TRAUMA RISK MANAGEMENT: WHAT ARE THE FACILITATORS AND BARRIERS TO THE
IMPLEMENTATION OF TRIM IN A MENTAL HEALTH SERVICE.

By

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Thesis Overview

Chapter One is a systematic review providing a 10-year update on the internal reliability of the Impact of Event Scale (IES; Horowitz et al., 1979) and its revised version, Impact of Event Scale-Revised; IES-R (Weiss & Marmar, 1997). Chapter two outlines an empirical research study that employed Enhanced Critical Incident Technique (ECIT; Butterfield et al., 2009)to explore the critical incidents (helping factors, hindering factors and wish list items) that impact on the implementation of a Trauma Risk Management (TRiM) service in a mental health service. Chapter three provides two press release documents for both the systematic review and empirical paper.

All names and identifying features have been removed to ensure confidentiality.

Acknowledgements

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Thank you to my friends and family for their support. Finally, to my husband to be, you are my anchor, and I could not have done this without your support, pots of tea and hugs.

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Chapter 1 Systematic review: 'The Internal Reliability of the Impact of Events Scale, a 10 Year Update.'

1.1 Abstract

1.1 Background

Self-report measures, sometimes referred to as screening questionnaires, are often employed to determine the diagnosis of PTSD and treatment pathways. The Impact of Event Scale (IES; Horowitz et al., 1979) and its revised version, Impact of Event Scale-Revised; IES-R (Weiss & Marmar, 1997), is a popular measure.

1.2 Aim

The review aimed to evaluate the empirical studies published within the last 10 years of the internal reliability of the IES and IES-R.

1.3 Method

Of the 1754 initial papers identified, 25 papers met the inclusion criteria. A meta-analytic review was completed to review the measure's internal reliability reporting on Cronbach's alpha (Cronbach, 1951). The review also included the evaluation impact of influential included studies, the subscales of the scale, the effect of risk of bias, type of trauma, risk of bias, study design, publication and small study biases and concluding with a comparison with the previous meta-analyses Vassar et al., (2011).

1.4 Results

The results suggested that the IES and IES-R are reliable tools for assessing event-specific distress, achieving a result greater than the recommended threshold (i.e., >0.70; Streiner, 2003).

1.5 Conclusion

The review results suggest that the IES and IES-R remain psychometrically sound for measuring event-specific distress in English speaking individuals. Future reviews would benefit from the inclusion of translated versions of the IES and IES-R to develop an understanding of the psychometric properties of these versions.

1.2 Introduction

Post-traumatic stress disorder (PTSD) can develop following exposure to traumatic events, such as natural disasters, war, or sexual abuse (American Psychological Association [APA], 2013). Initially, PTSD was grouped into three key symptom clusters, re-experiencing, avoidance, and hyperarousal (APA, 2013). However, in line with recent research, there have been numerous changes to the two most used diagnostic approaches. One such change has been incorporating the 4-factor model (Heeke et al., 2020). The main differences relate to the number of symptoms and clusters defined for the PTSD diagnostic criteria. The APA's Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-5; APA, 2013). The DSM-5 contains 20 symptoms arranged under four symptom clusters: intrusions, avoidance, negative alternations in cognitions and mood (NACM), and alternations in arousal and reactivity (AR) (APA, 2013). With a narrower approach, the World Health Organisation International Classification of Diseases (ICD-11; [WHO, 2019]) organises six symptoms under three symptom clusters: re-experiencing the traumatic event or events in the here and now (Re), avoidance of traumatic reminders (Av), and a sense of current threat (Th) (WHO, 2019). In the ICD-11, there is also the addition of the diagnosis of Complex PTSD (see Brewin, 2020, for a detailed discussion). The updates have also recognised the need to reduce co-morbidity and increase the clinical utility of the diagnosis, particularly within refugee and humanitarian crisis contexts (Cloitre et al., 2013).

There is limited research into prevalence rates that compare the two diagnostic approaches, leading to wide variation in reported rates (Hayland et al., 2016; Kuester et al., 2017). Research has commonly found that when comparing PTSD rates using the two diagnostic approaches, the ICD-11 reports lower prevalence rates, which researchers posit may be due to a restrictive definition of PTSD (Hayland et al., 2016; Cao et al., 2020; Heeke et al., 2020). Receiving a diagnosis of PTSD can be important for individuals; it can acknowledge and validate their distress, ensure appropriate treatment, and is a crucial aspect of the asylum process (Heeke et al., 2020). Therefore, with the differing approaches to diagnosis, the reliability and validity of screening and outcome measures used to support the diagnosis of PTSD is of high importance.

One such measure is the Impact of Event Scale (IES; Horowitz et al., 1979) and its revised version, Impact of Event Scale-Revised; IES-R (Weiss & Marmar, 1997). The Impact of Event Scale (IES; Horowitz et al., 1979) is a 22 item self-report scale that assesses event-specific distress. The scale is grounded in Horowitz's model of 'emotional processing' following a trauma (Horowitz, 1976). The model suggests that individuals may experience intrusive thoughts and feelings and avoidance strategies until the traumatic experiences are psychologically integrated (Horowitz, 1976). The scale items were developed from statements most frequently used to describe episodes of distress from

traumatic incidents and measure the frequency of intrusive (e.g., repeated thoughts about the trauma) and avoidance (e.g., avoidance of triggers or similar situations) experiences. In 1997, Weiss and Marmar suggested that it was not fit for purpose as it did not cover the third major symptom cluster of PTSD, persistent hyperarousal. To address this deficit, they suggested a revised version of the scale (Impact of Event Scale-Revised; IES-R), adding six hyperarousal items (Weiss & Marmar, 1997). The authors only made minimal changes to the original intrusion and avoidance items. The instructions were modified to ask respondents to report on the amount of distress caused by the symptom on a 0-4 scale (0 referring to not all and 4 referring to extremely), rather than the frequency of symptoms. The six new hyperarousal items target sleep, irritability, concentration, hypervigilance, startle response, and physiological arousal (Weiss et al., 1997). For ease, the remainder of the introduction, unless stated otherwise, refers to the measure as IES-R.

The IES-R is translated and validated in various languages, for example, French (Brunet et al., 2003), Swedish (Sveen et al., 2010), and Japanese (Asukai et al., 2002) to name but a few. The scale has also been developed for different populations, for example, into a short version, the Impact of Event Scale-6 (IES-6; Thoresen et al., 2010), a children's version, the Children's Revised Impact of Event Scale (CRIES; Perrin et al. 2005), an adapted version for those with an intellectual disability, Impact of Event Scale – Intellectual Disabilities (IES-IDs; Hall et al., 2014) and a COVID-19 specific adaptation the Impact of Event Scale with Modifications for COVID-19 (IES-COVID19; Vanaken et al., 2020).

The IES was not initially designed to assess Post Traumatic Stress Disorder (PTSD); however, as it focuses on traumtic distress it has continued to be widely used by those in trauma research and clinical practice (Elhai et al., 2005). In the United Kingdom (UK), NICE (2005, Updated 2008) PTSD guidance states the IES-R is a useful screening questionnaire, and as such, the measure is routinely used in clinical practice and research. For example, the measure is a screening tool that clinicians must complete with individuals presenting with PTSD in the Improving Access to Psychological Therapies (IAPT) services (Thomlinson et al., 2017; National Collaborating Centre for Mental Health, 2018). The need to ensure high-quality screening and outcome measures is also relevant with the move towards outcome-based mental health services. The UK's Nation Health Service (NHS) five year forward view for mental health (NHS, 2014) suggests that measures need to meet the criteria of being reliable and valid, adding value to clinical work, whilst also reflecting the service, including cultural appropriateness and aligning with system-wide objectives. In 2019 this was developed further with an additional goal to improve the quality and breadth of data submitted to the Mental Health Services Data Set for all mental health trusts (NHS, 2019).

In summary, as our understanding of trauma and the psychological impacts evolves, clinicians have an ethical obligation to remain vigilant and inquisitive of the assessment tools used within healthcare

services to ensure they are fit for purpose. It becomes of greater importance when clinical decisions, such as identifying treatment pathways and the effectiveness of services, are made based on the outcome of the assessment. Tools therefore need to be reliable if they are to be used for clinical and research purposes. One such way is to determine the psychometric properties of assessments tools is to review the internal reliability of that tool (Sullivan, 2011; Price et al., 2015). A measures' internal reliability refers to the extent to which items all respond the same construct, or more accurately, the degree to which items systematically covary. Internal consistency is most frequently measured via Cronbach's alpha (Cronbach, 1951). A scale with poor internal reliability can result in the inaccurate and confounded measurement of the construct in question, which may bias and confound decisions regarding the relationship between theoretical constructs and decisions about treatment.

Since its development, the IES has continued to obtain satisfactory internal reliability across the total and subscales (e.g., Horowitz et al., 1979; Zilberg et al., 1982). In 2002, Sundin and Horowitz (2002) summarised the non-weighted averages of Cronbach alphas across several studies to review the IES's internal reliability. The total alpha was not provided; however, alphas of Intrusion and Avoidance subscales were reported as good. Vassar et al., (2011) reviewed the reliability of the IES and the IES-R. The mean internal consistency estimate (i.e., coefficient alpha) for the IES across samples was reasonable across the Intrusion and Avoidance subscale. Similarly, the mean coefficient alpha for the IES-R across all subscales, Intrusion, Avoidance, and Arousal, demonstrated good internal reliability. However, Vassar et al., (2011) did not follow a standardised method for meta-analysis of psychometric data. Instead, the authors reported non-weighted means of alpha scores, and the analysis was not controlled and corrected for precision of measurement or any other factors that could cause attenuation of the psychometric properties of the IES.

Since the publication of Vassar (2011), there have been no further meta-analyses nor has the original review been updated since its first publication in 2011. Therefore, the current review will develop and extend upon the existing literature on the internal reliability of the IES by reviewing the empirical studies of the internal reliability of the IES that have been published subsequent to the review by Vassar (2011). In addition, this review will use meta-analytic methods to examine the impact of risk of bias in the published studies, the impact of publication bias and small sample sizes and the impact of study design. Therefore, the current review focuses on providing a synthesis of the current literature on the internal reliability of the IES and IES-R.

1.3 Methods

3.1 Identifying literature reporting on the psychometric properties of the Impact of Event Scale

1.1 Search of Electronic Databases

A systematic search of the literature was initially carried out between 1979 and June 2021, using Psych Info, OVID MEDLINE (R), Embase, Web of Science and SCOPUS. Studies included if they reported on the psychometric product properties of either the Impact of Event Scale or the Impact of Event Scale-Revised. The search terms that were used to identify these studies are outlined in Table 1.1 below.

No restriction was placed upon the overall study design, although studies were later categorised as (a) studies designed to assess the psychometric properties of the Impact of Event Scale and (b) studies that report psychometric properties but were conducted to address another research aim and reviewed using the inclusion and exclusion criteria described in Table 1.2.

