principles of critical realism which posit that while causal mechanisms of VT may be universal, their empirical expression may differ across contexts, meaning that observable responses may vary across groups (Bhaskar, 2008; Danermark et al., 2002; Sayer, 2000).

3.5 Measurement error and reliability

Table 26
COSMIN-SDC Criteria and Ratings for Measurement error and reliability

COSMIN-SDC Criteria	COSMIN-SDC Rating
<i>Design requirements</i>	
1. Use at least two measurements	Very Good - At least two measurements^
2. Ensure that the administrations will be independent	Very Good - Independent measurements^
3. Ensure that the patients will be stable in the interim period on the construct to be measured	Adequate - Assumable that patients will be stable^
4. Use an appropriate time interval between the two measurements, which is long enough to prevent recall, and short enough to ensure that patients remain stable	Very Good - Time interval appropriate^
5. Ensure that the test conditions will be similar for the measurements (e.g. type of administration, environment, instructions)	Assumable that test conditions similar^

COSMIN-SDC Criteria	COSMIN-SDC Rating
6. Perform the analysis in a sample with an appropriate number of patients (taking into account expected number of missing values)	Very Good - ≥ 100 patients [^]
<i>Statistical methods for measurement error</i>	Not Applicable [^]
<i>Statistical methods for reliability</i>	
6. For continuous scores: calculate an intraclass correlation coefficient (ICC)	Very Good - ICC calculated, and model or formula of the ICC is clearly described [^]
7. For dichotomous/nominal/ordinal scores: calculate kappa	Not applicable [^]
8. For ordinal scores: calculate a weighted kappa	Not applicable [^]
9. Provide a clear description of how missing items will be handled	Very Good - The way missing items will be handled is clearly described

Notes.

* Strange et al.'s (2021) development stage

[^] Evaluation stage within present thesis

COSMIN-SDC distinguishes between reliability, defined as the extent to which scores are free from random error, and measurement error, which concerns the precision of individual scores and the smallest detectable change (Mokkink et al., 2019). Strange et al. (2021) reported high internal consistency for both TMVT subscales, providing initial evidence of reliability at the scale level, however, did not assess temporal stability or measurement error.

The present thesis continued from Strange et al.'s (2021) development of the TMVT and completed next stages of scale evaluation as recommended by Boateng et al. (2018). This included further analysis of internal consistency and

by examining test-retest reliability of TMVT scores following a two-week interval (consistent with recommended timeframes for assessing temporal stability in psychological measures; Streiner et al., 2015). This approach aligned with COSMIN-SDC guidance for reliability assessment to evaluate stability of the underlying construct over the retest period (Mokkink et al., 2019).

Measurement error was not formally evaluated in the present study, as agreement parameters such as the Standard Error of Measurement and Smallest Detectable Change were not calculated as a deliberate scope decision rather than a methodological oversight, a decision that was consistent with recommendations for early stages of validation (Boateng et al., 2018). In line with COSMIN-SDC guidance, this domain therefore remains untested, and future research should address this limitation to support interpretation of individual-level change.

From a critical realist perspective, test-retest reliability and measurement error can be interpreted as useful, observable indicators of a construct (empirical domain) but can also be limited in directly capturing underlying causal mechanisms (real domain, Fletcher, 2017; Maxwell, 2012). Reflexively, this highlights how psychometric evidence is always mediated by fallible indicators (Bhaskar, 2008).

3.6 Criterion validity – Not Applicable

Criterion validity was not assessed, as no gold standard measure of VT currently exists. In line with COSMIN-SDC guidance, construct validity was instead evaluated through hypothesis testing, including convergent, divergent, and concurrent validity with theoretically related and unrelated measures (Mokkink et al., 2018; 2019).

3.7 Hypotheses testing for construct validity

Table 27

COSMIN-SDC Criteria and Ratings for Hypothesis testing and construct validity

COSMIN-SDC Criteria	COSMIN-SDC Rating
A. Comparison with other outcome measurement instruments (convergent validity)	
<i>Design requirements</i>	
1. Formulate hypotheses about expected relationships between the PROM under study and other outcome measurement instrument(s)	Very Good - Hypotheses formulated including the expected direction and magnitude of the correlations stated
2. Provide a clear description of the construct(s) measured by the comparator instrument(s)	Very Good - Construct(s) measured by the comparator instrument(s) is/are clearly described*^
3. Use comparator instrument(s) with sufficient measurement properties	Adequate - Sufficient measurement properties of the comparator instrument(s) but not sure if these apply to the study population*^
4. Perform the analysis in a sample with an appropriate number of patients (taking into account expected number of missing values)	Very Good - ≥ 100 patients*^
5. Use an appropriate time schedule for assessments of the PROM of interest and comparison instruments	Very Good - PROM and comparison instrument(s) administered at the same time*^

COSMIN-SDC Criteria	COSMIN-SDC Rating
<i>Statistical methods</i>	
6. Use statistical methods that are appropriate for the hypotheses to be tested	Very Good - Statistical methods are appropriate*^
7. Provide a clear description of how missing items will be handled	Very Good - The way missing items will be handled is clearly described*^
B. Comparison between subgroups (discriminative or known-groups validity)	Not Applicable*^

Notes.

* Strange et al.'s (2021) development stage

^ Evaluation stage within present thesis

In the absence of a gold standard for PROMs, COSMIN-SDC recommends evaluating construct validity through hypothesis testing and examining whether relationships with other measures behave as theoretically expected (Mokkink et al., 2019). Strange et al. (2021) provided preliminary evidence of construct validity by demonstrating expected associations between TMVT scores and measures of related and unrelated constructs.

The present thesis satisfied COSMIN-SDC criteria for construct validity and strengthened Strange et al.'s (2021) preliminary evidence by testing explicit, theory-driven hypotheses regarding convergent, divergent, and concurrent validity. Selection of comparator measures followed Kane's (2013) and Messick's (1995) frameworks for theoretical coherence. TMVT scores demonstrated patterns of association consistent with theoretical expectations, supporting the interpretation that the measure indexes VT rather than broader distress or occupational strain.

Critical realism frames correlations as empirical regularities reflecting underlying causal tendencies, rather than claims of direct causal effects

(Maxwell, 2012). Furthermore, construct validity is understood by critical realism as an evolving evidential judgement rather than a definitive property established by a single study (Messick, 1995; Sayer, 2000). The present findings therefore contribute to a cumulative validation argument, strengthening confidence in the TMVT while acknowledging the provisional nature of empirical knowledge.

Future research could extend construct validity testing through known-groups designs and longitudinal hypothesis testing, to consider how VT manifests across roles, contexts, and time.

3.8 Responsiveness – Not Applicable

Responsiveness refers to the ability of a measure to detect change over time and is considered to indicate longitudinal validity (Mokkink et al., 2010; 2019). COSMIN-SDC guidance emphasises the need for intervention or longitudinal studies to evaluate change sensitivity (Terwee et al., 2018). From a critical realist perspective, this reflects recognition that the causal mechanisms underpinning VT are dynamic, context-dependent, and temporally variable, such that any valid measure must be sensitive to fluctuations in deterioration and recovery (Bhaskar, 2008; Danermark et al., 2002; Pawson & Tilley, 1997; Sayer, 2000).

Strange et al. (2021) implemented a cross-sectional design to measure participant VT at a singular time point. In line with Boateng et al. (2018) and COSMIN-SDC guidance, a longitudinal, repeated measures design was utilised to analyse test-retest reliability of the TMVT at two time points that were approximately two weeks apart (in line with recommended time intervals; Streiner et al., 2015). However, the present study did not meet COSMIN-SDC requirements for construct and/or criterion approaches to evaluating responsiveness (Mokkink et al., 2019). The COSMIN-SDC explicitly requires specified a-priori hypotheses regarding the direction and scale of change, which were not predefined in the present thesis due to study aims of establishing initial structural validity and reliability. Furthermore, this study was not concerned with

comparison of change with a gold standard measure (of which there are none for VT), nor with between group or pre-post intervention change, as outlined for COSMIN-SDC-compliant responsiveness testing (Mokkink et al., 2019). As such, longitudinal analyses of temporal stability were interpreted descriptively rather than inferentially, consistent with a critical realist commitment to avoiding epistemic overreach beyond the inferential limitations of the study design (Bhaskar, 2008; Danermark et al., 2002; Sayer, 2000).

Future research could formally evaluate TMVT responsiveness using a-priori hypotheses concerning expected change, either through comparison with external measures, known-groups designs, or pre-post intervention studies to establish longitudinal validity (Mokkink et al., 2019). This would enable further theorisation of how contextual conditions (e.g. demographics, role, setting, test-retest interval etc) may influence VT variance, in line with best measurement practices and critical realism.

3.9 Translation process – Not Applicable

The COSMIN-SDC states that translation of an existing PROM will increase the validity of the measure (Mokkink et al., 2019). The present thesis did not undertake translation or cross-cultural adaptation procedures in line with COSMIN-SDC guidance, as this lay outside the defined scope and remit of the study which focused on psychometric validation of the TMVT within a UK-based, English-speaking context.

COSMIN-SDC explicitly frames translation and cross-cultural validation (see 3.4) as subsequent stages of instrument development once sufficient evidence has been established for structural validity, reliability, and construct validity in the source language (Mokkink et al., 2018; 2019). Given the resource-intensive nature of rigorous translation procedures defined within the COSMIN-SDC (e.g. forward-backward translation, independent expert review, pilot testing, cross-cultural equivalence testing etc) undertaking such work was neither feasible nor methodologically justified within the aims of the current thesis (Boateng et al., 2018; Mokkink et al., 2019).

In line with critical realism, future research should consider how translation and adaptation of the TMVT is not solely linguistic but also concerns conceptual and cultural equivalence, as failure to establish cross-cultural validity risks construct bias and inequitable assessment across groups (Beaton et al., 2000; Terwee et al., 2018; Van de Vijver & Tanzer, 2004). This would also align with professional multicultural guidelines (e.g. APA, 2017; BPS, 2021; 2025).

4. Conclusion

This critical appraisal demonstrated that the present thesis provides a methodologically rigorous and epistemologically coherent extension of Strange et al.'s (2021) early-stage development of the Trent Measure of Vicarious Trauma (TMVT). By systematically applying COSMIN-SDC standards alongside Boateng et al.'s (2018) staged framework for scale development, the study appropriately evaluated key psychometric properties, including construct validity through hypothesis testing, structural validity, internal consistency, and test-retest reliability. Furthermore, this critical appraisal provided transparent identification and justification for domains not yet addressed (e.g. measurement error, responsiveness, translation etc).

Grounded in a critical realist ontology, this critical appraisal has interpreted psychometric findings as fallible but informative empirical indicators of underlying generative mechanisms of VT, rather than as definitive representations of the construct (Bhaskar, 2008; Fletcher, 2017; Maxwell, 2012). This perspective supported epistemic restraint by avoiding overextension of claims beyond what the study design could warrant, and reinforced the importance of cumulative, theory-led validation (Messick, 1995; Kane, 2013).

While no measurement model can fully capture the ontological depth of VT (Edwards & Bagozzi, 2000; Maxwell, 2012), the TMVT is emerging as a scientifically credible and philosophically defensible measure with promising evidence for validity and reliability within its intended context of use, whilst addressing long-standing measurement issues in VT research, including

conceptual overlap and inadequate psychometric rigour (Strange et al., 2021). Clear recommendations for future research are identified, including measurement error estimation, responsiveness testing, and cross-cultural validation, ensuring that further refinement of the TMVT proceeds in line with COSMIN-SDC best practice, critical realist principles, and commitments to equity, diversity, and inclusion.

Exposition of relevance and implications

1. Introduction

Vicarious Trauma (VT) has long been recognised as a significant occupational hazard for helping professionals exposed to the trauma narratives of clients, particularly within health, social care, and psychological services (Kim et al., 2022; McCann & Pearlman, 1990; McNellie & Rose, 2020; Pearlman & Saakvitne, 1995). Despite extensive theoretical discussion, progress in the field has been constrained by conceptual ambiguity and limitations in measurement (Hayes et al, 2013; Strange et al., 2021). The present thesis directly addressed these challenges by adhering to best practice guidelines (Boeteng et al., 2018; Mokkink et al., 2019) of robust psychometric validation of the newly developed Trent Measure of Vicarious Trauma (TMVT). This work expanded upon earlier exploratory work by Strange et al. (2021) through confirmatory factor analysis, internal consistency, test-retest reliability testing, and construct and criterion validity assessment. Findings provided relevant and meaningful contributions to clinical psychology research and practice by advancing both theoretical understanding and applied utility of VT.

2. New Knowledge and Theoretical Advancements

The present study provided further psychometric evaluation of the TMVT as a robust, valid measure of VT when used within a large, independent sample of UK-based helping professionals. Internal Consistency was high across total and subscale scores and demonstrated patterns of association with theoretically related and unrelated measures whilst representing a distinct concept. These findings refine theoretical boundaries between VT, burnout, compassion fatigue, secondary traumatic stress, and lifetime trauma exposure. The VT literature has long been characterised by conceptual overlap and measurement imprecision, with many studies relying on instruments originally developed for burnout or post-traumatic stress symptoms (Hayes, 2013; Sabin-Farrell & Turpin, 2003; Strange et al., 2021). Divergent validity demonstrated that VT represents a theoretically coherent and empirically distinct construct, particularly when operationalised through causal mechanisms rather than symptom clusters

(Maxwell, 2012; Sayer, 2000). This strengthens theoretical clarity and support for VT as a process involving meaning-making, belief change, and individual impact, rather than as a variant of stress or burnout. In doing so, this research advances VT theory by grounding it in measurement that reflects its conceptual foundations.

This thesis provided the first confirmatory evidence for the TMVT's two-factor structure of Impact on Individual (II) experience and Dangerous World (DW) beliefs, as initially found by Strange et al. (2021). These findings support current theoretical and methodological understandings of essential unidimensionality (Reise, 2012; Rodriguez et al., 2016) and VT as a latent construct that comprises both schema-level cognitive disruption and affective-behavioural impact (Pearlman & Saakvitne, 1995). The robustness of the DW factor suggests that altered beliefs about safety, trust, and threat are central to VT, rather than secondary correlates (McCann & Pearlman, 1990; 1992; Pearlman & Saakvitne, 1995). This distinction is important as it differentiates VT from adjacent constructs such as burnout or secondary traumatic stress, which are typically operationalised through symptoms of exhaustion, hyperarousal, or emotional detachment (Demerouti et al., 2003; Figley, 1995; Stamm, 2010). The variability within the II factor reflects heterogeneity of individual emotional, cognitive, and behavioural responses to trauma work. This highlights how different and/or multiple contextual influences may contribute to state-like aspects of VT, such as avoidance or emotional withdrawal.

Findings provide empirical support for Constructivist Self-Development Theory (CSDT; McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995) by validating the cognitive-schema component of VT through the DW factor. CSDT proposes that exposure to trauma material can disrupt fundamental beliefs about the self, others, and the world, including changes in assumptions about trust and safety (McCann & Pearlman, 1990). This proposition has been widely cited but rarely tested through dedicated measurement of VT (Strange et al., 2021). By distinguishing cognitive worldview change (DW factor) from subjective impact (II factor), this research refines internal VT processes and supports the argument that schema-level alterations are not merely secondary effects but defining features of VT.

This research was also the first to explore the temporal stability of the TMVT by incorporating a two-week test-retest component to the survey design. Findings demonstrated poor test-retest reliability suggesting substantial short-term fluctuation in individual VT scores, which challenges the longstanding assumption that VT develops only as a cumulative, linear, and stable process (Saakvitne & Pearlman, 1995). Instead, these findings may support dynamic conceptualisations of VT as responsive to contextual and organisational factors, such as workload intensity, exposure to specific trauma material, supervisory containment, and organisational climate (Bercier & Maynard, 2015; McNellie & Rose, 2020). This aligns with systemic and ecological trauma frameworks that locate trauma work within broader relational, organisational, and socio-political contexts (Hernandez-Wolfe et al., 2015; Trippany et al., 2004). These findings have important implications for both theory and practice. Conceptually, they support a more nuanced understanding of VT that accommodates short-term fluctuation without trivialising impact. Practically, they caution against over-interpretation of short-term changes in VT scores, emphasising the need for contextualised and ethically grounded use of measurement tools and further longitudinal analysis (Mokkink et al., 2019).

3. Implications for Clinical Psychology

The TMVT's emphasis on belief change and experiential impact aligns closely with formulation-based practice within clinical psychology, positioning the TMVT as a reflective and developmental tool rather than a diagnostic instrument (Johnstone & Dallos, 2014). At the level of individual practice, the TMVT offers a structured means of supporting reflective engagement with the impact of trauma-focused work. The tool could also be utilised within supervision or reflective spaces to facilitate reflective discussion about cognitive shifts, emotional burden, professional boundaries, and professional identity in line with standards and guidelines (e.g. British Psychological Society [BPS]; 2021; Health and Care Professions Council [HCPC], 2023). The TMVT may also have wider educational and professional development value by offering a framework for understanding the cognitive and emotional impacts of trauma work and promoting ethically grounded practice. For example, reflecting on

clinical work (Fook, 2002; 2011; Mann et al., 2009), professional development and competencies (Spendelov & Butler, 2016), and personal awareness (Cropley et al., 2010; K rkk  et al., 2016).

The strong psychometric performance of the TMVT suggests that it may serve as a reliable screening tool for identifying practitioners who may be experiencing elevated VT and could support early identification and prevention of practitioner distress (Strange et al., 2021). However, given the poor test-retest findings within the current study, fluctuations may reflect normal variability in emotional responses to trauma work or changes in exposure (Bercier & Maynard, 2015; McNellie & Rose, 2020). As such, caution should be taken in interpreting short-term changes in TMVT scores as evidence of deterioration or recovery and should also consider other contextual factors that may be contributing to clinician experience to avoid pathologising individual distress that may be fundamentally impacted by organisational or systemic sources (Hernandez-Wolfe et al., 2015; Hobfoll, 2001; Schaufeli & Taris, 2013; Trippany et al., 2004).

The cognitive shifts captured by the DW factor may also have implications for clinical practice. Altered beliefs about danger and safety could contribute to heightened risk sensitivity, impact on decision-making, reduced therapeutic optimism, or defensive clinical practices that can negatively impact therapeutic relationships and quality of care (Barros et al., 2020; Moulden & Firestone, 2007; Trippany et al., 2004). VT has also been linked to increased absenteeism, reduced productivity, and broader service-level impacts (Lonergan et al., 2004; Saakvitne & Pearlman, 1996). These further underscore the importance of routine, reflective tools such as the TMVT to support early and accurate identification, conceptual clarity, and robust measurement of VT to inform appropriate prevention and intervention strategies.

At an organisational level, the strong associations between VT and burnout further underscore the need for structural interventions. National data indicates high levels of psychological distress, sickness absence, and retention difficulties within the healthcare workforce (Hall et al., 2016; NHS Digital, 2024). Addressing VT therefore necessitates a shift away from individualised resilience

narratives toward organisational responsibility, including manageable caseloads, protected reflective spaces, high-quality supervision, and trauma-informed leadership cultures (Bakker & Demerouti, 2017; Karessek, 1979).

The availability of a psychometrically sound VT measure has clear relevance for clinical governance, risk management, and policy development. At a policy and governance level, the availability of a validated VT measure has relevance for workforce planning, clinical governance, and practitioner safeguarding. National frameworks such as the NHS People Plan (NHS England, 2020), the Long-Term Workforce Plan (NHS England, 2023), and the NHS Health and Wellbeing Framework (Health Education England, 2019) increasingly recognise staff wellbeing as integral to service quality and patient safety. This study provides empirical evidence that trauma-related occupational strain is measurable and theoretically distinct, strengthening the case for preventative and systemic responses.

4. Broader Implications for Health and Social Care

Beyond clinical psychology, VT represents a significant workforce wellbeing issue across health, social care, criminal justice, and third-sector settings where practitioners are frequently exposed to the trauma narratives of their clients. High levels of trauma exposure, combined with resource constraints and organisational pressures, have implications for staff retention, sickness absence, and service quality (Kinman & Grant, 2025). By strengthening the measurement of VT, this thesis proposes more precise research into how trauma work affects professionals across disciplines and sectors and how systems might better support them.

Framing VT as a predictable occupational risk arising from systemic conditions rather than an individual failing aligns with trauma-informed and relational approaches to service design (Hawley, 2022; Ruch et al., 2018; Sweeney et al., 2018) and has implications for commissioning, funding, service design, and workforce planning, particularly in publicly funded health and social care systems. For example, if VT is shown to demonstrate state-like

characteristics, psychologically informed incident debrief services and team support could be considered.

5. Equality, Diversity, and Inclusion (EDI) Implications

VT also has important implications for equality, diversity, and inclusion within the workplace. Practitioners from minoritised racial, ethnic, gender, or professional groups often face additional stressors that may heighten vulnerability to VT, including discrimination, cultural taxation, reduced access to supportive structures, and disproportionate representation in lower-paid, trauma-exposed roles (Bernal & Domenech Rodríguez, 2012; Naqvi et al., 2022; Nguyen et al., 2024; Periera & Leary, 2024; Williams, 2019).

While the causal mechanisms of VT may be broadly universal, their empirical expression is likely shaped by cultural, organisational, and structural contexts (Bhaskar, 2008; Danermark et al., 2002; Sayer, 2000). Although the present study included a diverse sample, it was not feasible to examine group differences. Furthermore, the TMVT was developed and validated within a UK cultural context, raising questions about cross-cultural generalisability. Poorly or non-validated use of psychological measures across cultural groups risks construct bias, reduced interpretability, and inequitable assessment practices (Van de Vijver & Tanzer, 2004). Attending to these differences and conducting cross-cultural validation of the TMVT is essential to avoid construct bias, to uphold professional commitments to culturally responsive and anti-discriminatory practice, and to ensure that the TMVT can function equivalently and ethically across diverse populations (Terwee et al., 2018; Van de Vijver & Tanzer, 2004, BPS, 2021; 2025; HCPC, 2023).

6. Conclusion

This thesis makes a substantive contribution to the understanding and measurement of VT. By providing confirmatory evidence for the TMVT's two-factor structure, demonstrating strong validity, and revealing short-term variability in VT, the study advances theory, measurement, and practice. It empirically supports CSDT, clarifies theoretical boundaries, and reframes VT as

a dynamic, multi-component phenomenon embedded within organisational and systemic contexts. Implications extend across clinical psychology, health and social care, and policy domains, emphasising the need for reflective, ethical, and systemically informed approaches to future VT research, intervention, and workforce policy.

2.5 Future Research Topic Outline

Working title: Psychometric properties and application of the Trent Measure of Vicarious Trauma (TMVT)

Overview of background and rationale: Vicarious Trauma (VT) describes the cumulative cognitive, emotional, and behavioural impact of sustained exposure to clients' traumatic material, particularly changes in core beliefs about safety, self, and the world. VT is difficult to measure accurately due to conceptual overlap with other constructs such as burnout, compassion fatigue, and secondary traumatic stress, and reliance on lengthy or poorly specified measures. Recent development and validation of the Trent Measure of Vicarious Trauma (TMVT) has addressed several of these limitations through a Delphi-informed, theory-driven process and in line with best-practice evaluation frameworks. Continued evaluation is required to further validate the TMVT as a promising new measure of VT.

Future areas of investigation:

- How responsive is the TMVT across short- and long-term intervals, (e.g. 2 weeks, 3-6 months, 12 months, longer), and what are the implications for total versus subscale score use (i.e. frequency vs intensity)?
- Does VT vary across groups (profession, gender, culture etc), and how might structural inequalities interact with differences in VT scores?
- How do helping professionals understand and interpret TMVT items, and how can qualitative meaning-making inform theoretically justified scale refinement or expansion?
- Do TMVT scores predict clinically and organisationally meaningful outcomes (e.g. ethical practice, supervision needs, workforce retention), and how are these relationships shaped by organisational demands and resources?

Possible Methodologies:

- Quantitative: Online survey design to different samples with different scoring formats; cross-sectional and/or longitudinal repeated measures across multiple time points; multi-group study to compare across profession, gender, country etc
- Qualitative or mixed-methods: Semi-structured interviews or focus groups exploring item interpretation, relevance, missing constructs
- Observational or pre-post intervention (with comparison group)

Key References

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2.6 Statement of Impact and Dissemination

1. Statement of Impact

Psychological research impact emphasises extending work beyond academic contribution by demonstrating real-world effects and changes for individuals, organisations, and wider systems, such as influences on future research, understanding, decision-making, policies, and practice (UK Research and Innovation [UKRI], 2025). This aligns with the critical realist perspective underpinning this thesis, which proposes how impact is not limited to observable outcomes alone, but also includes changes in underlying mechanisms, structures, and generative processes that shape experience and behaviour over time (Bhaskar, 2008; Fletcher, 2017; Maxwell, 2012). For the present thesis and Trent Measure of Vicarious Trauma (TMVT), the following statement of impact is informed by Cruz Rivera et al.'s (2017) research impact framework, current guidance for applied health research impact (National Institute for Health and Care Research [NIHR], 2023; UKRI, 2025), and professional standards and guidance for psychologists (British Psychological Society [BPS], 2021; Health and Care Professions Council [HCPC], 2023; 2024).

1.1 Primary Research-Related Impact

1.1.1 Knowledge production. The TMVT contributes new empirical and theoretical knowledge on indirect trauma exposure by operationalising Vicarious Trauma (VT) as comprising individual impact and schema-level components. Best practice guidelines (Boateng et al., 2018; Mookink et al., 2019) informed development and evaluation of the new TMVT which addressed longstanding conceptual ambiguity with similar, conflated but distinct constructs and existing measures, such as secondary traumatic stress, compassion fatigue, and burnout (Hayes, 2013; McNellie & Rose, 2020; Saakvitne & Pearlman, 1996; Strange et al., 2021). The TMVT also provides further evidence for Constructivist Self-Development Theory (CSDT; McCann & Pearlman, 1990; 1992; Pearlman & Saakvitne, 1995) and represents a theoretically coherent and psychometrically validated measure that distinguishes meaning-level cognitive

changes from symptom-based distress responses whilst recognising both as core components of overall VT experiences among helping professionals. These findings can be considered as having conceptual impact due to providing further knowledge about how VT is understood and utilised. From a critical realist perspective, this impact operates at the level of generative mechanisms, enabling more accurate explanation of how indirect trauma exposure impacts psychological change (Bhaskar, 2008; Fletcher, 2017; Maxwell, 2012).