Table 1.1
Search Criteria

Construct	Free Text Search Terms	Method of Search	Limits
Impact of Event Scale	"Impact of Event Scale" "IES" "Impact of Event Scale-Revised" "IES-R"	All search terms combined with OR	Peer reviewed articles English language 1979-June 2021
Reliability	"Cronbach* alpha" "Coefficient alpha" "Reliability" "Internal consistency"		

1.2 Inclusion Criteria

The review focused on the two most widely used versions of the scale, the Impact of Event Scale (IES) and the Impact of Event Scale-Revised (IES-R), and adapted versions of the scale were excluded (e.g., the Children's Revised Impact of Event Scale [CRIES]). Articles were included in the review which reported total and subscale alphas from novel datasets consisting of ten or more participants. Non-English language articles and articles reviewing the translated versions of the scale were excluded as the total number of articles was beyond the scope of the review. Two meta-analyses were identified (Sundin & Horowitz, 2002; Vassar et al., 2011) during the initial abstract and title screening of the articles. Therefore, a further additional criterion was applied to exclude articles published prior to 2010 to avoid duplication with other reviews. Full inclusion and exclusion criteria are described in 1.2.

Table 1.2

Inclusion and exclusion criteria.

Inclusion criteria	Justification
Impact of Event Scale Version Studies that report on the Impact of Event Scale (IES) or the Impact of Event Scale-Revised (IES-R) were included. Excluded were the: Children's Revised Impact of Event Scale (CRIES), Impact of Event Scale-6 (IES-6), Impact of Event Scale-LD (IES-LD), Impact Event Scale-Adolescents (IES-A) and IES-COVID19.	This is to ensure that there is enough alpha data reported to complete a robust meta-analysis and sub-analysis of scale version.
Alpha data The studies are required to report the Cronbach Alpha of the total score and/or each of the subscales: Intrusion, Avoidance and Hyperarousal.	To ensure that outcomes can be calculated into an effect size.
Studies were required to report individual new alpha data. Therefore, second-hand data referencing previous articles and ranges of alpha data (e.g., alphas ranged from 0.86 to 0.95) were excluded.	The meta-analysis is focusing on the synthesis of new data to review the internal reliability of the Impact of Event Scale therefore, previously reported data would be inappropriate. Providing a range of alphas does not provide individual data and would therefore impact on the overall outcome of the meta-analysis and subsequent sub-groups analyses.
Type of article The following article types were excluded: meta-analysis/theoretical papers/ reviews/commentaries/clinical guidance /association studies/case studies/qualitative papers/protocols/dissertations/books	These articles do not provide the outcome data needed for this meta-analysis.
Article and scale language Non-English language articles and articles reviewing the translated versions of the scale were excluded. The most common languages that the scale had been translated into were: Japanese, Chinese, Korean, Iranian.	These articles were not included as the number of articles identified were beyond the scope of the project. The researcher is also from a white British background and therefore could not determine the validity and reliably of the translated versions of the scale, thus they were unable to report on the potential impact of this on the risk of bias.
Number of participants When the study does not provide alpha data for more than 10 participants.	This is to ensure that an effect size can be calculated and increases methodological rigour of studies included.
Additional criteria - Publication date Two meta-analyses were completed prior to 2010, therefore, articles prior to 2010 were excluded.	Articles prior to 2010 were excluded following the systematic search of electronic databases due to the identifications of the two previous meta-analyses (Sundin & Horowitz, 2002; Vassar et al., 2011).

The results of the systematic search are presented in Figure 1.1. The search yielded a total of 1754 articles and 1411 once duplicated articles were removed. These articles were then screened using the exclusion criteria using the study titles and abstract. The three most common reasons were: articles published reporting the incorrect scale (n=426) pre 2010 (n=338), and the use of a translated measure

(n=194). The full text of the remaining 131 articles were then reviewed in more detail against the exclusion criteria. 25 articles met the full inclusion/exclusion criteria, thus, satisfying the criteria for inclusion within the numerical synthesis within this meta-analysis.

The two previous meta-analyses (Sundin & Horowitz, 2002; Vassar et al., 2011) were identified by this search, which had already searched, and reviewed the literature from 1998 through to 2010. Therefore, this current review excluded studies prior to the publication of Vassar et al (2011) as these have been described elsewhere.

Figure 1.1
Process of study selection: Adapted PRISMA flow diagram (Liberati et al., 2009)
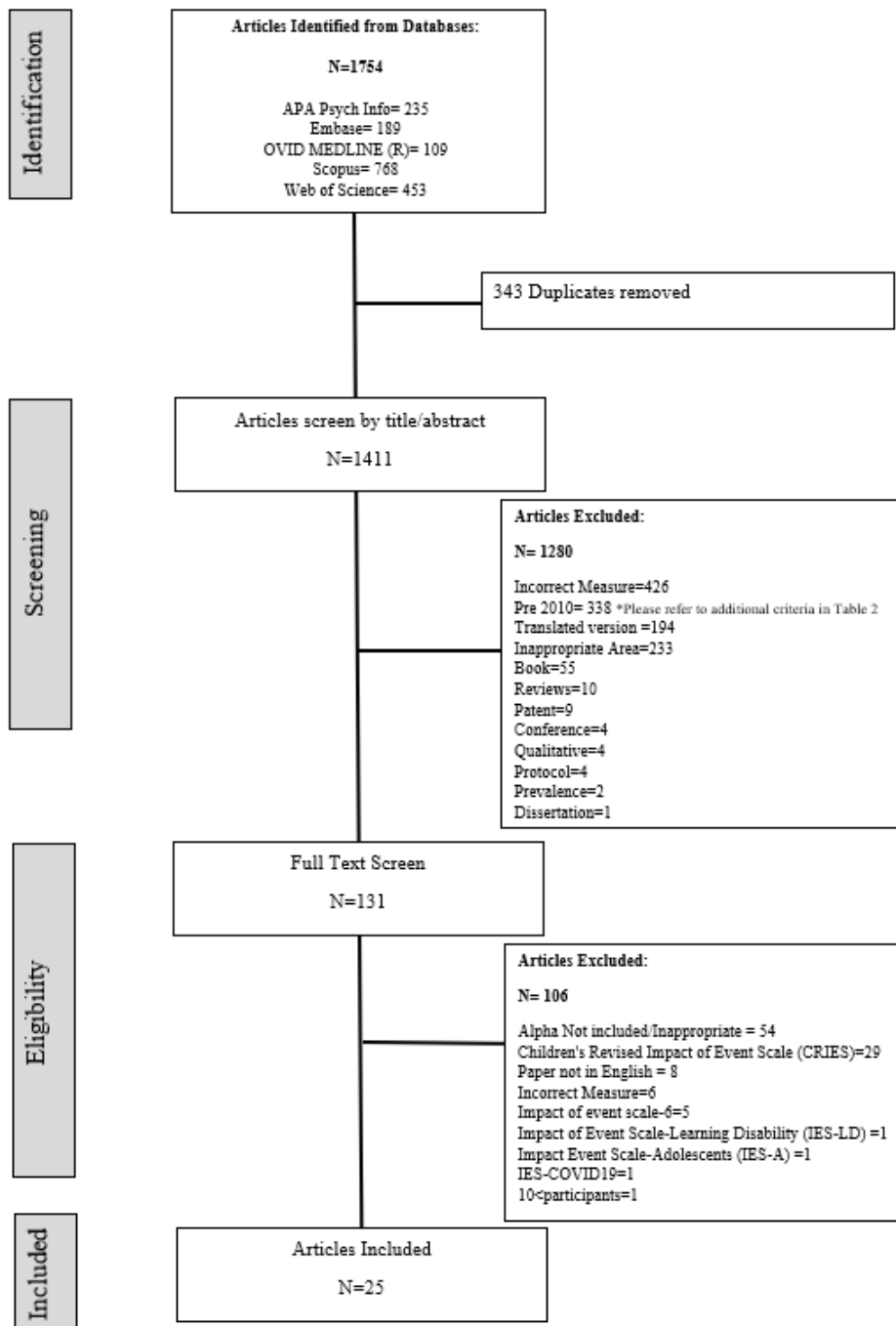
3.2 Data Extraction

All data were extracted by the author. It was expected that the included studies would report Cronbach's alpha coefficient as the measure of internal consistency. If internal consistency was

reported using an alternative statistic (e.g., intra-class correlation or average inter-item correlation) then this was converted into an equivalent Cronbach's alpha value prior to numerical synthesis.

2.1 Defining Problematic Variance

A study level effect is considered heterogeneous if it presents with variation from the meta-analysis synthesis which cannot be attributed to true variation in the distribution of effect. Heterogeneity can result from methodological variation in the studies, measurement error or uncontrolled individual difference factors within the body of literature. Higgins I^2 is a commonly used measure of heterogeneity, with greater values of I^2 indicating variation in effect that cannot be attributed to true variation in the distribution of effect in the population. As there is considerable variation in methodologies of the included studies that was used to calculate the meta-analytic synthesis, problematic heterogeneity was defined as a Higgins I^2 value greater than 75%. Where unacceptable or problematic heterogeneity is observed then the focus of the subsequent analyses will be upon the identification of the sources of heterogeneity between the estimates of alpha coefficients in the included studies.

2.2 Risk of Bias Assessment

A set of criteria were developed to assess the risk of bias within this literature. These criteria were adapted from existing risk of bias frameworks, including The Cochrane Collaboration Risk of Bias Tool (Higgins et al., 2011) and the Risk of Bias Assessment Tool for Nonrandomised Studies (Kim et al., 2013). The current framework assesses risk of bias in seven domains: selection bias, performance bias, test administration, detection bias, statistical bias, reporting bias and generalisation. The risk of bias in the seven domains and the criteria for Low, Unclear or High risk are described in Table 1.3 and the application of these criteria are reported in Table 1.4.

Table 1.3
Domains of risk of bias and the criteria for ratings of low, unclear, or high risk

Domain	Details	Risk of Bias
Selection bias	Selection bias occurs when there is a systematic difference between the characteristics of those selected for the study and those who are not. Have the selection method and characteristics of participants been described adequately? There is no need for participants to have a particular diagnosis.	High Risk – No description of the method by which, participants were selected, or characteristics of participants are not described. Unclear Risk – The recruitment process/ sampling method of individuals are unclear or has not been reported. The characteristics of the study population are not clearly or fully reported. This includes age range, education years, socioeconomic status, ethnicity, where participants were recruited from (how). Non-response rate is not reported. Low Risk - The characteristics of the study population are clearly described and without evidence of bias. The source population is well described, and the study reports the characteristics of the sample e.g., the study details subgroups. The recruitment method is clearly reported and well defined. The article provides some reassurance that there is no selection bias.
Performance Bias	Performance bias refers to systematic differences between/within groups in the participants motivation to complete the study.	High Risk – The study does not report levels of confidentiality and anonymity. It is not clear if participants were rewarded for their participation (e.g., motivation to respond in a certain way). It is unclear how much information was provided to the participant prior to taking part in the study Unclear Risk – The study does not report levels of confidentiality and anonymity. It is not clear if participants were rewarded for their participation (e.g., motivation to respond in a certain way). It is unclear how much information was provided to the participant prior to taking part in the study. Low Risk - Study reports level of confidentiality and anonymity. Participants were not rewarded for their participation in the study. Information and procedures are provided in a way that does not differentially motivated participants
Test Administration	Was the delivery of the test sufficiently well described that it could be replicated? Were procedures in place to assess the fidelity of the administered test? Was the delivery of the test completed in an acceptable way as per the recommendations of the test's authors?	High Risk – No mention of processes used to ensure fidelity. No description of application of test. Unclear Risk – Unclear if study protocol was followed. This included where the procedure was not reported - not clear whether the test was administered 1-2-1 or in group, at home or in a different setting. No information reported of the testers suitability/experience of administering the test. Low Risk - Test delivery and completion described and adequate adherence to the test author's recommendations demonstrated. Valid test application conducted by someone with suitable experience.
Detection bias	Detection bias refers to whether the design of the study is optimised to detect the effect in question. Was the IES delivered in its original or agreed format? Was the scoring of the test completed as per the author's recommendations?	High Risk – Major alterations to the test, including wording and/or scoring. Combined with or amalgamated with a different test. States that it has been translated but does not detail how this was conducted or clear problems in translation. Only using one dimension/ subscale of the scale or separating the subscales/ dimensions in the analysis. Unclear Risk – Minor changes made to the wording of questions; changes made to the scoring (i.e., changed from 5-point to 3-point scale). It is not clear if the measure was implemented consistently across all participants. The research question is unclear. Unclear if translated or potential changes to questions due to translation. Low Risk - Test administered in its original or agreed format and recommended scored followed.
Statistical bias	The reporting of statistical information, relating to the reliability coefficient. Indicate if appropriate statistical methods used. Considers the information reported in terms of its completeness and accuracy.	High Risk – Analysis does not produce a Cronbach's Alpha value, or no information is provided as to how the reliability coefficient has been calculated. Unclear Risk – A variation or alternative value is provided in place of a Cronbach's Alpha value; or some data is missing (i.e., unclear whether the full sample was used to provide this value or just a subset of the sample). Low Risk - Exact Cronbach's Alpha value is reported, and it is clear how this was calculated (i.e., no missing data).
Reporting bias	Reporting bias refers to systematic differences between reported and unreported findings. Is there evidence of selective outcome reporting?	High Risk- Not reported Cronbach's Alpha value for the IES or IES-R. Unclear Risk- Not all descriptive statistics are presented. Values not presented for the Total and subscales: Intrusion, Avoidance, and Hyperarousal. Low Risk- Reported Cronbach's Alpha values for Total and all sub-scales.

	Are there measures that have not been reported in the results that have been mentioned in the method section?	
	Has a Cronbach's Alpha value been reported for the total and all subscales?	
Generalisability	Capturing the size of the sample and the ability to transfer findings to the wider population.	High risk - Small sample with or without idiosyncratic features (<30 participants).
	Can the results be applied to other populations groups or settings based on the sample used?	Unclear risk - Sufficient sample for generalisation but with some idiosyncratic feature (>30 per group). Sample taken from only one population group (i.e., students) with attempts to generalise to entire population.
	Recommend sample size of 30 determined by histogram of sample size.	Low risk - Sufficient sample for generalisation and representative of target population (>30 per group).

A numeric score was given to a studies' overall risk of bias, a study received two points for a low risk of bias, 1 point for an unclear risk of bias and no points for a high risk of bias in each of the seven risk of bias domains and these scores were summed across all of the seven areas of risk of bias. In addition, studies were categorised as (a) studies designed to assess the psychometric properties of the Impact of Event Scale in more than 30 participants and (b) studies that report psychometric properties but were conducted to address another research aim. Studies that were designed to assess the psychometric properties of the impact of event Scale received an additional 10 points whereas studies that reported psychometric properties but were conducted to address another research question did not receive any additional points for study design. Therefore, the Overall Quality Index, reflecting scores for design and the risk of bias and is expressed as a percentage of the total possible score. The overall quality index is reported for each study in the final column of Table 1.4.

If the heterogeneity of the included studies was below the threshold value of $I^2 \leq 75\%$ then the overall quality index would used in the weighting of the meta-analytic synthesis and reported as a "quality effects model", alternatively, if the threshold value was exceeded then heterogeneity would be explored more thoroughly by directly comparing the performance of biased and unbiased studies for each of the seven areas of risk of bias.

Table 1.4

Ratings of risk of bias. Red indicates high risk of bias, amber marks an unclear risk of bias and green is a low risk of bias. The final column indications the overall quality of the research papers.

Study	Study Design	Selection Bias	Performance Bias	Test Administration	Detection Bias	Statistical Bias	Reporting Bias	Generalisability	Overall Quality Index
Cody et al 2017	Psychometric properties	Low risk	Unclear risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Low risk	83%
Hosey et al 2020	Psychometric properties	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	96%
Tiemensma et al 2018	Psychometric properties	Low risk	High risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Unclear risk	75%
Andersen et al 2018	Secondary properties	Unclear risk	High risk	Unclear risk	Unclear risk	Unclear risk	Unclear risk	Low risk	11%
Annunziato et al 2017	Secondary properties	High risk	Unclear risk	Low risk	Low risk	High risk	Unclear risk	High risk	25%
Bonichini et al 2021	Secondary properties	Low risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Unclear risk	Low risk	42%
Cacciatore 2013	Secondary properties	Low risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Unclear risk	Low risk	42%
Carpenter et al 2010	Secondary properties	Low risk	Unclear risk	Low risk	Low risk	Unclear risk	Unclear risk	Low risk	46%
Chopko 2010	Secondary properties	Low risk	Low risk	Unclear risk	Low risk	Unclear risk	Unclear risk	Low risk	46%
Davis et al 2019	Secondary properties	Low risk	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	54%
Feuerherd 2014	Secondary properties	Low risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Unclear risk	Unclear risk	38%
Fitzpatrick 2021	Secondary properties	Low risk	Unclear risk	Unclear risk	Unclear risk	Unclear risk	Unclear risk	Low risk	38%
Garthus-Niege et al 2015	Secondary properties	Unclear risk	Unclear risk	Unclear risk	Low risk	High risk	Unclear risk	Low risk	33%
Géonet et al 2018	Secondary properties	High risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Low risk	Unclear risk	33%
Kehl et al 2014	Secondary properties	Low risk	Low risk	High risk	Unclear risk	Unclear risk	Unclear risk	Low risk	38%
Langford et al 2020	Secondary properties	Low risk	Unclear risk	High risk	Unclear risk	Unclear risk	Unclear risk	Low risk	33%
Maybery et al 2020	Secondary properties	Low risk	High risk	Unclear risk	Low risk	Unclear risk	Unclear risk	Low risk	38%
Perez et al 2018	Secondary properties	Unclear risk	Unclear risk	High risk	Low risk	Unclear risk	Unclear risk	Unclear risk	29%
Sakat et al 2021	Secondary properties	Low risk	Unclear risk	Unclear risk	Unclear risk	Unclear risk	Unclear risk	Low risk	38%
Salsman et al 2015	Secondary properties	Low risk	Unclear risk	Unclear risk	High risk	Unclear risk	Unclear risk	Low risk	33%
Schaefer et al 2011	Secondary properties	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	38%

2.3 Selection Bias

Overall, selection bias was low risk within the studies, 19 studies were rated as low risk. Of the included studies four were unclear risk, and finally two studies were high risk. The low-risk studies provided a clear and appropriate sampling method, recruitment process and provided a detailed sample characteristics (e.g., Bradshaw et al., 2013; Feuerherd, 2014; Maybery et al, 2020). The unclear risk or high-risk studies sampling methods were often vague with limited information on the sample.

2.4 Performance Bias

Performance bias was overall unclear risk within the studies, 15 studies were identified as unclear risk and five studies were identified as high risk. Of these articles several studies provided payment or entitled to entre a prize draw for participating in the study (e.g., Carpenter et al., 2010; Salsman et al., 2015). How informed consent and confidentially was described within these articles was mostly unclear and limited in nature (e.g., Cacciatore, 2013; Langford et al., 2020). Five articles were rated as low risk, these articles were clear on the consent process and no payment or rewards were noted.

2.5 Test administration

This area of bias was overall unclear risk within the studies. Three of the studies provided a clear description of test administration processes they undertook and methods they adhered to. Four studies were identified as high risk and the remaining 18 studies were rated as unclear risk. Most

studies had little to no information regarding who collected and scored the outcome measure and their qualifications to do so (e.g., Kehl et al., 2014). Many of the studies also reported the completion of the outcome measure via online surveys, with no noted information on how the outcome measure was scored in relation to this (Fitzpatrick, 2021).

2.6 Detection Bias

Most studies (n= 16) were deemed low risk, as no alterations of the measure were reported. Seven studies were unclear risk and two were high risk. Those identified as unclear or high risk were studies where studies where the language of the outcome measure was ambiguous or where there was a several language versions of the measure used (including English) but separate alpha scores were not reported (e.g., Kehl et al., 2014).

2.7 Statistical Bias

Two high risk papers were identified as the papers did not offer information of how the alpha was calculated and 17 unclear risk studies were within the review as limited information on calculation was included. Five studies provided a clear account of how the alpha was calculated and how many participants were included in the calculation (e.g., Schaefer et al., 2011; Cody et al., 2017).

2.8 Reporting Bias

Overall, the full reporting of the outcomes within the studies were considered to be poor, with 21 being classed as unclear risk and one as high risk of reporting bias. Those studies with unclear risk with reporting either did not report an alpha score for the subscales, provided a range or score or had a missing alpha score for the subscales (e.g., Cacciatore, 2013; Maybery et al., 2020). Three studies did not report a total outcome measure alpha score (Bradshaw et al., 2014; Gudenkauf et al., 2014; Ingles et al., 2013; McCormack et al., 2016), only providing alpha scored for the subscales. The three studies identified as low risk (Davis et al., 2019; Géonet et al., 2018; Schaefer et al., 2011) provided alpha scores for the total score and the subscales of the outcome measure.

2.9 Generalisability

Overall, generalisability was adequate, with 17 studies identified as low risk. A good sample size and appropriate participant populations contributed to the good generalisability. Two studies were high risk and six were unclear risk. Those studies with unclear risk generally had poorly generalisability populations e.g., undergraduate students (e.g., Géonet et al.,2018) or had low sample size (e.g., Bradshaw et al., 2014).

2.10 Summary

Overall, there was a mixed level of bias across the studies included in this meta-analysis. Of the included studies 12 did not report any high risk of bias in any of the quality criteria, (Bonichini et al., 2021; Cacciatore, 2013; Carpenter et al., 2010; Chopko, 2010; Cody et al., 2017; Davis et al., 2019; Feuerherd., 2014; Fitzpatrick., 2021; Hosey et al., 2020; Ingles et al., 2013; Sakat et al., 2021). There was no notable high risk of bias across studies in any one area, however, *reporting bias* had more unclear risk in comparison to other risk of bias areas. Due to the low number of studies in this field, studies with medium to high risk of bias were included. Consequently, the results of this meta-analysis should be interpreted with caution. However, the studies included are felt to be a representative summary of the research literature as it stands currently, and it is hoped that future research will include higher quality research with better reporting of the outcome measures total and subscales alpha scores.

1.4 Results

4.1 Selection of the Meta-Analytic Model

The distribution of included study effects is shown in Figure 1.2. The between studies variance (tau^2) was calculated using the DerSimonian and Laird estimator.

Figure 1.2
QQ plot of the distribution of study effects within the included studies.