1.1.2 Research methods development. The development and validation of the TMVT demonstrates methodological impact through creation and empirical assessment of a psychometrically robust measurement tool that could be suitable for applied and research contexts. This enables recommendations for future empirical research as well as use within service evaluation and workforce wellbeing studies to explore and assess VT using a psychometrically validated measure. Adherence to best practice frameworks (Boateng et al., 2018; Mokkink et al., 2019) provides clear next steps for further scale evaluation such as measurement error estimation, responsiveness testing, and cross-cultural validation, ensuring that further refinement of the TMVT proceeds in line with best practice, critical realist principles, and commitments to equity, diversity, and inclusion.

1.1.3 Research capacity building. The TMVT enhances research capacity by providing researchers, clinicians, and services with a theoretically driven and psychometrically validated instrument for investigating VT among helping professionals. There is feasibility for the TMVT to be utilised across role and settings, supporting capacity building within real-world applications. For example, for use within clinical supervision, reflective space, training, evaluation contexts, and applied psychological research, consistent with NIHR expectations for impact (NIHR, 2023).

1.1.4 Research culture change. By legitimising and validating schema-level and individual-level VT impact among helping professionals, this research could support challenging cultural norms within healthcare that emphasise emotional containment and individual resilience while minimising cumulative harm and contextual and systemic influences. This thesis conceptualises VT as

a measurable, systemic phenomenon rather than individual weakness (Leffler & Godfery, 2025). It provides recommendations for real-world applications, such as use within supervision or reflective spaces to facilitate reflective discussion about cognitive shifts, emotional burden, professional boundaries, and professional identity in line with standards and guidelines (e.g. BPS, 2021; HCPC, 2023).

The rise of bots and AI-generated responses to online surveys and self-report measures threatens data integrity, participant authenticity, and validity of findings requiring a culture shift to research recruitment strategies (Liem, 2025). Prolific has been found to significantly outperform other recruitment platforms in areas of data quality, attention, comprehension, and reliability metrics (Peer et al., 2022). Using Prolific in this thesis helped to recruit a large and diverse sample whilst mitigating recruitment risks due to strong participant verification and quality controls, ability to include custom screening requirements, and automatic rejection of ineligible participants, invalid or empty responses, and unrealistic completion times (Liem, 2025; Peer et al., 2022; Prolific, 2025). Furthermore, Prolific ensures transparent, ethical and fair payment to safeguard participant welfare (Prolific, 2025), in line with professional guidance emphasising that payment incentives should recognise participants' time and contribution without exerting undue influence (BPS, 2021; Gelinas et al., 2018).

1.1.5 Academic dissemination. Dissemination through this thesis portfolio, conference materials, and planned publication to a peer-reviewed journal paper (*Traumatology*) will contribute to further scholarly understanding and critical debate on occupational and indirect trauma, psychometric assessment, and workforce wellbeing. This aligns with academic dissemination impact as described by Cruz Rivera et al. (2017) and UKRI (2025). See Statement of Dissemination section for further information.

1.2. Influence on Policy Making

1.2.1 Policy development. While formal, national policy impact is prospective at the current stage, the TMVT provides relevance and evidence to

inform decision-making frameworks, governance processes, and organisational policies for supporting the wellbeing of helping professionals exposed to client traumas. For example, to inform supervision standards and content, staff wellbeing policies, and trauma-informed systemic changes. These influences further align with policy development impact pathways recognised in applied health research (NIHR, 2023; UKRI, 2025), and with professional standards and guidelines (BPS, 2021; HCPC, 2023; 2024).

1.2.2 Policy implementation. The TMVT can support implementation of trauma-informed supervision and wellbeing policies by providing measurable indicators of VT at individual and group levels. This could support early identification and prevention measures for those at risk of VT, whilst enabling policy enactment is monitored and refined. The TMVT could also support building the evidence base for measurable and achievable targets for assessing and supporting staff wellbeing and culture change, in line with local and national policies such as the NHS People Plan, Long-Term Workforce Plan, and Health and Wellbeing Frameworks (NHS England, 2020; 2021; 2023).

1.2.3 Decision-making processes. At organisational and professional levels, evidence from the TMVT research can shape informed decisions, such as complexity and intensity of allocated caseloads, supervision frequency and content, and other workplace support provisions (Bercier & Maynard, 2015; Hernandez-Wolfe et al., 2015; Leffler & Godfrey, 2025; McNellie & Rose, 2020). At an individual level, reflective engagement with the TMVT could support practitioners to recognise individual cognitive, emotional, and behavioural impact of trauma-related work and respond accordingly, in line with professional standards of fitness to practice (HCPC, 2023). Using the TMVT within audits and service evaluations could shape decisions about delivering trauma support in trauma risk settings.

1.3. Health and Health Systems Impact

1.3.1 Service delivery. The TMVT research could inform service delivery by supporting services to identify trauma-related risk among trauma-exposed staff and to tailor support accordingly and responsively. For example,

service-wide awareness of how schema-level changes and withdrawal could be indicative of increased VT to enhance recognition amongst individuals, colleagues, and managers.

1.3.2 Quality and safety of care. By recognising and supporting the wellbeing and reflective capacity of helping professionals, the TMVT could indirectly enhance therapeutic care quality, safety, and ethical decision-making at the individual and system level, which could in turn reduce the risk of disengagement, absenteeism, and iatrogenic harm (Barros et al., 2020; Hernandez-Wolfe et al., 2015; McNellie & Rose, 2020; Moulden & Firestone, 2007; Trippany et al., 2004).

1.3.3 Health outcomes. Although the TMVT has not currently been used to measure outcomes directly and is not considered a diagnostic tool, it could be utilised to identify ways to improve practitioner wellbeing and enhance engagement, continuity, and care quality, suggesting plausibility to downstream health outcomes (Greenhalgh et al., 2016).

1.3.4 Health system efficiency. Early identification of VT through individual and organisational engagement with the TMVT research could support accurate and timely preventative interventions which could reduce the likelihood of related sickness absence, staff turnover, and reduced productivity (Lonergan et al., 2004; Saakvitne & Pearlman, 1996; Strange et al., 2021). The TMVT could be practical and useful not only for ongoing individual wellbeing monitoring but also for workforce sustainability, service capacity, and delivery of compassionate, high-quality care (Hernandez-Wolfe et al., 2015; McNellie & Rose, 2020; Strange et al., 2021; Trippany et al., 2004).

1.4. Health-Related and Societal Impact

1.4.1 Knowledge, awareness, and understanding. Engagement with the TMVT could enhance psychological mindedness among participants and stakeholders by increasing awareness not just of the manifestations of VT, but of its legitimacy as a genuine occupational hazard for helping professionals. This could represent conceptual and cultural impact at the systemic level to

recognise contextual and organisational influences of VT among individuals and workforces.

1.4.2 Attitudes and behaviour change. By reframing VT as a complex, systemic, and relational phenomenon that is conceptually distinct from burnout, compassion fatigue, and secondary traumatic stress, the TMVT could support shifts in professional attitudes towards distress, supervision, help-seeking, and self-care. Such attitudinal changes are recognised as important forms of societal impact which are influential in changing individual and systemic behaviours and healthcare cultures (Greenhalgh et al., 2016; Health Education England [HEE], 2019; Tsirimokou et al, 2023).

1.4.3 Equity and inclusion. The current findings relating to short-term variability in individual impact of trauma-related work exposure provides scope to consider how VT could also be influenced by structural and systemic factors as outlined above, including across diverse populations (McCann & Pearlman, 1990; Schwegler et al., 2025; Van de Vijver & Tanzer, 2004). This work should explicitly incorporate principles of equality, diversity, and inclusion, recognising that practitioners from marginalised groups may experience additional occupational stressors and inequalities, such as discrimination, precarity, lack of access to supervision, or inequitable pay that may interact with VT processes (Bernal & Domenech Rodríguez, 2012; Naqvi et al., 2022; Nguyen et al., 2024; Periera & Leary, 2024; Williams et al., 2019). This would align with professional multicultural guidelines and strengthen the ethical legitimacy of use across diverse populations (American Psychological Association, [APA], 2017; BPS, 2025; HCPC, 2023), and guidance on inclusive research (NIHR, 2023; UKRI, 2020).

The SOCIAL GGRRAAACCEEESSS framework (Burnham, 2013) could be embedded to enhance equality, diversion, and inclusion of trauma-exposed helping professionals by considering practitioners' personal, social, and occupational positions, biases, power dynamics, and inequalities. For example, elevated TMVT scores, particularly within the Dangerous World subscale, may represent realistic appraisals of structural threat for minoritised staff rather than cognitive distortion (Carter, 2007; Dalexis et al., 2025). Additionally, SOCIAL

GGRRAAACCEEESSS may identify protective factors against VT, such as religion and spirituality (Newmayer et al., 2016).

1.5. Broader Economic Impact

The TMVT provides a mechanism for identifying and preventing potential workforce harm that could contribute to sickness absence, attrition, and inefficiency within healthcare systems (Lonergan et al., 2004; NHS Digital, 2024; Saakvitne & Pearlman, 1996; Strange et al., 2021). Although formal economic evaluation is beyond the scope of the present thesis, the TMVT measure could enable future cost-effectiveness analyses and business case development for staff support interventions within sustainable trauma-related care services. Publication of the TMVT as a free to use measure and without professional training restrictions would enhance its' accessibility for research and clinical practice.

1.6 Measurement of Impact.

1.6.1 Research impact. Conceptual impact could be evidenced through citation of the TMVT as a measure that distinguishes schema-level changes (e.g. Dangerous World beliefs) from affective or behavioural symptom distress, addressing longstanding ambiguity in the VT literature. Impact could be measured through download statistics, citation tracking, requests from researchers and/or services to use the measure, reports of use in service evaluations, audits, or trials, and research including in reviews on VT.

1.6.2 Applied impact. Policy impact could be measured through citation in Trust or Integrated Care Systems policies, for example influencing new or revised guidelines, supervision standards or wellbeing frameworks, briefings to governance boards that may lead to pilot or widespread use. Service impact may be indicated through integration of the TMVT into reflective and supervision spaces as staff wellbeing outcomes, for early identification of VT, or to inform changes in support pathways and tailored interventions. Cultural impact could be reflected by shifts in attitudes towards VT, such as moving away from individualising distress towards systemic understanding of VT as an

occupational hazard, through increased help-seeking, self-care strategies, and in training attendance. The economic impact of this research could be reflected by reduced sickness absences, reduced staff turnover, greater retention, greater reported wellbeing of staff, and associated cost savings.

1.7 Conclusion

This impact statement provides an overview of how the present thesis and the TMVT measure can demonstrate impact upon research, health, and societal outcomes. The impact framework proposed by Cruz Rivera et al. (2017) informed consideration of current and future ways that the TMVT research can inform staged processes of conceptual, systemic, and economic change, in line with principles of critical realism and formal guidelines for research and practice in clinical psychology.

2. Statement of Dissemination

Dissemination is a core ethical and professional responsibility within applied psychological research to ensure that findings are not merely published but used (APA, 2017; BPS, 2021; HCPC, 2023; 2024; NIHR, 2023; UKRI, 2025). For clinical psychologists, dissemination must balance scientific rigour with accessibility, safeguard against misuse, and align with professional standards governing competence, communication, and public protection (BPS, 2021; HCPC, 2023; 2024). For the present thesis and the TMVT, the following statement of dissemination provides an overview of academic, clinical, public, and digital dissemination strategies, informed by applied research guidance, professional standards, and guidance for clinical psychologists.

2.1 Academic Dissemination

Academic dissemination of the TMVT would be through peer-reviewed journals (e.g. *Traumatology*), conferences, academic posters, and thesis repositories. These routes support methodological transparency, theoretical critique and debate, and cumulative knowledge-building, consistent with BPS expectations regarding evidence-based practice and scientific integrity (BPS,

2021). Conference presentations and posters would further allow for scholarly critique and refinement, particularly important for emerging psychometric tools (Mokkink et al., 2019).

Academic dissemination also aligns with APA (2017) guidance on the responsible communication of psychological science and with NIHR (2023) expectations that research outputs remain accessible to both academic and applied audiences. Informal academic routes could include newsletters, email signatures, and networking events which would increase visibility but may not guarantee meaningful engagement with audiences unless they lead to identifiable changes in uptake, collaboration, or service-level utility (UKRI, 2025). Publication of the TMVT as a free to use measure and without professional training restrictions would enhance its' accessibility for research and clinical practice.

2.2 Clinical Dissemination

Clinical dissemination could ensure that TMVT findings inform practice in ethically, contextually, and meaningfully appropriate ways, in line with standards of safe and effective research communication (HCPC, 2023). Methods could include dissemination to practitioners and systems via individual supervision, reflective practice groups, induction training, team or service meetings, governance and business meetings, intranet platforms, sharing with colleagues, research events, Special Interest Groups (SIGs), and staff wellbeing services. These approaches align with BPS (2018; 2021) guidance on knowledge exchange and reflective practice within professional communities.

Findings could be presented within clinical forums to encourage contextualised discussion of VT and the TMVT within organisational realities such as caseload pressures, supervision availability, and systemic constraints. This would support trauma-informed approaches to systemic influence of and reduce the risk of individualising distress, which would align with NIHR (2023) guidance on embedding research findings within service contexts. However, caution should be ensured to include clarity about non-diagnostic use and emphasis on service planning to prevent harm or misuse (HCPC, 2024). SIGs

and professional networks could offer additional opportunities for peer learning and cross-service comparison, fostering communities of knowledge and practice around workforce wellbeing.