A: Fixed Effects Model   B: Random Effects ~Model
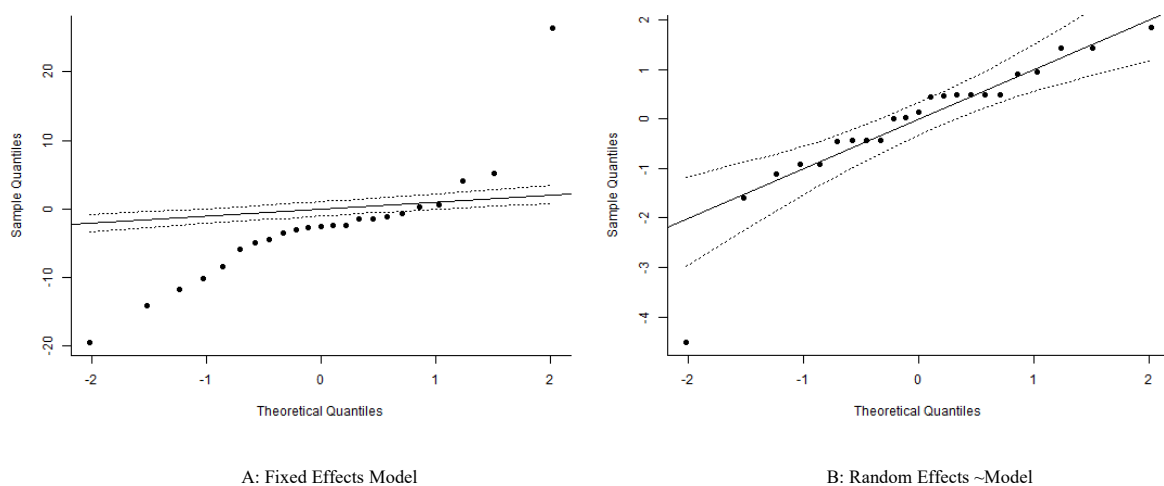
As can be seen from Figure 2, there is clear evidence of non-normality in the distribution of alpha coefficients when using the fixed effects model, however, the random effects model using the DerSimonian and Laird estimator of tau^2 showed little evidence non-normality in the distribution of alpha coefficients. Therefore, this indicates that the use of the use of the random effects model using

the DerSimonian and Laird estimator is an appropriate method for the calculation of the variation of the true effect.

4.2 The Omnibus Test

The alpha coefficients for those studies reporting a total IES or IES-R score are presented in Table 1.5. There were 21 studies reporting a total of 18339 participants. Two studies, Schaefer et al., (2011) and Feuerherd (2014), reported separate full scale alpha coefficients for two different sample populations. Specifically, Feuerherd (2014) reported separate alpha scores for survivors and firefighters, Schaefer et al., (2011) whereas reported separate alpha coefficients for persons with psychosis and persons without a diagnosis of serious mental illness. Therefore, they were entered into the data spreadsheet as two separate full-scale alpha scores as these measures of internal consistency were calculated on different groups of participants.

Four studies reported on the psychometric properties of the Impact of Event Scale and 19 studies reported alpha coefficients for the revised version of this scale. Of the 21 studies reporting a full-scale alpha three studies were reporting on the psychometric properties of the scale only three studies were explicitly designed to assess the psychometric properties of the impact of event Scale. The other 18 studies reported full-scale alphas as part of another study question.

Participants were selected from broad range of trauma related situations (e.g., cancer specific distress, first episode psychosis, intimate partner violence, and work-related threats of violence) as well as from occupational groups who are at high risk of experiencing trauma -related events (e.g., law enforcement officers, firefighters, ambulance personnel).

Table 1.5

Full-scale alpha coefficients and study characteristics as reported in the included studies.

	Year	Full Scale Alpha	Items	N	Study Design	Language	Population	Standard or Revised
Annunziato et al	2017	0 850	15	10	Secondary properties	English	Caregiver	IES
Salsman et al	2015	0 930	15	335	Secondary properties	English	Cancer-specific distress	IES
Schaefer et al 1	2011	0 943	15	38	Secondary properties	English	First episode psychosis	IES
Schaefer et al 2	2011	0 950	15	47	Secondary properties	English	Non psychosis	IES
Cody et al	2017	0 930	22	161	Psychometric properties	English	Intimate partner violence	IES-R
Hosey et al	2020	0 940	22	186	Psychometric properties	English	Acute respiratory distress syndrome	IES-R
Tiemensma et al	2018	0 950	22	545	Psychometric properties	English	Traumatic event at university	IES-R
Andersen et al	2018	0 950	22	2678	Secondary properties	Unclear	Work-related threats and violence	IES-R
Bonichini et al	2021	0 920	22	1839	Secondary properties	English	COVID lockdown	IES-R
Cacciatore	2013	0 950	22	483	Secondary properties	English	Bereaved parents	IES-R
Carpenter et al	2010	0 930	22	260	Secondary properties	English	Cancer	IES-R
Chopko	2010	0 950	22	183	Secondary properties	English	Police Officers	IES-R
Davis et al	2019	0 950	22	507	Secondary properties	English	Ambulance clinicians	IES-R
Feuerherd 1	2014	0 980	22	30	Secondary properties	English	Survivors	IES-R

	Year	Full Scale Alpha	Items	N	Study Design	Language	Population	Standard or Revised
Feuerherd 2	2014	0 960	22	180	Secondary properties	English	First responders	IES-R
Fitzpatrick	2021	0 970	22	316	Secondary properties	English	Hurricane Harvey survivors	IES-R
Garthus-Niege et al	2015	0 840	22	1473	Secondary properties	English	Post-traumatic stress	IES-R
Géonet et al	2018	0 890	22	52	Secondary properties	English	Stressful life events	IES-R
Kehl et al	2014	0 930	22	927	Secondary properties	Various	Firefighters	IES-R
Langford et al	2020	0 920	22	957	Secondary properties	English	Chemotherapy	IES-R
Maybery et al	2020	0 970	22	4051	Secondary properties	English	Environmental catastrophe	IES-R
Perez et al	2018	0 960	22	59	Secondary properties	English	Parents of children with cancer	IES-R
Sakat et al	2021	0 940	22	2992	Secondary properties	Unclear	Act of political violence	IES-R

A random effects model was calculated for the IES and IES-R total-score alpha coefficient using the generic inverse variance method (see Figure 1.3). The random effects model for the IES reported a weighted average alpha coefficient of $\alpha=0.94$ and a 95% confidence interval of between 0.92 to 0.95. Similarly, the random effects model for the IES-R showed a weighted average alpha coefficient of $\alpha=0.94$ and a 95% confidence interval of between 0.93 to 0.95. Furthermore, there was no substantive or meaningful difference between the internal reliability of the IES and the IES-R versions of the measure.

Figure 1.3

Forest plot of random effects model.
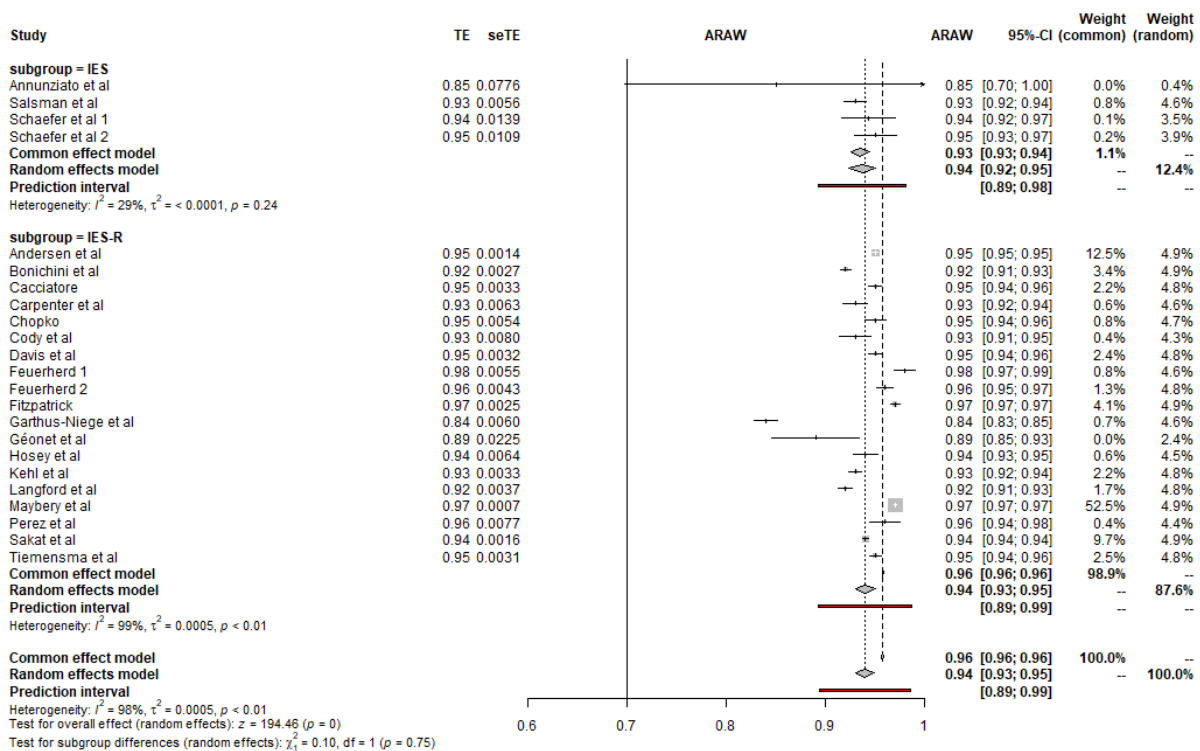
The level of heterogeneity in the IES was acceptable (Higgin's I^2 = 29%, tau^2 <0.0001, p=0.24), however, an unacceptably high level of heterogeneity in the IES-R studies was observed (Higgin's I^2

= 99%, tau^2 = 0.0005, p < 0.01), suggesting that the estimates of alpha coefficient in the IES-R studies may be biased by the presence of uncontrolled or confounding factors. Therefore, the focus of the subsequent analyses will be upon the identification of the sources of heterogeneity between the estimates of the alpha coefficients in the included studies.

4.3 The Impact of Influential Included Studies

The impact of disproportionately influence studies was assessed using a "leave-one-out" analysis, in which the random effects model was calculated with each of the included studies removed in turn and change in weighted average effect size (i.e., influence) and the change in heterogeneity (i.e., discrepancy) was recorded. The result of this "leave-one-out" analysis is presented on the Baujat plot (Baujat, Pignon, & Hill, 2002) in Figure 1.4.

Figure 1.4
Baujat diagnostic plot of sources of heterogeneity.
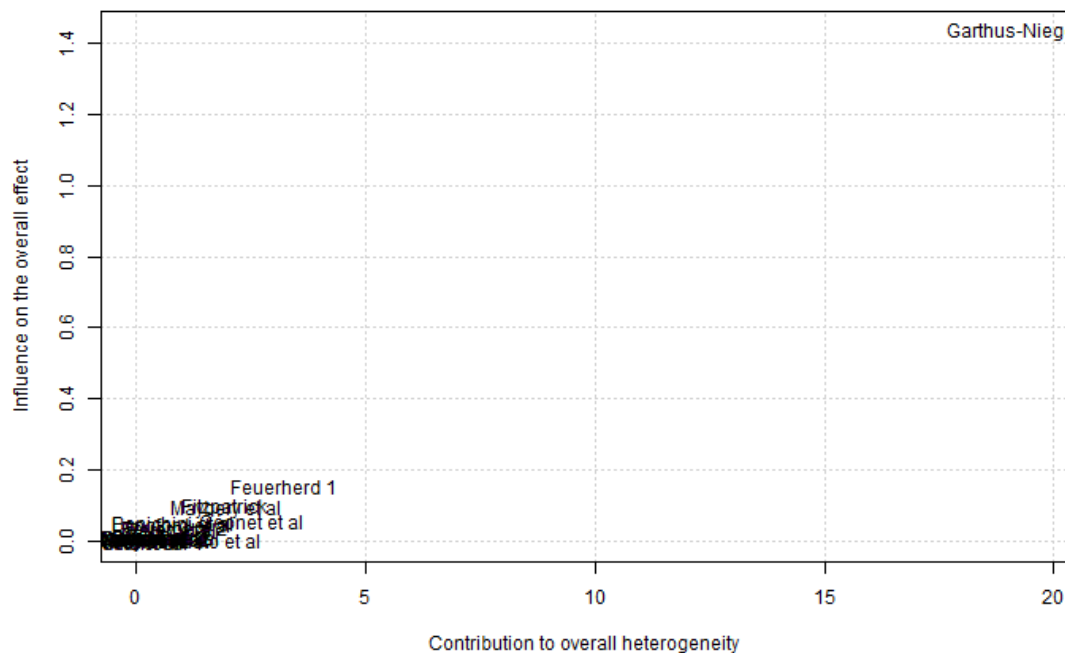
Figure 1.4 shows the Baujat diagnostic plot of sources of heterogeneity, the vertical axis reports the influence of the study on the overall effect and the horizontal axis reports the discrepancy of the study with the rest of the literature. The Baujat plot clearly shows that the Garthus-Niege (2015) study is both influential and discrepant from the rest of the literature.

The random effects model was recalculated having removed the Garthus-Niege (2015) study and the adjusted random effects model reported a synthesis of α= 0.9448 (95% CI 0.9364 to 0.9531). The random effects model which evidences an approximately 1% increase relative to the unadjusted estimate. The Garthus-Niege (2015) study was reviewed with a view to its removal from this meta-

analysis. A high risk of statistical bias was determined for the study based on the authors unclear reporting of the alpha score however, no further substantial risk of bias or other study characteristic could be identified that would explain this studies discrepancy from the rest of the literature and it was therefore retained within the meta-analysis.

4.4 Subscales of the Impact of Event Scale

The alpha coefficients for the subscales of the IES are presented in Table 1.6. A total of nine studies reported one or more alpha scores for the subscales of the measure. Of the nine studies, six alphas were reported for the Arousal Subscale, nine alphas were reported for the Avoidance subscale and nine alphas were reported for Intrusion subscale. Of these studies four did not report a full-scale alpha.

Table 1.6

Subscale alpha coefficients and study characteristics as reported in the included studies.

Study Name	Year	Subscale Scale	Subscale Alpha	Items	N	Study Design	Language	Population	Standard or Revised
Bradshaw et al	2014	Arousal	0 860	6	10	Secondary properties	English	Clients with PTSD	IES-R
Davis et al	2019	Arousal	0 880	6	507	Secondary properties	English	Ambulance clinicians	IES-R
Géonet et al	2018	Arousal	0 700	6	52	Secondary properties	English	Stressful life events	IES-R
Ingles et al	2013	Arousal	0 960	6	31	Secondary properties	English	Cardioverter defibrillator therapy	IES-R
Maybery et al	2020	Arousal	0 920	6	4051	Secondary properties	English	Environmental catastrophe	IES-R
McCormack et al	2016	Arousal	0 820	6	60	Psychometric properties	English	Humanitarian-Related Distress During	IES-R
Bonichini et al	2021	Avoidance	0 790	8	1839	Secondary properties	English	COVID lockdown	IES-R
Bradshaw et al	2014	Avoidance	0 300	8	10	Secondary properties	English	Clients with PTSD	IES-R
Davis et al	2019	Avoidance	0 840	8	507	Secondary properties	English	Ambulance clinicians	IES-R
Géonet et al	2018	Avoidance	0 780	8	52	Secondary properties	English	Stressful life events	IES-R
Ingles et al	2013	Avoidance	0 950	8	31	Secondary properties	English	Cardioverter defibrillator therapy	IES-R
Maybery et al	2020	Avoidance	0 920	8	4051	Secondary properties	English	Environmental catastrophe	IES-R
McCormack et al	2016	Avoidance	0 870	8	60	Psychometric properties	English	Humanitarian-Related Distress During	IES-R
Schaefer et al 1	2011	Avoidance	0 906	8	38	Secondary properties	English	First episode psychosis	IES
Schaefer et al 2	2011	Avoidance	0 940	8	47	Secondary properties	English	First episode psychosis	IES
Bonichini et al	2021	Intrusion	0 870	8	1839	Secondary properties	English	COVID lockdown	IES-R
Bradshaw et al	2014	Intrusion	0 650	8	10	Secondary properties	English	Clients with PTSD	IES-R
Davis et al	2019	Intrusion	0 920	8	507	Secondary properties	English	Ambulance clinicians	IES-R
Géonet et al	2018	Intrusion	0 830	8	52	Secondary properties	English	Stressful life events	IES-R
Gudenkauf et al	2015	Intrusion	0 920	8	183	Secondary properties	English	Cancer	IES-I
Ingles et al	2013	Intrusion	0 900	8	31	Secondary properties	English	Cardioverter defibrillator therapy	IES-R
McCormack et al	2016	Intrusion	0 900	8	60	Psychometric properties	English	Humanitarian-Related Distress During	IES-R
Schaefer et al 1	2011	Intrusion	0 907	8	38	Secondary properties	English	First episode psychosis	IES
Schaefer et al 2	2011	Intrusion	0 889	8	47	Secondary properties	English	First episode psychosis	IES

A random effects model was calculated for the Arousal, Avoidance and Intrusion subscales of the IES and IES-R using the generic inverse variance method (see Figure 1.5). The random effects model for the Arousal subscale reported a weighted average alpha coefficient of $\alpha=0.89$ and a 95% confidence interval of between 0.86 to 0.93. Similarly, the random effects model for the Avoidance subscale

showed a weighted average alpha coefficient of α=0.88 and a 95% confidence interval of between 0.83 to 0.92. Finally, the random effects model for the Intrusion subscale showed a weighted average alpha coefficient of α=0.90 and a 95% confidence interval of between 0.87 to 0.92. Accordingly, there was no substantive or meaningful difference between the internal reliability of the three subscales of the IES and the IES-R measure ($X^2 = 0.51$, p $= 0.77$).

Figure 1.5

Forest plot of Random Effects Model for IES and IES-R subscales.
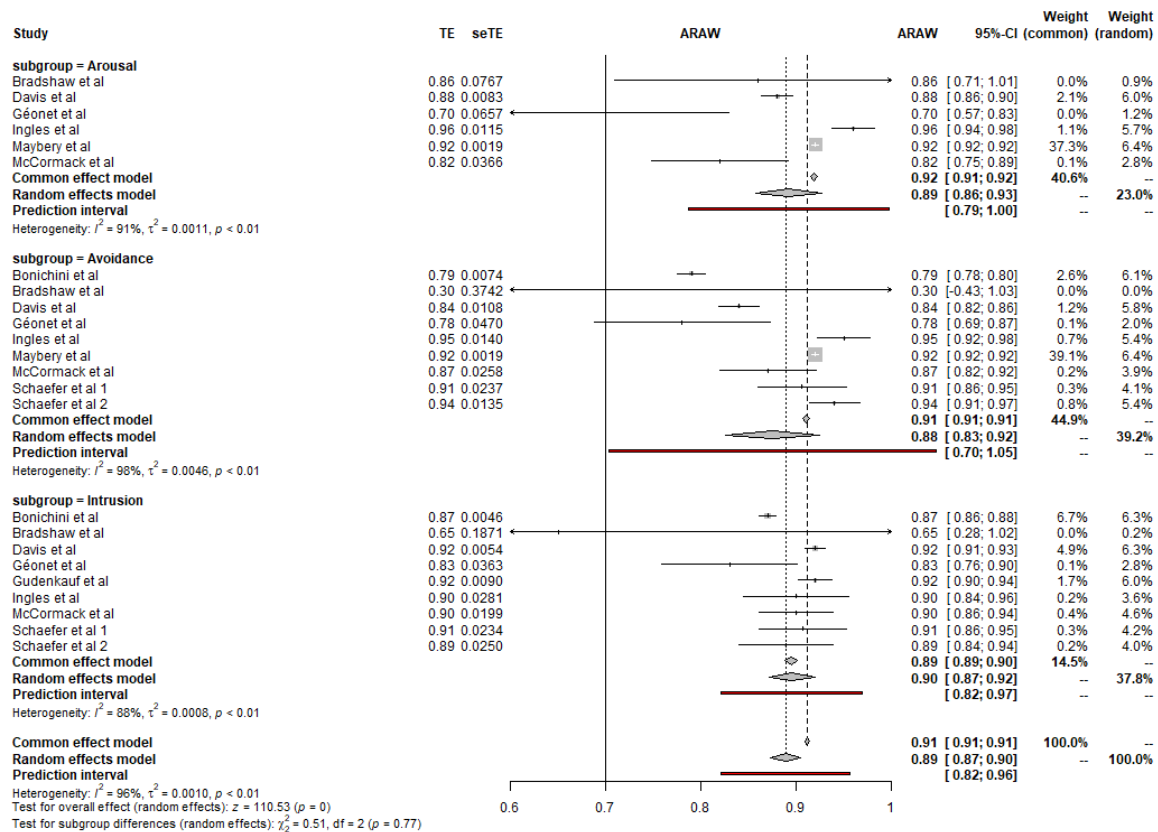
As there was no substantive difference between the impact of event Scale and the impact of event scale revised, nor any meaningful difference between the Arousal, Avoidance and Intrusion subscales, the subsequent examination of the impact of influential studies, the impact of risk of bias, the impact of the type of trauma experienced and the impact of publication bias will be conducted on the total score of the IES.

4.5 The Effect of Risk of Bias in the Included Studies

In order to assess the impact of study level risk of bias upon heterogeneity, a series of subgroup analysis were conducted on the random effects for the risk of bias ratings of "low risk" and "any risk" (i.e., unclear risk and high risk of bias combined) for each of the six types of methodological bias. As seen in Table 1.7, none of the risk of bias types evidenced statistically

significant different average effects for the "low" and "any risk" groups. This suggesting that inclusion of studies that are at risk of bias are not likely to have confounded the overall analysis.

Table 1.7

*The effect of risk of bias in the included studies*

	Low Risk			Any Risk				
	EFFECT	95% CI	k	EFFECT	95% CI	k	X^2	P
Selection bias	0.95	0.93 to 0.96	16	0.92	0.88 to 0.96	7	1.39	0.24
Performance bias	0.94	0.93 to 0.95	4	0.94	0.93 to 0.95	19	0.19	0.67
Detection bias	0.94	0.92 to 0.95	15	0.94	0.93 to 0.95	8	0.05	0.82
Statistical bias	0.94	0.94 to 0.95	6	0.94	0.93 to 0.95	17	1.58	0.21
Reporting bias	0.94	0.93 to 0.95	4	0.94	0.93 to 0.96	18	0.06	0.80
Generalisability bias	0.95	0.94 to 0.97	16	0.94	0.93 to 0.95	7	2.09	0.15

4.6 The Effect of the Type of Trauma

In order to assess whether there were subgroup differences dependent upon the type of trauma that participants had experienced, the studies were divided into four trauma categories. "Mental Health" relates to trauma resulting from the experience of mental health symptoms and/or treatments. "Physical Health" relates to trauma resulting from the experience of a diagnosis or a loved one's diagnosis of a physical health condition. For example, Carpenter et al., 2010 participants had received a diagnosis of cancer. "Trauma Incident" relates to traumatic environmental incidents, for example hurricane survivors. "Work" relates to trauma experience in work roles, for example first responders and fire fighters. Figure 1.6 reports the average alpha values for the four different trauma groups. A statistically significant difference is observed between the four categories ($X^2 = 8.67$, p= 0.03), with trauma related to physical health and mental health showing the most discrepancy from the meta-analytic average.