2.3 Public Dissemination

Public dissemination supports transparency, accountability, and societal understanding of how psychological and public-funded research can contribute to wider societal benefits (UKRI, 2025). Strategies for public dissemination could include brief lay summaries of findings and details of the TMVT measure, non-academic posters, dissemination through charities or interest groups, and selective engagement with social or traditional media to enhance public understanding, awareness, and attitudes (UKRI, 2025). These approaches would also align with APA (2017) and BPS (2021) guidance on communicating psychological knowledge in accessible, accurate, and non-misleading ways.

Public dissemination of the TMVT could normalise discussions of VT and challenge cultural assumptions about emotional resilience in helping professionals. However, professional ethical standards have raised concerns regarding oversimplification, misinterpretation, and stigmatisation, and emphasise careful framing, avoidance of sensationalism, and promotion of systemic responsibility to ensure that public impact remains beneficial rather than harmful (BPS, 2021; HCPC, 2023). NIHR (2021) guidelines on plain English summaries could support with providing clear, jargon-free overview of research to members of the public.

2.4 Digital Dissemination

Digital approaches can offer accessible and scalable routes to open and inclusive research dissemination (NIHR, 2023; UKRI, 2025). Digital platforms including ResearchGate, LinkedIn, the Open Science Framework (OSF), other written and visual social media content, workplace e-learning and online resources could allow engagement with practitioner and leadership audiences, including early career researchers and practitioners (psychologists and multidisciplinary helping professionals), and for continuing professional

development (HCPC, 2024). However, digital dissemination also carries risks of decontextualisation and misuse. Ethical digital dissemination therefore requires reflexivity, adherence to professional conduct standards (BPS, 2021), and clarity regarding appropriate use, particularly given the sensitivity of trauma-related research.

2.5 Conclusion

Research dissemination is conceptualised as a professional, ethical, and applied process that extends beyond academic publication to include clinical, public, and digital engagement. By aligning dissemination strategies with APA, BPS, HCPC, NIHR, and UKRI guidance, the dissemination approaches proposed for the TMVT research intend to safeguard appropriate, equitable, and safe engagement to improve understanding, reflection, and trauma-informed systems within and beyond clinical psychology research and practice.

Reflections on learning as a scientist-practitioner

1. Introduction

Doctoral training in Clinical Psychology (DClinPsy) integrates research evidence, applied clinical skills, ethical reasoning, and reflective learning across practice (British Psychological Society [BPS], 2019). The Health and Care Professions Council (HCPC, 2023) defines this integration as the ability to practice safely and effectively within scope, engage in evidence-based practices, apply clinical judgement and critical, reflective evaluation, and to maintain continued professional development. This reciprocal relationship between research and practice supports the development of professional judgement, enabling psychologists to work flexibly and ethically as reflective scientist-practitioners in complex real-world contexts (Shapiro 1967; 2002). This section of my thesis portfolio provides a reflective account of personally meaningful learning areas across the DClinPsy research component, focussing on experience that I found significant to my development of knowledge, skills, attitudes, and practice as a scientist-practitioner.

2. Areas of research interest

One of my primary interests and motivators to pursue Clinical Psychology was around supporting staff wellbeing and work-related stress. During my previous (and ongoing) work experiences, I have frequently witnessed and experienced the realities of frontline staff providing 24/7 care to traumatised and troubled clients in under resourced settings, including the NHS and other multiagency, public services such as prisons, probations, and the voluntary and charity sectors. In my various clinical roles, I have been able to draw upon these experiences to empathise with the needs of individual staff and groups, and to consider how Clinical Psychologists can support trauma-informed care delivery and working environments in evidence-based ways. For example, by embedding evidence-based practices, consultation, supervision, team formulations, and reflective spaces. These experiences shaped my desire to focus my doctoral research project in the field of staff wellbeing and the impact of working with trauma.

3. Early research planning

Initial doctoral research supervisions required a significant shift in personal responsibility as I was no longer being directed as was the case at undergraduate and Masters level, but was now required to make, justify, and own research decisions. This period highlighted some of the emotional strain of professional development and the challenge of transitioning into the autonomy expected of doctoral trainees. Developing shared agreement of supervisor and supervisee expectations was paramount to understanding our respective roles and responsibilities at doctoral level. Initially, this autonomy felt exposing, but it later became foundational to my professional identity.

Early research focus involved consulting the literature to develop a greater understanding of current theoretical understandings of work-related trauma exposure and impact among clinical, forensic, and legal samples (such as therapists, social workers, psychiatrists, psychologists, crime scene analysts, internet crime task forces etc). Various methodologies (e.g. surveys, interviews, interventions), measures (e.g. standardised validated and novel psychometrics) and terminologies (e.g. burnout, secondary traumatic stress, vicarious trauma) were utilised across studies. Themes of findings and recommendations were collated and discussed in research supervision to identify gaps in the literature that could inform a thesis project. For example, an early consideration was based upon empirical and local evidence that highlighted how police officers who categorise child sexual exploitation materials are allocated to this work on mandated rotation not by choice, and don't have formal supervision or support to process how this work is reported to negatively impact their emotionally, relationally, and physically. However, this consideration was not feasible due to a potential field supervisor no longer being involved in this area, and local stakeholders reporting that potential participants would not be willing to engage. This was disappointing, however provided a valuable experience of research-related acceptability and refinement processes.

Another idea for a research project involved delivering an intervention to helpline advisors working for a charity developed to prevent child sexual abuse.

Anecdotally, there had been reports of how aspects of the role had negative impacts on helpline advisors' world view, relationships, parenting, and sleep, and that these experiences had increased since having to work from home during the COVID-19 pandemic. I met with a Practitioner Researcher from the charity who advised me that similar themes had been found as part of an internal exploratory study which was pending publication. From this, an intervention study was considered as the next step. Further reading and recommendations indicated that brief, online, individual intervention from an Acceptance and Commitment Therapy (ACT) approach would be the most appropriate, evidence-based model of delivery due to being shown to reduce staff burnout and distress by enhancing psychological flexibility, supporting engagement in personally meaningful work despite ongoing stressors, and enhancing workplace wellbeing and job satisfaction (Hayes et al., 2006). This idea was proposed and agreed to be a feasible thesis project at both early-stage research panels in first year. However, despite relevant research emphasising negative staff impact and potential benefits of short interventions, charity service managers consistently denied any need for further research or external staff support. It was agreed in research supervision that pressing an unwanted or unneeded intervention to a disagreeable service was not worthwhile or appropriate, and so this project was disbanded.

At the time, the collapse of my first project was very disappointing and invoked feelings of failure, shame, and panic about having to 'start again' with something different. However, as I write this reflective account, I can recognise this time as a powerful learning experience about the realities of applied research and practice within dynamic systems and needing to adapt without compromising research integrity. These early experiences and meetings supported the development of my skills as a scientist-practitioner through engagement with key stakeholders to identify service needs and consider feasible research designs. Discussions with senior staff and researchers highlighted the importance of collaboratively assessing the suitability of exploratory versus intervention-based approaches within specific contexts. This process increased my awareness of methodological and ethical considerations in practice-based research, including recruitment feasibility, acceptability of group versus

individual interventions, and alignment with existing support structures. Practical barriers such as staff time, resources, and funding constraints were identified as central to study design, reinforcing the need for stakeholder consultation in applied research. The experience of these meetings also strengthened my capacity to integrate research planning with real-world service needs and constraints by balancing empirical knowledge, methodological rigour, and contextual awareness to produce meaningful and implementable research within services, reflecting the core competencies expected of a doctoral-level Clinical Psychologist. However, developing awareness of gaps in the evidence base and emerging best practice has highlighted that, while psychologists may identify effective approaches, their implementation is contingent on whether such practices are recognised, prioritised, and desired by services, requiring negotiation between scientific knowledge, professional judgement, and organisational readiness rather than enforcement.

4. Deciding on an alternative project

With the support of research module convenors, two alternative thesis projects were presented to consider: a mixed-methods ACT intervention study with staff on an acute mental health ward, or continuation of a previous trainee's thesis to further validate a new psychometric measure of vicarious trauma (VT). I found this decision particularly difficult as it required confronting a conflict between my interests and feasibility, or as I felt it at the time: 'head vs heart'. Supporting staff had been a core motivation since before embarking on doctoral training, and an intervention study could afford me an opportunity to not only facilitate such, but to use it to contribute to the evidence base. However, this study would have involved pursuing NHS ethical approval and arranging frequent intervention appointments and follow ups with several members of staff in a neighbouring county Trust. In contrast, the validation study would involve disseminating an online survey and conducting advanced statistical analyses including confirmatory factor analysis and further tests of the measure's validity and reliability. Although quantitative psychometrics did not align with my research interests, I decided that the validation project was objectively and subjectively the most viable alongside other multiple and competing demands of

the course whilst also navigating my own personal and physical health difficulties. Making this decision required prioritising sustainability over preference; a decision that reflected the HCPC (2023) standard of managing workload and resources safely and effectively. Additionally, I was reassured by the fact that the scale validation project would prevent the loss of valuable initial research and make meaningful theoretical contributions to the conceptual understanding of VT in helping professionals, which in turn, could contribute to accurate and meaningful prevention and intervention strategies (BPS, 2021). Furthermore, I could deliver meaningful staff interventions as part of developing my competencies during my clinical placements alongside the research component. On reflection, the staff-focussed research that I have conducted throughout training has not only informed my evidence-based practice, but also my practice-based evidence (Shapiro 2002), as alongside my Systematic Literature Review and thesis journal paper, I am currently in the process of publishing a placement case study on effectively integrating models of interventions with Learning Disability staff.

5. Systematic Literature Review

For the Systematic Literature Review (SLR) assignment, I had wanted to keep close to my thesis topic of VT to enhance my knowledge of how it is conceptualised and utilised within the existing evidence base, as this formed part of my thesis rationale. I had previous clinical experience of working within deaf forensic mental health services during which time I worked closely with sign language interpreters (SLIs). I was acutely aware of the traumatic content that SLIs were exposed to as part of their roles, and aside from protecting time for briefing and debriefing client sessions, SLIs had no formal support structures for trauma-work related impact in the same ways that other helping professionals such as psychologists and nurses did. This observation from practice prompted me to explore this as the focus of my SLR, which reflected the principle that applied research questions should emerge from real-world needs (O'Brien et al., 2014).

The purpose of an SLR is to systematically summarise the available evidence and provide an unbiased and reliable assessment of the current state

of knowledge (Cherry et al., 2023). Engagement with this assignment was my first exposure to structured quality frameworks, including the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement (PRISMA; Page et al., 2021) and the Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018). These processes taught me that research rigour is primarily a process of transparent and defensible decision-making rather than simply summarising evidence. PRISMA provided a structured framework for reproducible searching, selection, and reporting, from which I learned that rigour is demonstrated not through volume of reading but through explicit transparency of method and an auditable trail of reasoning (Booth et al, 2016). The MMAT was chosen as the most appropriate appraisal tool for my SLR as it provided a coherent method of appraising methodologies across qualitative, quantitative, and mixed-method papers, which enabled me to synthesise broader evidence without privileging one design over others (Hong et al., 2018). This helped me to consider not only what was found but how trustworthy those findings were by adhering to a structured framework of methodological quality.

I found the SLR assignment the hardest across the modules due to it being so methodologically different to previous research projects across my undergraduate and Masters' degrees. However, on reflection, the SLR helped me to develop core scientist-practitioner skills including being able to evaluate the trustworthiness of evidence rather than accepting it at face value, recognise methodological limitations, and translate heterogeneous findings into clinically meaningful conclusions. The process strengthened my capacity to make reasoned and defensible judgements, which mirrored decision-making processes in applied clinical practice. The mixed-methods approach of my SLR also served to enhance my epistemological flexibility, for example, by considering epistemological pluralism and integrating quantitative trends with accounts of lived experiences. This approach in research also applies within clinical practice wherein Clinical Psychologists are required to draw upon multiple sources of information such as psychometric outcomes, client reports, staff observations, and contextual factors within formulation and intervention (BPS, 2019; HCPC, 2023; McEvoy & Richards, 2006).

The process of the SLR allowed for recommendations to be made to support SLIs from VT within practice, policy, and research, and ensured that these were grounded in robust appraisal of the current evidence rather than on opinion. Furthermore, my SLR highlighted gaps in the VT literature, including inconsistent operational definitions and measures of VT, and reliance on cross-sectional designs. These findings provided further rationale for my thesis project as they emphasised the need for a psychometrically robust measure to accurately identify VT and to ensure validity, reliability, generalisability, and applicability (Bermingham 2020; Strange et al., 2021).

6. Small-Scale Research Project

My Small-Scale Research Project (SSRP) involved evaluating the recently developed Psychological Interventions Facilitator (PIF) role within the Adult Community Division of my placement Trust. The PIF role was developed to address workforce pressures and increase access to psychologically informed interventions in the community, in line with NHS strategies including the Long-Term Plan (NHS, 2019) and Workforce Plan (NHS, 2023). However, anecdotal feedback had highlighted a need for clearer definition, training, governance, and integration to ensure competence, safety, and accountability. Transfer of PIF clinical leadership from organisational to psychological further prompted the need for a formal evaluation of the role.

Initially, Thematic Analysis was considered as a methodology, however further reading of qualitative methodologies prompted consideration of alternative approaches. Framework Analysis (FA) was chosen as a more appropriate approach to focus group analysis, as it has been specifically developed to methodically analyse qualitative data from real-world investigations in the NHS and wider health and social care settings to evaluate and improve services and to inform social policies (Ritchie & Spencer, 2003). Engaging with this approach helped me to systematically identify and interpret key themes and experiences (Gale et al., 2013), whilst balancing practical and contextual factors and organisational realities (Hackett & Strickland, 2018). Adhering to the structured process of FA helped me to integrate deductive and

inductive coding of themes, map contextual patterns and summaries in matrices, and interpret complex, real-world relevance. This approach developed my skills in transparent analytic decision-making, as I had to justify how I generated, merged, or prioritised codes, and how interpretations were grounded in participants' accounts, creating an auditable trail of reasoning (Gale et al., 2003; Ritchie & Spencer, 2003).