Figure 1.6

*Subgroup plot of different types on trauma.*
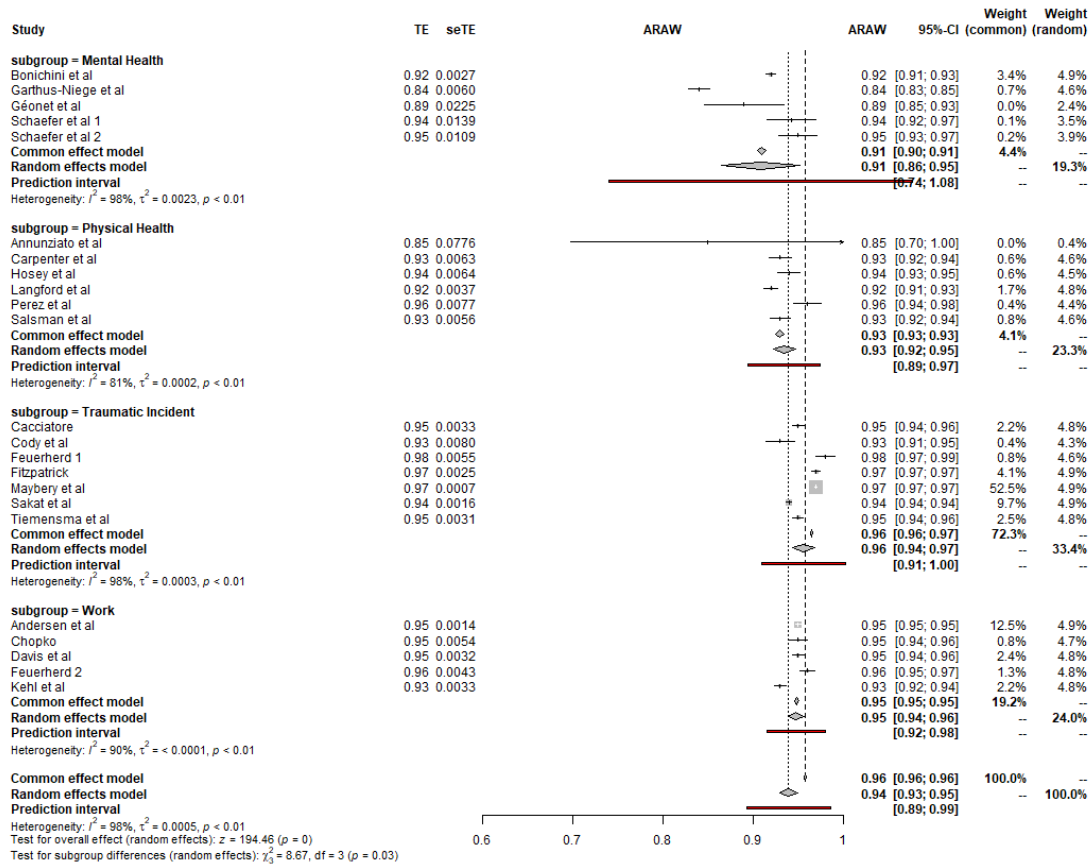
4.7 The Impact of Study Design

A subgroup analysis was undertaken to assess potential differences between (a) studies that were designed to assess the psychometric properties of the IES and (b) studies that reported psychometric properties in the service of a different research question. The results of this subgroup analysis are presented in Figure 1.7.

Figure 1.7

Subgroup analysis by study design.
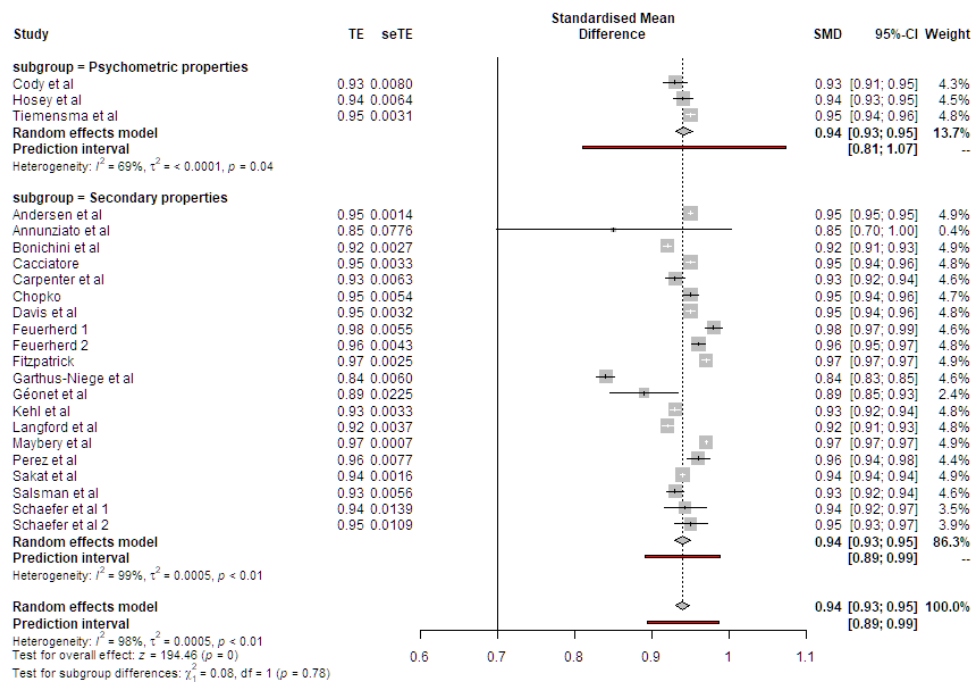
There was no significant difference ($X^2 = 0.08$, p = 0.78) between the average alpha coefficient for studies that were designed to assess psychometric properties ($\alpha = 0.94$, 95% CI 0.93 -0.95) and those studies that reported alpha in the service of another research aim ($\alpha = 0.94$, 95% CI 0.93 -0.95).

4.8 The Impact of Publication and Small Study Biases

Publication bias is caused by the tendency for statistically significant results to be published and the reticence to publish papers with non-significant results. Small study bias is the tendency for studies with smaller sample sizes to show greater variability in their measurement of reliability. Both of these biases can be identified in a funnel plot, which plots the magnitude of the study's internal reliability (i.e., the importance of the study in the synthesis) estimate the studies deviation from the meta-analytic average (i.e., the discrepancy of the study within the literature). If there is an absence of publication bias, the effects from the studies with small sample sizes which show greater variability will scatter more widely at the bottom of the plot compared to studies with larger samples at the top which will lie closer to the overall meta-analytic effect, creating a symmetrical funnel shape. If there is an absence of studies in the area of the plot associated with small sample sizes and non-significant results, then it is likely there is some publication bias leading to an overestimation of the true effect. The funnel plot of alpha coefficients is presented in Figure 1.8.

Figure 1.8

Funnel plot of the EFFECT. The 95% confidence interval of the expected distribution of alpha coefficients is shown as an inverted "funnel". The alpha coefficients plotted in white are interpolated from the Trim and Fill procedure (Duval & Tweedle, 2000)
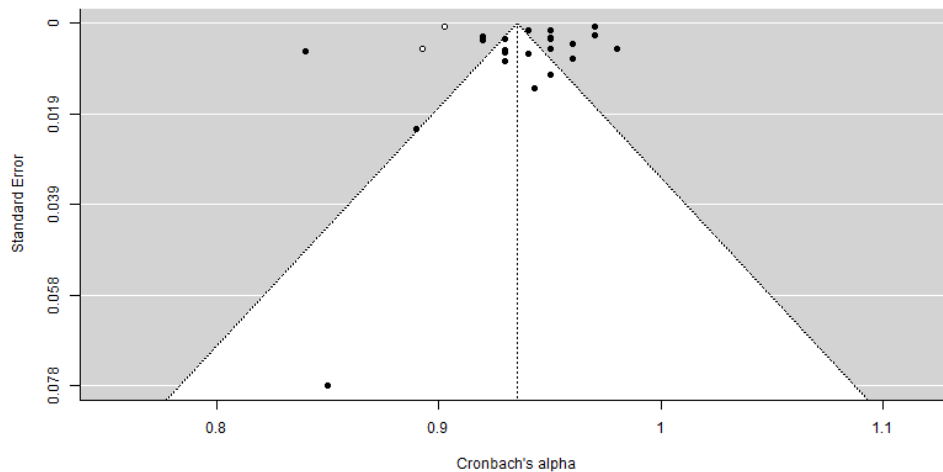
The effect of publication bias was simulated using the trim and fill procedure described by Duval & Tweedle (2000). The trim and fill procedure builds on the assumption that publication bias would lead to an asymmetrical funnel plot. Trim and fill procedure iteratively removes the most extreme small studies from the side of the funnel plot associated with positive effects, re-computing the effect size at each iteration until the funnel plot is symmetric about the (corrected) effect size. While this trimming yields the adjusted effect size, it also reduces the variance of the effects, resulting in biased and narrow confidence interval. Therefore, the original studies are returned into the analysis, and the procedure imputes a mirror image for each returned study on the side of the funnel plot associated with negative effects. The trim and fill procedure yielded a corrected random effects model of alpha = 0.9397 (95% CI 0.9302, 0.9491). The imputed studies are shown as empty circles, and the imputed estimate is 0.9352 (95% CI 0.9211, 0.9494). The adjusted point estimate represents a -0.4732 % decrease relative to the original omnibus analysis, and therefore publication bias and small study effects do not constitute to a substantial bias in these data.

Another way of assessing publication bias would be to calculate the number of nonsignificant studies which would be required to be included in the meta-analysis for the overall effect to be reduced to a minimally interpretable value (Orwin, 1983). This procedure suggests that 55 studies with an average effect size of alpha = 0.6 would be required to reduce the observed alpha = 0.94 to a value of 0.70, suggesting that the observed alpha = 0.94 is robust to studies missing due to publication bias.

4.9 Comparison with previous meta-analyses

The current meta-analytic review aimed to updated literature from several prior meta-analytic reviews. Horowitz et al. (1979) reported satisfactory internal reliability using Cronbach alpha (total, 0.86; Intrusion subscale, 0.78; Avoidance subscale, 0.82). Zilberg, Weiss, and Horowitz (1982) also reported satisfactory internal reliability (0.86) for the total score. Sundin et al., (2002) summarised the non-weighted averages of 18 studies Cronbach alphas to review the IES's internal reliability. The total alpha was not proved. For the subscales of Intrusion and Avoidance, the Cronbach alpha were 0.86 and 0.82 respectively. Vassar et al., (2011) reviewed the non-weighted means for 66 articles and concluded the internal consistency estimate was for the IES total of 0.89, for the Intrusion subscale 0.87 and for the Avoidance subscale 0.84. For the IES-R, the review found the mean coefficient alpha for the total as 0.91, for the Intrusion subscale 0.85, the Avoidance subscale 0.83 and for the Arousal subscale 0.81.

As the most recent review, a comparison of from Vassar (2011) and the current study was completed, the results are presented in Figure 1.9. There was a statistically significant difference between the two reviews for the average alpha coefficients for the Impact of Event Scale but not the Impact of Event Scale Revised. However, the substantive conclusions of both Vassar and the current review remain similar, in that, both reviews found the Impact of Event Scale and the Impact of Event scale revised to present with adequate internal consistency for the recommendation of the use of these measures for research and clinical purposes.

Figure 1.9

Comparison of the results from Vassar et al., (2011) and the current review.
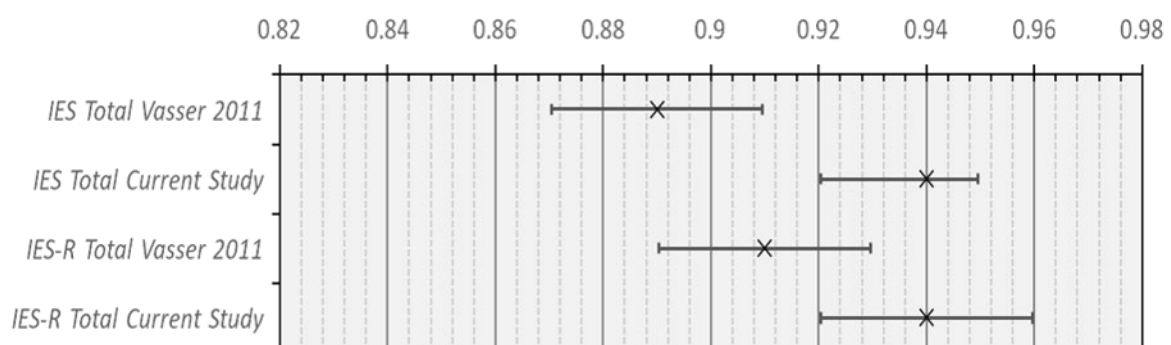
1.5 Discussion

This meta-analytic review aimed to quantify the internal reliability of the IES and IES-R from studies between 2010 to 2021 that reported internal reliability from studies directly designed to assess psychometric properties or from studies reporting psychometric properties in the service of another aim. The search process identified 25 studies, reporting 27 alpha coefficients constituting a total of 18339 participants. The alpha coefficient meta-analysis for the IES (0.94, CI:0.92–0.95) suggests the IES has a good degree of internal consistency, per guidelines by Streiner (2003) for interpreting alpha coefficients. Similarly, for the IES-R the alpha coefficient meta-analysis (0.94, CI:0.93–0.95) also suggested a good degree of internal consistency, per guidelines (Streiner, 2003).

There was no significant difference ($X^2 = 0.08$, p = 0.78) between the average alpha coefficient for studies that were designed to assess psychometric properties (α=0.94, 95% CI 0.93 -0.95) and those studies that reported alpha in the service of another research aim (α=0.94, 95% CI 0.93 -0.95). No significant differences were found between the level of risk of biases (low versus any risk) upon heterogeneity, suggesting that the inclusion of studies at risk of bias is not likely to have confounded the overall analysis. A significant difference between subgroups dependent upon the type of trauma that participants had experienced (Mental Health, Physical Health, Trauma Incident or Work) was observed, with physical and mental health related trauma showing the greatest disparity to the overall meta-analytic average. However, the clinical significance of this difference is not apparent, and both the mental health and the traumatic incident groups report extremely high alpha over 0.90.

Concerning the three subscales, there was no meaningful difference between the internal reliability of the IES and the IES-R versions of the measure. Therefore, in the current review, the alpha coefficient meta-analysis for the Arousal subscale was 0.89 (CI:0.86 to 0.93), the Avoidance subscale 0.88 (CI:0.83 to 0.92) and the Intrusion subscale 0.90 (CI:0.87 to 0.92).

The current meta-analytic review aimed to update literature from several previous meta-analytic reviews. In the most recent review, a comparison of Vassar (2011) and the current study was completed. There was a statistically significant difference between the two reviews for the average alpha coefficients for the IES but not the IES-R. However, the substantive conclusions of both Vassar and the current review remain similar in that both reviews found the Impact of Event Scale and the Impact of Event scale revised to present with adequate internal consistency for the recommendation of the use of these measures for research and clinical purposes.

In conclusion, this review quantified the IES' internal reliability using advanced statistical techniques. The findings suggest that it is a reliable tool for assessing event-specific distress, reassuring clinicians and patients that it remains an appropriate measure to use within clinical practice and, therefore,

appropriately inform interventions. For internal consistency, the meta-analytic effect is greater than the threshold recommended (i.e., >0.70). In summary, the findings suggest that the IES and its revised version IES-R remains a psychometrically-sound tool for measuring event-specific distress in English speaking individuals.

This meta-analytic review provided a precise summary of the alpha coefficient for the IES and the IES-R. Further strengthening the review, the analysis also considered the influential studies, the risk of bias, study design and publication bias. Regarding the limitations of the review, it may have been helpful to have included in the search term the plural of the word of "event" as unfortunately, there may have been publications missed due to the measure incorrectly being labelled as the 'Impact of Events Scale' (Wilson & Tang, 2007). In addition, future reviews would benefit from including other measures of reliability such as interrater and test-retest to give more of a comprehensive overview.

Future reviews would also benefit from also including non-English versions of the measure. In total, 194 papers reported on translated versions of the IES and IES-R. To include this amount was outside the scope of this meta-analytic review. Future reviews would benefit from the inclusion of translated versions of the IES and IES-R to develop an understanding of the psychometric properties of these versions. Including the differences in estimates of internal consistency between the IES/IES-R and translated versions would assist in the understanding of how the highlighted language variants of the IES and IES-R might impact the reliability for the internal consistency of the tool.

A considerable number of articles could not be incorporated into the review due to researchers either not reporting alpha coefficient or improper reporting (e.g., missing total or subscale values) of alpha coefficients. As such, future reviews of this nature would benefit from the inclusion of complete alpha coefficients of assessment measures, even if this does not sit within the realm of the studies aims. The inclusion of this would allow the expansion of literature that could be included in a review such as this but also allow for the expansion of research areas, in this case, types of traumatic incidents to be reviewed.

1.6 References

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). American Psychiatric Publishing.

Asukai N, Kato H, Kawamura N, Kim Y, Yamamoto K, Kishimoto J, et al. Reliabiligy and validity of the Japanese-language version of the impact of event scale-revised (Ies-RJ): four studies of different traumatic events. J Nerv Ment Dis. (2002) 190:175–82. doi: 10.1097/00005053-200203000-00006

Banks, B. D., Mao, I. L., & Walter, J. P. (1985). Robustness of the Restricted Maximum Likelihood Estimator Derived Under Normality as Applied to Data with Skewed Distributions1. *Journal of Dairy Science*, *68*(7), 1785–1792. https://doi.org/10.3168/jds.S0022-0302(85)81028-6

Baujat, B., Mahe, C., Pignon, J.-P., & Hill, C. (2002). A graphical method for exploring heterogeneity in meta-analyses: Application to a meta-analysis of 65 trials. Statistics in Medicine, 21(18), 2641–2652.

Bonett, D. G. (2002). Sample Size Requirements for Testing and Estimating Coefficient Alpha. *Journal of Educational and Behavioral Statistics*, *27*(4), 335–340. https://doi.org/10.3102/10769986027004335

Bonett, D. G. (2010). Varying coefficient meta-analytic methods for alpha reliability. Psychological Methods, 15, 368–385.

Borenstein, M. (Ed.). (2009). Complex Data Structures. In Introduction to meta-analysis. Chichester, U.K: John Wiley & Sons.

Brewin, C. R. (2020). Complex post-traumatic stress disorder: a new diagnosis in ICD-11. BJPsych Advances, 26(3), 145-152. DOI: https://doi.org/10.1192/bja.2019.48

Brunet, A., St-Hilaire, A., Jehel, L., & King, S. (2003). Validation of a French version of the impact of event scale-revised. *The Canadian journal of psychiatry*, *48*(1), 56-61. https://doi.org/10.1177/070674370304800111

Cao, C., Wang, L., Wu, J., Bi, Y., Yang, H., Fang, R., ... & Elhai, J. D. (2020). A comparison of ICD-11 and DSM-5 criteria for PTSD among a representative sample of Chinese earthquake survivors. European journal of psychotraumatology, 11(1), 1760481. https://doi.org/10.1080/20008198.2020.1760481

Cloitre, M., Garvert, D. W., Brewin, C. R., Bryant, R. A., & Maercker, A. (2013). Evidence for proposed ICD-11 PTSD and complex PTSD: A latent profile analysis. European journal of psychotraumatology, 4(1), 20706. https://doi.org/10.3402/ejpt.v4i0.20706

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, *16*(3), 297-334. 10.1007/BF02310555

DerSimonian, R., & Laird, N. (1986). Meta-analysis in clinical trials. *Controlled Clinical Trials*, *7*(3), 177–188. https://doi.org/10.1016/0197-2456(86)90046-2

Doi, S. A. R., & Thalib, L. (2008). A Quality-Effects Model for Meta-Analysis: *Epidemiology*, *19*(1), 94–100. https://doi.org/10.1097/EDE.0b013e31815c24e7

Duval, S., & Tweedie, R. (2000a). Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, *56*(2), 455–463.

Duval, Sue, & Tweedie, R. (2000b). A Nonparametric 'Trim and Fill' Method of Accounting for Publication Bias in Meta-Analysis. *Journal of the American Statistical Association*, *95*(449), 89–98. https://doi.org/10.2307/2669529

Elhai, J. D., Gray, M. J., Kashdan, T. B., & Franklin, C. L. (2005). Which instruments are most commonly used to assess traumatic event exposure and post-traumatic effects?: A survey of traumatic stress professionals. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *18*(5), 541-545. https://doi.org/10.1002/jts.20062

Fong, D. Y., Ho, S. Y., & Lam, T. H. (2010). Evaluation of internal reliability in the presence of inconsistent responses. Health and quality of life outcomes, 8(1), 1-10. https://doi.org/10.1186/1477-7525-8-27

Hall, J. C., Jobson, L., & Langdon, P. E. (2014). Measuring symptoms of post-traumatic stress disorder in people with intellectual disabilities: The development and psychometric properties of the Impact of Events Scale-Intellectual Disabilities (IES-ID). British Journal of Clinical Psychology, 53, 315–332.

Heeke, C., O'Donald, A., Stammel, N., & Böttche, M. (2020). Same same but different? DSM-5 versus ICD-11 PTSD among traumatised refugees in Germany. Journal of Psychosomatic Research, 134, 110129. https://doi.org/10.1016/j.jpsychores.2020.110129

Higgins, J. P. T., Altman, D. G., Gotzsche, P. C., Juni, P., Moher, D., Oxman, A. D., … Cochrane Statistical Methods Group. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ*, *343*(oct18 2), d5928–d5928. https://doi.org/10.1136/bmj.d5928

Higgins, J. P. T., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analyses. BMJ, 327(7414), 557–560.

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. Psychosomatic medicine, 41(3), 209-218.