Adopting epistemic pluralism deepened my appreciation that different forms of knowledge can coexist in research and practice (Kellert et al., 2006). For example, an interpretivist stance enabled exploration of how participants constructed meaning around the PIF role (Pervin & Mokhtar, 2022), while constructivist principles highlighted how these meanings were shaped by team and organisational contexts (Camargo-Borges & Rasera, 2013; McNamee & Hosking, 2012). Pragmatism ensured that analysis remained oriented toward actionable recommendations for role development (Biesta, 2010). This integration enhanced my scientist-practitioner skills in reflexivity, auditability, and translating qualitative evidence into practical service change.

At times, I found my SSRP experience challenging to conduct objective and methodologically rigorous research when evaluating a role that was controversial in practice, and in a service that I was currently employed in as a Trainee. This required careful balancing of research integrity with sensitive communication and dissemination to stakeholders when findings could challenge organisational practice, while recognising the ethical importance of transparency with service users and the development of safe, governed, and clearly defined new roles (BPS, 2019; HCPC, 2023; O'Cathain et al., 2019). This process strengthened my understanding of local and national policies and procedures and enhanced my capacity to advocate for transparent role definitions, competency-based training, and supervision structures. These skills and knowledge are consistent with expectations and guidelines for Clinical Psychologists to safeguard the integrity of psychological care and to ensure that services are delivered within appropriate scope and competence (BPS, 2019; HCPC, 2023). My SSRP helped to develop my ability to use research as a mechanism of clinical governance, ensuring that new roles are not simply

adopted to meet workforce pressures, but that they contribute meaningfully to multidisciplinary care without compromising safety or professional standards.

7. Pacing and planning

Conducting my thesis project over the duration of the DClinPsy was helpful to be able to plan and pace my time effectively alongside the other competing demands of the course. Personal and physical health difficulties have affected my cognitive and emotional capacity throughout training and have required a recalibration of expectations for personal and professional sustainability. For example, working with my research supervisors to adapt supervision to be shorter and more frequent, building in rest, and planning carefully for submission timelines. During my protocol, I learned about Gantt charts and have since utilised these to effectively plan and track my research schedule as well as pace myself based on fluctuating personal needs. I developed ability to advocate for my own needs and to use additional available support systems including supervision, line management, and research specific sources including the University subject librarian, psychology technicians, and statisticians. Seeking additional support provided greater understanding of the subject matters, such as literature searching for my SLR, how to set up online surveys, and organising data in SPSS. This additionally provided me with emotional containment and greater confidence in appropriately seeking specialist input to improve quality, reduce errors, and develop a shift in my practice and attitudes towards self-compassion, being 'good enough', and acceptance of limits. These experiences directly align with HCPC (2023; 2024) expectations that Clinical Psychologists maintain fitness to practice and manage emotional burden, along with requirements to seek advice appropriately and manage resources responsibly.

8. Structured Frameworks

Adherence to staged approaches such as COSMIN-SDC and Boateng et al.'s (2018) best practice guidelines for scale development and validation have helped me to understand the wider context in relation to psychometrics and

their contributions to theory, research, and practice, and be able to emphasise this within my journal paper. Combining these structured approaches with the epistemology of critical realism (Bhaskar, 2008; Fletcher, 2017; Maxwell, 2012) has deepened my understanding of measurement as a theory-driven and context-dependent process, and to develop the capacity to make transparent, defensible analytic decisions that balance statistical evidence with conceptual meaning and real-world utility (Boateng et al., 2018; McEvoy & Richards, 2006; Mokkink et al., 2019).

Structured approaches also allowed me to systematically work through the required data analyses in SPSS to meet my research aims of further dimensionality, validity, and reliability testing of the TMVT. From this, I learned to treat statistical decision-making as an ethical responsibility rather than a purely technical task and have been able to translate abstract psychometric principles into defensible clinical knowledge that can contribute to the VT research, theory, and practice. Interpreting SPSS outputs and my results section strengthened my capacity to hold uncertainty, for example, recognising that strong internal consistency alongside poor test-retest reliability could suggest that VT may be more dynamic than initially thought, rather than indicative of measurement failure. These considerations are consistent with critical realist reasoning and with the expectation that Clinical Psychologists can and should integrate data with theory and context rather than rely on statistics alone (BPS, 2019).

In addition to adhering to the structured submission guidelines for the journal paper component, the thesis portfolio comprised of structured reflexive sections designed to enhance Trainee development as scientist-practitioners. Preparing the critical appraisal section deepened my reflexivity about methodological limitations, quality, and the partial nature of measurement, echoing COSMIN-SDC and Boateng et al.'s (2018) emphasis of scale validation as a cumulative process that requires transparent auditability of analytic reasoning (Boateng et al., 2018; Mokkink et al., 2019). Developing the relevance and implications section helped me to transition from quantitative outputs to meaning by considering how the TMVT might inform supervision, risk monitoring, and organisational responsibilities while remaining alert to the dangers of over-

claiming beyond the data. The dissemination plan taught me that ethical research extends beyond publication to accessible communication with services and participants to ensure social responsibility and public protection. Overall, each component of my thesis portfolio has helped me to develop scientist-practitioner skills in diverse methodologies, ethical frameworks, critical appraisal, evidential and epistemic humility, and transparent, accountable decision-making. These skills have enabled me to use research as a mechanism for improving psychologically informed and ethically governed practice within complex systems.

9. Research Presentation Panels

Engagement with the research presentation panels over the duration of the course was initially anxiety-provoking as critique felt synonymous with inadequacy and failure. However, over time, I learned to approach these spaces as opportunities for varied feedback that could contribute to and enhance the scope and meaning of my research. Research panels, in addition to research supervision, also afforded me opportunities to participate in scholarly debate and to explain decision-making processes and choices in preparation for my thesis viva. They were also helpful for me to reflect upon my progress since commencing the course including my academic work, confidence, theory-to-practice links, and ability to present and justify my research as a contribution to the field of Clinical Psychology. This development represents BPS (2019) and HCPC (2023) requirements for Trainee and Clinical Psychologists to engage critically with peer review and to demonstrate competency of effective professional communication.

10. Conclusion

Across the DClinPsy research component, I have developed knowledge, skills, attitudes, and practices of a reflective scientist-practitioner to generate, evaluate, and apply knowledge within complex systems. Collectively, these experiences have strengthened my capacity for evidential and epistemic humility, reflexivity, and defensible professional judgement, enabling me to use

research as a mechanism of clinical governance and service improvement. I have developed to approach research and practice with greater confidence of empirical evidence, meaning, and contextual realities, consistent with HCPC and BPS expectations of autonomous and ethical Clinical Psychologists as reflective-scientist practitioners.

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Appendices

Appendix A: Mixed-Methods Appraisal Tool (MMAT) questions used in Systematic Literature Review for eligible papers 1-8

1. Calder-Hanley (2019)

Category of study designs	Methodological quality criteria
Screening questions (for all types)	S1. Are there clear research questions? Y - Aim: To explore how BSL interpreters make sense of the emotional impact of working on a specialist mental health inpatient unit for individuals who are d/Deaf.
	S2. Do the collected data allow to address the research questions? Y – specific themes around emotions
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question? Y - IPA
	1.2. Are the qualitative data collection methods adequate to address the research question? Y – semi structured interviews
	1.3. Are the findings adequately derived from the data? Y
	1.4. Is the interpretation of results sufficiently substantiated by data? Y
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation? Y
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?
	2.2. Are the groups comparable at baseline?
	2.3. Are there complete outcome data?
	2.4. Are outcome assessors blinded to the intervention provided?
	2.5. Did the participants adhere to the assigned intervention?
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?
	3.3. Are there complete outcome data?
	3.4. Are the confounders accounted for in the design and analysis?
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?
	4.2. Is the sample representative of the target population?
	4.3. Are the measurements appropriate?
	4.4. Is the risk of nonresponse bias low?
	4.5. Is the statistical analysis appropriate to answer the research question?
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?
	5.2. Are the different components of the study effectively integrated to answer the research question?
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

2. O'Connell 2020

Category of study designs	Methodological quality criteria
Screening questions (for all types)	S1. Are there clear research questions? Y - Aims: To summarize the primary aim of this research is to explore if STS and BRN is prevalent amongst ISL interpreters and what their personal experiences are. The secondary aim of the is to understand and discuss if the specific nature of sign being a visuospatial language, has a specific impact on the ISL interpreters resulting in exaggerated manifestations of STS or BRN
	S2. Do the collected data allow to address the research questions? Y - Semi structured interviews, thematic analysis
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question? Y
	1.2. Are the qualitative data collection methods adequate to address the research question? Y semi structured interviews
	1.3. Are the findings adequately derived from the data? Y – adhered to TA six stages
	1.4. Is the interpretation of results sufficiently substantiated by data? N - “most participants alluded to multiple experiences of STS and BRN”. More examples pertaining to BRN but provided quotes didn’t reflect study’s definition of STS.
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation? N - some links between feelings of responsibility being representative of burnout but didn’t make explicit links to experiences/data and STS. No results/discussion detail STS symptomology as defined by study
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?
	2.2. Are the groups comparable at baseline?
	2.3. Are there complete outcome data?
	2.4. Are outcome assessors blinded to the intervention provided?
	2.5 Did the participants adhere to the assigned intervention?
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?
	3.3. Are there complete outcome data?
	3.4. Are the confounders accounted for in the design and analysis?
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?
	4.2. Is the sample representative of the target population?
	4.3. Are the measurements appropriate?
	4.4. Is the risk of nonresponse bias low?
	4.5. Is the statistical analysis appropriate to answer the research question?
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?
	5.2. Are the different components of the study effectively integrated to answer the research question?
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?

	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?
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3. Zafirah et al. (2020)

Category of study designs	Methodological quality criteria
Screening questions (for all types)	S1. Are there clear research questions? Y - The aim of this study is to explore mental health SLIs' experience of CF when working with children, and to explore the factors that may prevent mental health SLIs from experiencing CF.
	S2. Do the collected data allow to address the research questions? Y. Interviews. An inductive approach was chosen to help identify patterns in the data, since this approach is not theory bound, and can thus fully represent perceptions and experiences of participants (Braun & Clarke, 2013).
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question? Y
	1.2. Are the qualitative data collection methods adequate to address the research question? Y
	1.3. Are the findings adequately derived from the data? Y
	1.4. Is the interpretation of results sufficiently substantiated by data? Y – findings reflect the definition of CF used in the study, risk and protective factors from SLI experiences are described
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation? Y
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?
	2.2. Are the groups comparable at baseline?
	2.3. Are there complete outcome data?
	2.4. Are outcome assessors blinded to the intervention provided?
	2.5. Did the participants adhere to the assigned intervention?
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?
	3.3. Are there complete outcome data?
	3.4. Are the confounders accounted for in the design and analysis?
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?
	4.2. Is the sample representative of the target population?
	4.3. Are the measurements appropriate?
	4.4. Is the risk of nonresponse bias low?
	4.5. Is the statistical analysis appropriate to answer the research question?
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?
	5.2. Are the different components of the study effectively integrated to answer the research question?
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?

	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

4. Abrams (2020)

Category of study designs	Methodological quality criteria
Screening questions (for all types)	S1. Are there clear research questions? Y- S2. Do the collected data allow to address the research questions? Y – TABS and Brief COPE measures used
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question? 1.2. Are the qualitative data collection methods adequate to address the research question? 1.3. Are the findings adequately derived from the data? 1.4. Is the interpretation of results sufficiently substantiated by data? 1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed? 2.2. Are the groups comparable at baseline? 2.3. Are there complete outcome data? 2.4. Are outcome assessors blinded to the intervention provided? 2.5. Did the participants adhere to the assigned intervention?
3. Quantitative non-randomized	3.1. Are the participants representative of the target population? 3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)? 3.3. Are there complete outcome data? 3.4. Are the confounders accounted for in the design and analysis? 3.5. During the study period, is the intervention administered (or exposure occurred) as intended?
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question? Y 4.2. Is the sample representative of the target population? Y 4.3. Are the measurements appropriate? Y 4.4. Is the risk of nonresponse bias low? CT – not reported 4.5. Is the statistical analysis appropriate to answer the research question? Y
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question? 5.2. Are the different components of the study effectively integrated to answer the research question? 5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted? 5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed? 5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

5. Andert & Trites (2014)

Category of study designs	Methodological quality criteria
Screening questions (for all types)	S1. Are there clear research questions? Y – 1. To what extent does the degree to which one experiences vicarious trauma depend on setting (i.e., medical, mental health)? 2. To what extent do years of experience relate to the presence of vicarious trauma in ASL interpreters? 3. What strategies do ASL interpreters use to address, or cope with the effects of vicarious trauma?
	S2. Do the collected data allow to address the research questions? Y
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?
	1.2. Are the qualitative data collection methods adequate to address the research question?
	1.3. Are the findings adequately derived from the data?
	1.4. Is the interpretation of results sufficiently substantiated by data?
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?
	2.2. Are the groups comparable at baseline?
	2.3. Are there complete outcome data?
	2.4. Are outcome assessors blinded to the intervention provided?
	2.5. Did the participants adhere to the assigned intervention?
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?
	3.3. Are there complete outcome data?
	3.4. Are the confounders accounted for in the design and analysis?
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question? Y
	4.2. Is the sample representative of the target population? Y
	4.3. Are the measurements appropriate? Y
	4.4. Is the risk of nonresponse bias low? CT not reported
	4.5. Is the statistical analysis appropriate to answer the research question? N, frequencies and percentages
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?
	5.2. Are the different components of the study effectively integrated to answer the research question?
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

6. Daly & Chovaz (2020)

Category of study designs	Methodological quality criteria
Screening questions (for all types)	S1. Are there clear research questions? Y - The primary aim of the present study was to examine whether SLIs were experiencing significant levels of secondary traumatic stress (STS) and to determine how their STS may have affected their professional quality of life (PQL). S2. Do the collected data allow to address the research questions? Y
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question? 1.2. Are the qualitative data collection methods adequate to address the research question? 1.3. Are the findings adequately derived from the data? 1.4. Is the interpretation of results sufficiently substantiated by data? 1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed? 2.2. Are the groups comparable at baseline? 2.3. Are there complete outcome data? 2.4. Are outcome assessors blinded to the intervention provided? 2.5. Did the participants adhere to the assigned intervention?
3. Quantitative non-randomized	3.1. Are the participants representative of the target population? 3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)? 3.3. Are there complete outcome data? 3.4. Are the confounders accounted for in the design and analysis? 3.5. During the study period, is the intervention administered (or exposure occurred) as intended?
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question? Y 4.2. Is the sample representative of the target population? Y 4.3. Are the measurements appropriate? Y – STS and ProQOL 4.4. Is the risk of nonresponse bias low? N – 25/110 respondents did not complete and were excluded 4.5. Is the statistical analysis appropriate to answer the research question? Y mean scores, pearsons correlation, multiple regression
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question? 5.2. Are the different components of the study effectively integrated to answer the research question? 5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted? 5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed? 5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

7. Hall (2016)

Category of study designs	Methodological quality criteria
Screening questions (for all types)	S1. Are there clear research questions? Y - The primary purpose of the current study is to examine the relationship between VT and life satisfaction in interpreters.
	S2. Do the collected data allow to address the research questions? Y
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?
	1.2. Are the qualitative data collection methods adequate to address the research question?
	1.3. Are the findings adequately derived from the data?
	1.4. Is the interpretation of results sufficiently substantiated by data?
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?
	2.2. Are the groups comparable at baseline?
	2.3. Are there complete outcome data?
	2.4. Are outcome assessors blinded to the intervention provided?
	2.5. Did the participants adhere to the assigned intervention?
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?
	3.3. Are there complete outcome data?
	3.4. Are the confounders accounted for in the design and analysis?
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question? Y
	4.2. Is the sample representative of the target population? Y
	4.3. Are the measurements appropriate? Y- STSS, SWLS
	4.4. Is the risk of nonresponse bias low? CT
	4.5. Is the statistical analysis appropriate to answer the research question? Y – mean score, pearsons correlations, multiple regression
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?
	5.2. Are the different components of the study effectively integrated to answer the research question?
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

8. Russell et al. (2023)

Category of study designs	Methodological quality criteria
Screening questions (for all types)	S1. Are there clear research questions? Y - RESEARCH QUESTION 1: WHAT ARE D-SLIS' EXPERIENCES OF STS, COMPASSION SATISFACTION AND BURNOUT? RESEARCH QUESTION 2: WHAT IS THE EFFECT OF STS ON D-SLI'S PROFESSIONAL QUALITY OF LIFE? RESEARCH QUESTION 3: WHAT IS THE RELATIONSHIP BETWEEN SECONDARY TRAUMATIC STRESS, ANXIETY AND SATISFACTION WITH LIFE? S2. Do the collected data allow to address the research questions? CT
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question? 5.5 CT – appropriate, but didn't explicitly answer the research questions 1.2. Are the qualitative data collection methods adequate to address the research question? 5.5 Y – modified appropriately for sample 1.3. Are the findings adequately derived from the data? 5.5 Y 1.4. Is the interpretation of results sufficiently substantiated by data? 5.5 Y 1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation? 5.5 Y
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed? 2.2. Are the groups comparable at baseline? 2.3. Are there complete outcome data? 2.4. Are outcome assessors blinded to the intervention provided? 2.5. Did the participants adhere to the assigned intervention?
3. Quantitative non-randomized	3.1. Are the participants representative of the target population? 3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)? 3.3. Are there complete outcome data? 3.4. Are the confounders accounted for in the design and analysis? 3.5. During the study period, is the intervention administered (or exposure occurred) as intended?
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question? 5.5 Y 4.2. Is the sample representative of the target population? CT – N = 47 4.3. Are the measurements appropriate? 5.5 Y – STS, ProQOL, SWLS, BAI 4.4. Is the risk of nonresponse bias low? 5.5 CT - Participants who did not fully complete the survey were excluded from the study – didn't elaborate or specify N 4.5. Is the statistical analysis appropriate to answer the research question? 5.5 Mean, Standard Deviation, Clinical Cut-off, and Percentage and compared to Davy and Chovaz but not statistical significance testing of differences (rq1); pearsons correlations (rq2;3)
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question? N – no justification or explanation 5.2. Are the different components of the study effectively integrated to answer the research question? N – qualitative data/themes from focus groups didn't seem to explicitly map onto research questions 5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted? Y 5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed? N

	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved? CT
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Appendix B: Practitioner Key Messages for Journal

- Vicarious Trauma (VT) should be treated as a predictable occupational risk for helping professionals working with client trauma narratives, and not an individual failing. The TMVT provides evidence that trauma-related belief change and distress are measurable and distinct from burnout, supporting a shift toward organisational responsibility and trauma-informed workforce design rather than individualised resilience approaches.
- Supervision and reflective spaces are essential protective resources. Findings highlight the importance of high-quality, psychologically informed supervision and protected reflective time to support ethical practice, safe decision-making, and sustained workforce wellbeing in trauma-exposed services.
- Brief, valid measurement can support early prevention and governance. The 13-item TMVT offers a feasible way for services to monitor and support VT at individual and team levels, informing supervision, service planning, and clinical governance without excessive burden.
- Equitable support must be prioritised in trauma-exposed systems. Practitioners in under-resourced, high-demand, or marginalised roles may face disproportionate risk; workforce wellbeing initiatives must therefore be designed with equality, diversity, and inclusion at their core to avoid reinforcing structural inequities.

Appendix C: The Trent Measure of Vicarious Trauma (TMVT)

TMVT displayed item per page on QuestionPro survey within present thesis:

Over time, we can be affected by exposure to working with [clients] with traumatic narratives. This measure is designed to help us understand the impact. We understand clinicians refer to their [clients] using different terms, please feel free to change [clients] to your preferred term.

Below are 13 statements. Please consider the frequency (a) and the severity (b) of each **since you began working with [clients]* who have experienced trauma.**

Note: If you select 'Never' for (a), you will automatically be moved to the following statement without being shown (b) - this is not an error.

1. I have been affected by the traumatic stress of [clients] I have worked with. a) How often?

Nevera[[

Occasionally

Often

Very often

Always

1. I have been affected by the traumatic stress of [clients] I have worked with. b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

2. I find it difficult to separate my personal life from my professional life. a) How often?

Never

Occasionally

Often

Very often

Always

2. I find it difficult to separate my personal life from my professional life.

b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

3. It is hard to stay positive and optimistic given some of the things I encounter.

a) How often?

Never

Occasionally

Often

Very often

Always

3. It is hard to stay positive and optimistic given some of the things I encounter.

b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

4. I am overwhelmed by worries about the safety of [clients] I have worked with.

a) How often?

Never

Occasionally

Often

Very often

Always

4. I am overwhelmed by worries about the safety of [clients] I have worked with.

b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

5. I feel cut off from people.

a) How often?

Never

Occasionally

Often

Very often

Always

5. I feel cut off from people.

b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

6. I want to avoid working with some [clients].

a) How often?

Never

Occasionally

Often

Very often

Always

6. I want to avoid working with some [clients].

b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

7. I think about my work with [clients] when I don't intend to.

a) How often?

Never

Occasionally

Often

Very often

Always

7. I think about my work with [clients] when I don't intend to.

b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

8. I find myself thinking about distressing material related to my work with [clients] at home.

a) How often?

Never

Occasionally

Often

Very often

Always

8. I find myself thinking about distressing material related to my work with [clients] at home.

b) How strongly?

Not at all
A little
Moderately
Very strongly
Extremely strongly

9. I avoid people, places, or things that remind me of my work with [clients].
a) How often?

Never
Occasionally
Often
Very often
Always

9. I avoid people, places, or things that remind me of my work with [clients].
b) How strongly?

Not at all
A little
Moderately
Very strongly
Extremely strongly

10. I feel worn out because of my work with [clients].
a) How often?

Never
Occasionally
Often
Very often
Always

10. I feel worn out because of my work with [clients].
b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

11. Sometimes I feel helpless to assist [clients] in the way I would like.

a) How often?

Never

Occasionally

Often

Very often

Always

11. Sometimes I feel helpless to assist [clients] in the way I would like.

b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

12. I believe the world is dangerous.

a) How often?

Never

Occasionally

Often

Very often

Always

12. I believe the world is dangerous.

b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

13. I see the world as a dangerous place.

a) How often?

Never

Occasionally

Often

Very often

Always

13. I see the world as a dangerous place.

b) How strongly?

Not at all

A little

Moderately

Very strongly

Extremely strongly

Appendix D: Prolific Payment Principles and Calculations

Prolific payment principles can be found at: <https://researcher-help.prolific.com/en/articles/445230-prolific-s-payment-principles>

Phase One:

Prolific	
My Workspace	
Summary	
Participant cost	
No. of participants:	425
Study length:	8 mins
Cost per participant:	£0.80
Total:	£340.00
Fees	
<u>Platform (academic plan):</u>	£113.33
VAT:	£22.67
Total:	£136.00
Total:	£476.00
Available balance:	£0.00
Remaining balance:	-£476.00

Phase Two:

 Prolific



My Workspace >

Summary

Participant cost

No. of participants:425

Study length:2 mins

Cost per participant:£0.20

Total:£85.00

Fees

Platform (academic plan):£28.33

VAT:£5.67

Total:£34.00

Total:£119.00

Available balance:£0.00

Remaining balance:-£119.00

£119.00

£0.00

-£119.00

£119.00

£0.00

-£119.00

£119.00

£0.00

-£119.00

£119.00

£0.00

-£119.00

Appendix E: Prolific Invoice

Prolific Academic Ltd

Company Registration: 08991598

VAT Number: GB 233 6075 23

Website: <https://prolific.com>

Email: info@prolific.com

483 Green Lanes, London N13 4BS

United Kingdom

Billed to

Charlotte Tunstall

University of Lincoln

School of Psychology, Sarah Swift Building

Brayford Pool Campus

Lincoln

Lincolnshire

LN5 7AT

GB **Purchase order:** 00122074

Invoice Items

[Prolific Academic Logo](#)

Invoice Details

Invoice number 6854059686061fc7add3ac6e

Invoice date 19-06-2025

Bank transfer reference number

SLVGSE89ZR

Item	Unit cost	Quantity	Tax rate
Platform fees	£141.67	1	20%
Study rewards	£425.00	1	NO VAT

Summary

Subtotal	£566.67
Tax 20%	£28.34
Total payable	£595.00

Status PAID

Appendix F: Prolific Phase One Study Description and Participant Information Sheet



Phase 1/2: HELPING PROFESSIONALS EXPOSED TO CLIENT TRAUMA NARRATIVES NEEDED FOR SHORT TWO-PART SURVEY

By students.lincoln.ac.uk

£0.80 • £6.00/hr

8 mins

425 places

Survey

Helping professionals exposed to client trauma narratives could be: psychologists, nurses, social workers, support workers, therapists, wellbeing practitioners, paramedics, police officers, sexual violence advisors, family liaison officers, lawyers etc. This list is not exhaustive.

If you identify as a helping professional who is exposed to client trauma narratives as part of your job, please consider the following information before participating in this study.

Title of Study: Confirmatory Factor Analysis and Further Validation of the Trent Measure of Vicarious Trauma (TMVT)

We are inviting you to take part in a research study. Before you decide, it is important that you know why we are doing the study and what is involved. Please read the following information carefully.

What is the background to the study?

Vicarious Trauma (VT) refers to the negative impact on practitioners that can occur through cumulative exposure to clients' accounts and experiences of trauma. VT can significantly impact a practitioner in many areas including wellbeing, core beliefs, trauma-related symptoms, relationships, coping, and functioning. VT amongst practitioners also has the potential to impact clients and service delivery as a result.

Research suggests that up to 85% of helping professionals may experience the effects of Vicarious VT. It is important to recognise and respond to VT due to its significant and far-reaching impact.

What is the purpose of the study?

The purpose of the study is to collect further data using a new measure of Vicarious Trauma (VT) that was created as part of a previous study. The new measure was developed by a research team at the University of Nottingham (as part of the Trent Doctorate in Clinical Psychology Programme) with contributions from experts in the field of VT research, and experienced clinicians that work with clients with trauma narratives.

The present study aims to gather additional data to evaluate and further develop the new measure. This will have the potential to increase awareness and identify signs of VT amongst professionals so that appropriate individual and systemic support and interventions can be accessed.

The study will be conducted online.

Am I eligible to take part?

You have been invited because you are a professional who has more than one year of experience working with individuals who have experienced trauma. It is common for people in similar roles to experience VT due to the nature of their work. We hope that this study will reach hundreds of others like you.

To take part, it is required that you are based in the UK, over the age of 18 years old, understand written English, and have access to a device with internet to complete the online survey.

Please do not take part if you are currently receiving any treatment for psychological health or trauma.

Do I have to take part?

Participation is completely voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in anyway. You are free to withdraw at any point by closing the survey window without giving a reason, however you will not be paid. If you do decide to take part, you will be asked to confirm your consent.

What will I be asked to do?

The entire survey will be conducted online via Prolific and accessed through a redirection link to QuestionPro. The process should take you approximately five-ten minutes to complete.

You will be asked to confirm your consent to participate.

You will then be asked to complete some demographic information about your age, gender, professional role, geographical location, and the number of years of experience you have of working with clients with trauma narratives.

Following this, you will be asked to complete the new measure, as well as other existing measures (not necessarily in that order). Several items may seem similar, but they are different. This is intentional and for the purpose of the research.

After this, you will be required to complete a second, shorter survey in two weeks' time. This would include only the new measure and will take less than 2 minutes to complete. You will be contacted on the Prolific ID used to complete the first survey.

To complete the survey, you must ensure that you click the link at the end of the survey to be redirected to Prolific so that your responses are stored and so that you can be paid.

Will I be paid expenses for taking part?

You will be paid as per Prolific registration costs upon completion of both surveys.

What are the possible benefits of taking part?

Whilst there may be no direct or immediate help to you because of participating in the study, your information will contribute to ongoing research that aims to identify signs of VT more accurately amongst practitioners. This is important due to the significant negative impact that VT can have on practitioners, including their wellbeing, relationships, work, and clients. Accurate identification can lead to consideration and implementation of appropriate individual and systemic support and interventions for practitioners.

What are the possible risks of taking part?

We do not anticipate any adverse effects from participating in the study. You have the right to withdraw at any point, and to not respond to any item. Contact information for the researchers is provided at the end of this information sheet if you have any questions or concerns at any time before or after the survey. If you do experience any adverse effects from participating in the study or from personal experiences related to the content of trauma or vicarious trauma, please consider speaking to someone you trust, your workplace, GP, or any of the support services provided at the end of this form.

Will anyone know I have taken part?

The University of Lincoln (UoL) is the sponsor for this study based in the United Kingdom. We will be using information from you to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. Certain individuals from UoL may look at your research records to check the accuracy of the research study but they will not be able to identify you and will not be able to find out your name or contact details. You will not be identified in any reports or publications.

Where will my data be stored?

Any data obtained from the study will be stored in line with the UK General Data Protection Regulation (UK GDPR) and the UK Data Protection Act 2018 (DPA). Data will be stored in password protected files on the University of Lincoln's secure and encrypted online storage platform (OneDrive). Only the researchers will have access to it. ProlificIDs will be permanently deleted and replaced with an anonymised, non-identifiable number to match responses from Phase One and Phase Two.

The data from this study *may* be put in an Open Access repository for other researchers to use in future research. If so, responses will be anonymised and any personal data (i.e. Prolific ID) will have already been destroyed.

What will happen if I don't want to carry on with the study?

You are free to withdraw at any point from this study, without having to give a reason. You can do this by closing the browser window, or by contacting the researcher with your ProlificID if you change your mind later. If you request for your data to be removed, it will be destroyed. However, once the anonymised data set has been created it will not be possible to remove your anonymised data from the analysis.

What will happen to the results of the research study?

The results of this study will be submitted to the University of Lincoln to fulfil the requirements of a Doctorate in Clinical Psychology qualification. Publication is most likely to occur within 24 months of the submission to fulfil the educational requirements. A copy of any published work can be requested by contacting the researcher using the contact details below. There will be no identifiable information in any reports or publication of this study.

Who is organising and funding the research?

This research is being organised by Charlotte Tunstall (Trainee Clinical Psychologist) at the University of Lincoln and will be funded by Health Education England, as part of the Trent DClinPsy programme.

Who has reviewed the study?

All research conducted by the University of Lincoln is looked at by an independent group of people, called a Research Ethics Committee, to protect your rights, dignity and wellbeing. This study has been reviewed and given favourable opinion by a University of Lincoln Research Ethics Committee [reference number: 2025_20085].

What if there is a problem?

It is very unlikely that this study would cause you any harm. If you have a concern or a complaint about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions. The researchers contact details are given at the end of this information sheet.

If you remain unhappy and wish to complain formally, you can make a formal complaint through the University complaints procedure or by contacting ethics@lincoln.ac.uk.

Further information and contact details

Primary Researcher:

Charlotte Tunstall (Trainee Clinical Psychologist)

27162741@students.lincoln.ac.uk

Researcher Supervisors:

Dr David Dawson

ddawson@lincoln.ac.uk

Dr Heather Cogger-Ward

heather.cogger-ward@nottingham.ac.uk

Support Services

Below are some suggestions for organisations that can provide advice and support. These are also listed in the debrief form at the end of the survey.

The Samaritans

The Samaritans offer emotional support 24 hours a day - in full confidence.

Call 116 123 - it's FREE.

Or email jo@samaritans.org.uk

SHOUT

For free, confidential support, 24/7, text SHOUT to 85258. If you are struggling to cope and need to talk, trained Shout volunteers are available day or night. Find out more at <https://giveusashout.org/get-help/>

CALM helpline and webchat

The Campaign Against Living Miserably (CALM) is leading a movement against suicide. You can talk to CALM about anything.

Call the CALM helpline on 0800 58 58 58 or use their webchat on <https://www.thecalmzone.net/get-support#open-calm-bot>

The helpline and webchat are both open 5pm to midnight, 365 days a year.

You could also consider contacting the following:

- Your GP
- NHS talking therapies <https://www.nhs.uk/nhs-services/mental-health-services/find-nhs-talking-therapies/>

In an emergency:

- Call NHS 111 option 2 for mental health crisis support
- Call 999/attend A&E

This study includes sensitive topics. Learn more about study content warnings [here](#).

Additional details:

trauma, vicarious trauma, secondary trauma

Devices you can use to take this study:

- Desktop
- Mobile
- Tablet

[Open study link in a new window](#)

Appendix G: Phase One Participant Consent Form



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Questions marked with a * are required

Participant Consent Form April 2025

Title of Study: Confirmatory Factor Analysis and Further Validation of the Trent Measure of Vicarious Trauma (TMVT)

1. I confirm that I have read the information sheet dated April 2025 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I confirm that I meet all of the following inclusion criteria required to participate in this study:

- I am based in the UK
- I am over the age of 18 years old
- I have more than one year of experience working with clients who have experienced trauma
- I understand written English
- I have access to a device with internet to complete the online survey
- I am not currently accessing any treatment for psychological health or trauma

3. I understand that my participation is voluntary and how I can withdraw from the study.

4. I understand that once the anonymised data set has been created it will not be possible to remove my anonymised data from the analysis.

5. I understand that individuals from the University of Lincoln may look at research data collected during the study, to ensure that the study is conducted appropriately. I give permission for these individuals to have access to my research data.

6. I understand that the information collected about me may be used to support further research in the future, and may be shared anonymously with other researchers.

7. I understand that I can contact the researchers with questions or concerns at any point before or after completing the survey.

8. I confirm that all of the above is true and I consent to take part in this study

Please click 'I Agree' to confirm your consent and continue to the survey

or

Click 'I Disagree' if any of the above do not apply and to terminate the survey

I Agree

I Disagree

Next >>

Appendix H: Phase One Participant Demographic Questionnaire



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Questions marked with a * are required

Participant Demographic Form April 2025

Title of Study: Confirmatory Factor Analysis and Further Validation of the Trent Measure of Vicarious Trauma (TMVT)

You will now be asked six questions about your professional role, experience, and socio-demographic information. Please select the options or provide details that best describe your circumstances and identity at the time of completing this survey.

We are asking for this information to see if certain factors may increase the risk of VT and support needs for some individuals or groups, and to compare with information collected in the earlier stages of this research and in previous VT literature.

What is your current professional role? (e.g. job title)

How many years of experience do you have of working with clients with trauma narratives?

Less than 2

2 – 4

5 – 9

10 - 14

15 – 19

20 or more

Prefer not to say

How would you describe your gender?

Female (including trans woman)

Male (including trans man)

Transgender not listed

Non-binary

Prefer not to say

Gender identity not listed

(please describe)

How old are you (years)?

18 – 24

25 – 29

30 – 34

35 – 39

40 – 44

45 – 49

50 – 54

55 – 59

60 – 64

65 – 69

70 – 74

75+

Prefer not to say

How would you describe your ethnic identity?

Welsh/English/Scottish/Northern Irish/British

Irish

Irish Traveller

White and Black Caribbean

White and Black African

White and Asian

Mixed or Multiple ethnic background

Indian

Pakistani

Bangladeshi

Chinese

African

Caribbean

Arab

Ethnic identity not listed

Prefer not to say

Next >>

Appendix I: Prolific Phase Two Study Description and Participant Information Sheet



Phase 2/2: HELPING PROFESSIONALS EXPOSED TO CLIENT TRAUMA NARRATIVES NEEDED FOR SHORT TWO-PART SURVEY

By students.lincoln.ac.uk

£0.20 • £6.00/hr

2 mins

425 places

Survey

Title of Study: Confirmatory Factor Analysis and Further Validation of the Trent Measure of Vicarious Trauma (TMVT)

Two weeks ago, you participated in phase one of a research study during which you agreed to be contacted about a second, shorter survey. We are now inviting you to participate in this second part.

Before you decide to proceed, it is important that you know why we are doing the study and what is involved. Please re-read the following information carefully.

What is the background to the study?

Vicarious Trauma (VT) refers to the negative impact on practitioners that can occur through cumulative exposure to clients' accounts and experiences of trauma. VT can significantly impact a practitioner in many areas including wellbeing, core beliefs, trauma-related symptoms, relationships, coping, and functioning. VT amongst practitioners also has the potential to impact clients and service delivery as a result.

Research suggests that up to 85% of helping professionals may experience the effects of Vicarious VT. It is important to recognise and respond to VT due to its significant and far-reaching impact.

What is the purpose of the study?

The purpose of the study is to collect further data using a new measure of Vicarious Trauma (VT) that was created as part of a previous study. The new measure was developed by a research team at the University of Nottingham (as part of the Trent

Doctorate in Clinical Psychology Programme) with contributions from experts in the field of VT research, and experienced clinicians that work with clients with trauma narratives.

The present study aims to gather additional data to evaluate and further develop the new measure. This will have the potential to increase awareness and identify signs of VT amongst professionals so that appropriate individual and systemic support and interventions can be accessed.

The study will be conducted online.

Am I eligible to take part?

You have been invited because you previously confirmed that you met the study eligibility criteria and you completed the first survey two weeks ago.

You are still required to meet the eligibility criteria and will be asked to confirm this on the consent form on the next page. As a reminder, you must be based in the UK, be over the age of 18 years old, have more than one year of experience of working with individuals who have experienced trauma, understand written English, and have access to a device with internet to complete the online survey.

It is still important that you please do not take part if you are currently receiving any treatment for psychological health or trauma.

Do I have to take part?

Participation is completely voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in anyway. You are free to withdraw at any point by closing the survey window without giving a reason. If you do decide to take part, you will be asked to confirm your consent. You must complete all parts of both surveys to receive full payment.

What will I be asked to do?

The entire survey will be conducted online and accessed through a link sent to the ProlificID you used to complete phase one of the survey. The process will likely take you less than two minutes to complete.

You will be asked to confirm your consent to participate.

You will then be asked to complete the new measure only.

Finally, you will need to ensure you click the link on the completion page to save your responses and be redirected to Prolific to ensure payment.

Will I be paid expenses for taking part?

You will be paid as per Prolific registration costs upon completion of both surveys.

What are the possible benefits of taking part?

Whilst there may be no direct or immediate help to you because of participating in the study, your information will contribute to ongoing research that aims to identify signs of VT more accurately amongst practitioners. This is important due to the significant negative impact that VT can have on practitioners, including their wellbeing, relationships, work,

and clients. Accurate identification can lead to consideration and implementation of appropriate individual and systemic support and interventions for practitioners.

What are the possible risks of taking part?

We do not anticipate any adverse effects from participating in the study. You have the right to withdraw at any point, and to not respond to any item. Contact information for the researchers is provided at the end of this information sheet if you have any questions or concerns at any time before or after the survey. If you do experience any adverse effects from participating in the study or from personal experiences related to the content of trauma or vicarious trauma, please consider speaking to someone you trust, your workplace, GP, or any of the support services provided at the end of this form.

Will anyone know I have taken part?

The University of Lincoln (UoL) is the sponsor for this study based in the United Kingdom. We will be using information from you to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. Certain individuals from UoL may look at your research records to check the accuracy of the research study but they will not be able to identify you and will not be able to find out your name or contact details. You will not be identified in any reports or publications.

Where will my data be stored?

Any data obtained from the study will be stored in line with the UK General Data Protection Regulation (UK GDPR) and the UK Data Protection Act 2018 (DPA). Data will be stored in password protected files on the University of Lincoln's secure and encrypted online storage platform (OneDrive). Only the researchers will have access to it. Prolific IDs will be permanently deleted and replaced with an anonymised, non-identifiable number to match responses from Phase One and Phase Two.

The data from this study *may* be put in an Open Access repository for other researchers to use in future research. If so, responses will be anonymised and any personal data (i.e. Prolific ID) will have already been destroyed.

What will happen if I don't want to carry on with the study?

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Who is organising and funding the research?

This research is being organised by Charlotte Tunstall (Trainee Clinical Psychologist) at the University of Lincoln and will be funded by Health Education England, as part of the Trent DClinPsy programme.

Who has reviewed the study?

All research conducted by the University of Lincoln is looked at by an independent group of people, called a Research Ethics Committee, to protect your rights, dignity and wellbeing. This study has been reviewed and given favourable opinion by a University of Lincoln Research Ethics Committee [reference number 2025_20085].

What if there is a problem?

It is very unlikely that this study would cause you any harm. If you have a concern or a complaint about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions. The researchers contact details are given at the end of this information sheet.

If you remain unhappy and wish to complain formally, you can make a formal complaint through the University complaints procedure or by contacting ethics@lincoln.ac.uk.

Further information and contact details

Primary Researcher:

Charlotte Tunstall (Trainee Clinical Psychologist)

27162741@students.lincoln.ac.uk

Researcher Supervisors:

Dr David Dawson

ddawson@lincoln.ac.uk

Dr Heather Cogger-Ward

heather.cogger-ward@nottingham.ac.uk

Below are some suggestions for organisations that can provide advice and support. These are also listed in the debrief form at the end of the survey.

The Samaritans

The Samaritans offer emotional support 24 hours a day - in full confidence.

Call 116 123 - it's FREE.

Or email jo@samaritans.org.uk

SHOUT

For free, confidential support, 24/7, text SHOUT to 85258. If you are struggling to cope and need to talk, trained Shout volunteers are available day or night. Find out more at <https://giveusashout.org/get-help/>

CALM helpline and webchat

The Campaign Against Living Miserably (CALM) is leading a movement against suicide. You can talk to CALM about anything.

Call the CALM helpline on 0800 58 58 58 or use their webchat on <https://www.thecalmzone.net/get-support#open-calmbot>

The helpline and webchat are both open 5pm to midnight, 365 days a year.

You could also consider contacting the following:

- Your GP
- NHS talking therapies <https://www.nhs.uk/nhs-services/mental-health-services/find-nhs-talking-therapies/>

In an emergency:

- Call NHS 111 option 2 for mental health crisis support
- Call 999/attend A&E

This study includes sensitive topics. Learn more about study content warnings [here](#).

Additional details:

trauma, vicarious trauma, secondary trauma

Devices you can use to take this study:

- Desktop
- Mobile
- Tablet

[Open study link in a new window](#)

Appendix J: Confirmation of Ethical Approval



Application Details

Ethics Reference	2025_20085
Title of Project	Charlotte Tunstall 27162741 DClinPsy Thesis
Lead Researcher	Charlotte Tunstall
Academic Supervisor (if applicable)	Hannah Merdian
Committee	UG/PGT
Date of Ethical Opinion	17 April 2025

FAVOURABLE OPINION

Thank you for submitting documents/providing clarification in compliance with your favourable opinion letter. The conditions of favourable opinion have been met.

1. Commencement of the research

- 1.1 Risk Assessment: In accordance with H&S policy and guidance, a risk assessment must be completed or existing risk assessment reviewed/updated before any data collection commences. A copy of the risk assessment should be retained with your research data.
- 1.2 It is assumed that the research will commence within 12 months of the date of the favourable ethical opinion.
- 1.3 If the research does not commence within 12 months of the favourable opinion being issued, the lead applicant (or academic supervisor for student research) should send a written explanation for the delay. A further written explanation should be sent after 24 months if the research has still not commenced.
- 1.4 If the research does not commence within 24 months, the REC may review its opinion.

Where applicable:

In line with Data Protection and the University's guidelines for the production of research recruitment materials:

- Personal data should be destroyed when it is no longer necessary to contact participants.

- Any recruitment materials **must** follow the [Guidelines for the production of research recruitment materials](#) including adding the ethics reference (found at the top of this letter) to any externally facing documents/recruitment text (including in any social media adverts).

Duration of favourable opinion

2.1 The favourable ethical opinion of the Research Ethics Committee (REC) for a specific research study applies for the duration of the study, as detailed in your application (or any subsequent amendments).

Amendments

3.1 If it is proposed to make an amendment to the research, the lead applicant (authorised by the academic supervisor for student research) should submit an amendment to the REC by accessing the original application form on LEAS and creating an amendment form.

Monitoring

4.1 A REC may review a favourable opinion in the light of progress reports and any developments relevant to the study. The lead applicant and academic supervisor (for student research), is responsible for ensuring the research remains scientifically sound, safe, ethical, legal and feasible throughout its duration. The lead applicant and academic supervisor (for student research) should submit a progress report to the REC 13 months after the date on which the favourable opinion was given. Annual progress reports should be submitted thereafter.

4.2 Progress reports should be completed and submitted using the forms in LEAS.

Conclusion or early termination of the research

5.1 The Lead Applicant should complete the End of Study Form in LEAS once the study has completed. It is also their responsibility to inform the REC of early termination of the project or if the work is not completed.

Long Term Studies

6.1 The lead applicant and academic supervisor (for student research) is responsible for ensuring that the study procedures and documentation are updated in light of legislative or policy changes and also for reasons of good practice (e.g. standards for supporting documentation). This should be documented in the progress report to the REC (see above) and, where necessary, an amendment (see above) should be submitted to the REC. The REC may review its opinion in light of legislative changes or other relevant developments. Additional guidance may be found at [here](#) **Statement of**

Compliance

The Committee is constituted in accordance with the University of Lincoln [Research Ethics policy](#) and [E-QMS SOP E-01 Ethics Committee Operations](#).

Approved list of documents (if applicable):

Page 1 of 2

Document Type	File Name	Date	Version
Participant Information Sheet	PHASE ONE participant information sheet	23/01/2025	2
Other documents	Consent form v2 20250117	17/01/2025	2
Other documents	Participant Demographic form	17/01/2025	1
Other documents	appendix of measures	17/01/2025	1
Other documents	appendix boatengs steps	17/01/2025	1
Other documents	PHASE ONE participant information sheet	17/01/2025	2
Other documents	PHASE TWO Participant Information Sheet	17/01/2025	2
Other documents	Participant Debrief	17/01/2025	1
Other documents	27162741 23.01.25 LEAS summary of revised responses	23/01/2025	1
Other documents	appendix of measures	23/01/2025	1
Consent Form	Consent form v2 20250117	23/01/2025	2

SMALL-SCALE RESEARCH PROJECT (SSRP) POSTER



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An Exploratory Framework Analysis of the Locally Developed Psychological Interventions Facilitator (PIF) Role within Adult Community MDTs

Charlotte Tunstall^{1 2}, Rebecca Blacker², David Dawson¹

¹University of Lincoln | ²Lincolnshire Partnership NHS Foundation Trust



Lincolnshire Partnership
NHS Foundation Trust

Background

- Psychological interventions are among the most recommended treatment for people with mental health problems [1, 2].
- The Stepped Care Model emphasises that appropriate interventions be least intensive, most restrictive option for individual needs [3].
- The NHS Long Term Plan [4] prioritised expansion of the psychological workforce to improve access to local, holistic, evidence-based care.
- The NHS Workforce Plan [5] sought to address workforce shortages and promote diversity with emergence of new roles (e.g., MHWP) to address the “missing middle” between primary and secondary care.
- Locally developed PIF role was designed to deliver brief, psychologically informed interventions as part of Adult Community Mental Health Services and was based on the national MHWP guidelines [6].
- Anecdotal reports yielded mixed feedback of PIF role in practice with some reporting positive additions within MDTs but concerns amount limited clarity, governance, and evidence base for the new roles.
- Additional concerns nationally about psychological role ambiguity, safety, and professional boundaries [7].

Rationale

Role Theory proposed that unclear roles can lead to confusion, anxiety, and reduced performance which can impact professional, patient, and organisational safety.

There is need to systematically evaluate key stakeholder perceptions of the PIF role in practice to better understand its scope, contributions, risk, and development needs.

Aim

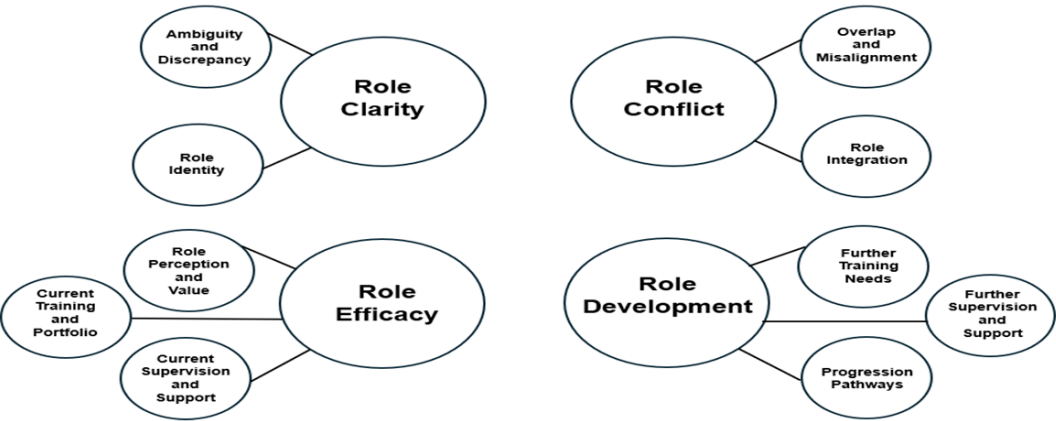
To explore PIF and Team Manager perspectives of the PIF role within Adult Community MDTs

Method

- **Design:** Qualitative service evaluation
- **Approach:** Framework Analysis (inductive and deductive using Role Theory)
- **Participants:** 11 PIFs (46%), 6 Team Managers (25%)
- **Data collection:** Semi-structured focus groups
- **Setting:** NHS Adult Community Division (East Midlands)
- **Ethics:** Service evaluation (HRA decision tool), NHS governance approval

Results

Four themes | Ten subthemes



1. Role Clarity
Ambiguity in role definition and expectations
Inconsistent use across teams
Fragmented professional identity

2. Role Conflict
Overlap with MHWP role
Role drift beyond remit
Tensions around banding and responsibilities

3. Role Efficacy
PIFs valued within teams
Improved MDT functioning and service user outcomes
Low confidence linked to limited training and supervision

4. Role Development
Need for further training (e.g., trauma, neurodiversity)
Inconsistent supervision structures
Unclear progression pathways

References

Discussion

- The PIF role aligns with NHS workforce expansion and stepped care principles.
- Reports demonstrate clear value of the PIF role in MDT functioning and improving access to psychologically informed care.
- However, significant risks identified:
 - Role ambiguity and conflict
 - Limited training and supervision
 - Lack of governance and regulation
 - Potential risks to patient safety and staff wellbeing
- These findings reflect wider national concerns regarding rapid implementation of unregulated roles [7].

Critique

Limitations

Lengthy recruitment and low response rate due to sample workloads

Self-selected sample may have been biased by particularly positive or negative views

Future Research

Shorter, individual, semi-structured interviews at convenient times

Mixed methods approach to include quantitative measures e.g., Likert scale to reach a wider sample

Consideration of wider stakeholder perspectives e.g., other MDT members, service users

Further evaluation following implementation of recommendations

Recommendations

Evaluation of the PIF role identified the need for ongoing development to:

Enhance Role Clarity: Standardised job description and remit as a psychological profession; Clear distinction from MHWP role; Improved communication across services

Develop Training: Expanded and paced training programme; CPD in trauma, neurodiversity, relational work; Practical skills development

Formalise Supervision: Regular, structured clinical supervision; Psychology-led oversight; Smaller, structured reflective spaces

Identify Progression: Clear career pathways; Preceptorship models; Retention-focused development opportunities

[1] National Institute for Health and Care Excellence (2011). *Common mental health disorders: Identification and pathways to care*. [NICE guideline 123]. https://www.drugsandalcohol.ie/15809/1/NICE_common_mental_health_disorders.pdf [2] Psychological Professions Network (2022). *Psychological Professions Network. (2022). Psychological professions representation on mental health trust boards: Discussion paper*. NHS England. <https://www.england.nhs.uk/wp-content/uploads/2022/09/Psychological-Professions-Representation-on-Mental-Health-Trust-Boards-Discussion-Paper-Aug-2022.pdf> [3] Clark, D. M. (2011). Implementing NICE guidelines for the psychological treatment of depression and anxiety disorders: the IAPT experience. *International review of psychiatry*, 23(4), 318-327. <https://doi.org/10.3109/09540261.2011.606803>. [4] NHS England. (2019c). *The NHS long term plan*. <https://www.longtermplan.nhs.uk/publication/nhs-long-term-plan/> [5] NHS England. (2023a). *NHS Long Term Workforce Plan*. <https://www.england.nhs.uk/wp-content/uploads/2023/06/nhs-long-term-workforce-plan-v1.2.pdf> [6] Health Education England (2022). *Mental Health and Wellbeing Practitioner: A Guide to Practice*. <https://www.hee.nhs.uk/sites/default/files/documents/Mental%20Health%20and%20Wellbeing%20Practitioner%20A%20Guide%20to%20Practice.pdf> [7] Self, P. (2023). 'Growth in the Psychological Professions'. *Psychological Professions Week Online Session*: <https://www.ppn.nhs.uk/ppweek2023/programme>