Hyland, P., Shevlin, M., McNally, S., Murphy, J., Hansen, M., & Elklit, A. (2016). Exploring differences between the ICD-11 and DSM-5 models of PTSD: Does it matter which model is used?. Journal of Anxiety Disorders, 37, 48-53. https://doi.org/10.1016/j.janxdis.2015.11.002

Kim, S. Y., Park, J. E., Lee, Y. J., Seo, H.-J., Sheen, S.-S., Hahn, S., … Son, H.-J. (2013). Testing a tool for assessing the risk of bias for nonrandomised studies showed moderate reliability and promising validity. *Journal of Clinical Epidemiology*, *66*(4), 408–414. https://doi.org/10.1016/j.jclinepi.2012.09.016

Kuester, A., Köhler, K., Ehring, T., Knaevelsrud, C., Kober, L., Krüger-Gottschalk, A., Schäfer, I., Schellong, J., Wesemann, U., & Rau, H. (2017). Comparison of DSM-5 and proposed ICD-11 criteria for PTSD with DSM-IV and ICD-10: changes in PTSD prevalence in military personnel. European journal of psychotraumatology, 8(1), 1386988. https://doi.org/10.1080/20008198.2017.1386988

National Collaborating Centre for Mental Health (2018). The Improving Access to Psychological Therapies Manual: Appendices and helpful resources. Retrieved:

http://www.yhscn.nhs.uk/media/PDFs/mhdn/Mental%20Health/iapt-manual-resources-FINAL.pdf

NHS. (2014). Five year forward view. https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf

NHS. (2019). The NHS long term plan. https://www.longtermplan.nhs.uk/

McCormack, L., Orenstein, A., & Joseph, S. (2016). Postmission Altruistic Identity Disruption Questionnaire (PostAID/Q): Identifying humanitarian-related distress during the reintegration period following international humanitarian aid work. *Traumatology,* 22(1), 1. https://doi.org/10.1037/trm0000053

Orwin, R. G. (1983). A fail-safe N for effect size in meta-analysis. Journal of Educational Statistics, 8, 157-159.

Perrin, S., Meiser-Stedman, R., & Smith, P. (2005). The Children's Revised Impact of Event Scale (CRIES): Validity as a screening instrument for PTSD. *Behavioural and Cognitive Psychotherapy*, 33(4), 487-498. https://doi.org/10.1017/S1352465805002419

Peterson, R. A., & Brown, S. P. (2005). On the Use of Beta Coefficients in Meta-Analysis. Journal of Applied Psychology, 90(1), 175–181. https://doi.org/10.1037/0021-9010.90.1.175

Price, P. C., Jhangiani, R. S., & Chiang, I. C. A. (2015). Reliability and validity of measurement. *Research methods in psychology*.

Rosenthal, R. (1979). The file drawer problem and tolerance for null results. *Psychological Bulletin*, 86(3), 638–641. https://doi.org/10.1037/0033-2909.86.3.638

Rupinski, M. T., & Dunlap, W. P. (1996). Approximating Pearson Product-Moment Correlations from Kendall's Tau and Spearman's Rho. Educational and Psychological Measurement, 56(3), 419–429. https://doi.org/10.1177/0013164496056003004

Streiner, D. L. (2003). Starting at the beginning: an introduction to coefficient alpha and internal consistency. Journal of personality assessment, 80(1), 99-103. https://doi.org/10.1207/S15327752JPA8001_18

Sullivan, G. M. (2011). A primer on the validity of assessment instruments. Journal of graduate medical education, 3(2), 119-120. doi: 10.4300/JGME-D-11-00075.1

Sundin, E. C., & Horowitz, M. J. (2002). Impact of Event Scale: psychometric properties. The British Journal of Psychiatry, 180(3), 205-209. doi:10.1192/bjp.180.3.205

Sveen, J., Low, A., Dyster-Aas, J., Ekselius, L., Willebrand, M., & Gerdin, B. (2010). Validation of a Swedish version of the Impact of Event Scale-Revised (IES-R) in patients with burns. *Journal of anxiety disorders*, 24(6), 618-622. https://doi.org/10.1016/j.janxdis.2010.03.021

The National Institute for Health and Care Excellence. (2005, Updated 2008) *Post-traumatic stress disorder.* (Clinical Guideline No. 116). https://www.nice.org.uk/guidance/ng116/resources/posttraumatic-stress-disorder-pdf-66141601777861

Thomlinson, R., Muncer, S., & Dent, H. (2017). Co-morbidity between PTSD and anxiety and depression: implications for IAPT services. Archives of Depression and Anxiety, 3(1), 14-17. https://doi.org/10.17352/2455-5460.000017

Thoresen, S., Tambs, K., Hussain, A., Heir, T., Johansen, V. A., & Bisson, J. I. (2010). Brief measure of post-traumatic stress reactions: Impact of Event Scale-6. *Social psychiatry and psychiatric epidemiology*, *45*(3), 405-412. https://doi.org/10.1007/s00127-009-0073-x

Vanaken, L., Scheveneels, S., Belmans, E., & Hermans, D. (2020). Validation of the impact of event scale with modifications for COVID-19 (IES-COVID19). Frontiers in psychiatry, 738. https://doi.org/10.3389/fpsyt.2020.00738

Vassar, M., Knaup, K. G., Hale, W., & Hale, H. (2011). A meta-analysis of coefficient alpha for the Impact of Event Scales: A reliability generalisation study. South African Journal of Psychology, 41(1), 6-16. https://hdl.handle.net/10520/EJC98626

Weiss, D., & Marmar, C. (1997). The Impact of Scale – Revised. In J. P. Wilson & T. M. Keane (Eds.), Assessing psychological trauma and PTSD: A practitioner's handbook (pp. 399–411). New York: Guilford Press.

Wilson, J. P., & Tang, C. C. S. K. (Eds.). (2007). Cross-cultural assessment of psychological trauma and PTSD. Springer Science & Business Media.

World Health Organization (2019b). Classification of Diseases – Multiple Languages. https://www.who.int/ classifications/icd/revision/lang/en/.

Zilberg, N. J., Weiss, D. S., & Horowitz, M. J. (1982). Impact of Event Scale: a cross-validation study and some empirical evidence supporting a conceptual model of stress response syndromes. Journal of consulting and clinical psychology, 50(3), 407. https://doi.org/10.1037/0022-006X.50.3.407

Chapter 2 Empirical Research Paper: 'Trauma Risk Management: What are the facilitators and barriers to the implementation of TRiM in a mental health service.'

2.1 Abstract

1.1 Background

Traumatic incidents for mental health staff are common and can be costly to the staff members' mental and physical wellbeing, and costly to the organisation due to sickness levels, employee turnover and the quality of care. Therefore, it is crucial to manage the potential impact of traumatic events on staff with the application of early post-trauma interventions (Richins et al., 2019). Trauma Risk Management (TRiM; Greenberg et al., 2011) is a new and innovative approach that has yet to be implemented for mental health staff.

1.2 Aim

The research project aimed to answer the following research questions: What are the critical incidents that impact the implementation of TRiM in mental health services. Critical incidents refer to what helps, what hinders and what may be helpful in future.

1.3 Method

Using Enhanced Critical Incident Technique (ECIT; Flanagan, 1954; Butterfield et al., 2009) twelve TRiM trained staff from a mental health service were interviewed. Analysis identify Critical Incidents (CI) and Wish List (WL) items that helped and hindered or could assist with implementing TRiM.

1.4 Results

Four key themes, the importance of ensuring resources and allocated time, promotion and normalisation of seeking support, the importance of good communication and leadership and shaping and developing TRiM to meet needs of the organisation emerged from within the data.

1.5 Conclusion

The four key themes offer practical methods e.g., allocated time, for services to successfully implement TRiM, and also contributes to the wider research literature on the implementation of TRiM.

2.2 Introduction

Traumatic incidents for mental health staff are common. Overall, in the UK, assaults in the mental healthcare sector account for nearly 70% of all the reported National Health Service (NHS) assaults on staff (NHS, 2010; Renwick et al., 2016). More recently, of those staff who responded to the 2020 national NHS Staff Survey, Mental Health and Learning Disability NHS Trusts reported the highest physical violence incidents (NHS, 2020). In addition, dealing with completed patient suicides, suicide attempts, and self-harm are also a regular occurrence (National Confidential Inquiry into Suicide and Homicide [NCISH], 2017). Such events can be costly to the staff members' mental and physical wellbeing contributing to the growing problem of burnout and poor wellbeing in healthcare staff (Royal College of Physicians [RCP], 2015). O'Connor et al. (2018) conducted a meta-analysis of the prevalence of burnout rates amongst mental health professionals, which estimated the prevalence of emotional exhaustion to be 40%. It can also be costly to the service to which staff work in terms of job dissatisfaction, low organisational commitment, sickness levels, employee turnover and the quality of care (Scanlan et al., 2013; O'Connor et al., 2018; van Leeuwen & Harte, 2015). Therefore, it is crucial to manage the potential impact of traumatic events on staff.

Another current cause of psychological strain for healthcare workers is the Covid-19 pandemic which has placed substantial demand on the NHS and its mental health services (Liberati et al., 2021). As Williamson, Murphy, and Greenberg (2020) note, limited resources may mean frontline workers cannot provide adequate treatment to some patients, resulting in otherwise preventable suffering and loss of life. Additionally, requirements to self-quarantine if testing positive for COVID-19 which has remained in place in NHS settings despite relaxation of rules in community settings means staff shortages, some workers will be unable to work alongside their colleagues during periods of high demand and redeployment (Liberati et al., 2021) . Williamson et al., (2020) report that these events may lead to NHS staff experiencing 'moral injury'. The term moral injury originated from military research and relates to psychological distress experienced as the result of action or inaction which violates a person's moral beliefs or expectations (Litz et al., 2009). Potentially morally injurious events can result in intrusive thoughts and feelings of shame, guilt or disgust, which may contribute to mental health problems such as PTSD, anxiety, and depression (Williamson et al., 2018). Furthermore, and more specifically to mental health services, mental health practitioners have been working with new risks, in unfamiliar ways, with limited or no experience/training (Kothari et al., 2020). Pappa et al., (2021) found a high prevalence of burnout, potentially damaging lifestyle changes and, most commonly, insomnia amongst staff within a large mental health trust during the current COVID-19 outbreak.

It is essential that support systems and interventions are established within the NHS to mitigate the impact of traumatic incidents on staff.

2.1 Psychological Debriefing

Early post-trauma interventions, known as psychological debriefings, often employ crisis intervention or trauma psychoeducation to reduce emotional distress following exposure to trauma (Raphael & Wilson, 2000; Richins et al., 2019). Within the literature, two types of interventions are referred to: support-focused interventions such as Psychological First Aid (PFA; APA, 1954; Fox, 2012) and trauma-focused interventions, such as, Critical Incident Stress Debriefing (CISD; Mitchell, 1983), Psychological Debriefing (PD; Dyregrov, 1989), and Trauma Risk Management (TRiM; Jones et al., 2003). In 2005, the National Institute for Health and Care Excellence (NICE) guidance for post-traumatic stress disorder (PTSD; NICE, 2005) recommended against psychological debriefings as research suggested no evidence of any significant reduction in PTSD symptoms and that debriefings may be detrimental to participants' mental health (Richins et al., 2019). In 2018, NICE amended its guidance to include assessing and treating PTSD following traumatic incidents, with no further reference to psychological debriefings (NICE, 2005, updated in December 2018).

What occurred with the NICE guidance reflects the limited and, at times, contradictory evidence research base for early post-trauma interventions. A contributing factor to the contradictory evidence base may be previous Random Controlled Trials (RCT) focusing on whether there is a reduction in symptoms of PTSD and related symptoms above and beyond any other means of change or improvement (Hawker et al., 2011). A scoping review by Richins et al., (2019) suggests that early post-trauma interventions do help to manage post-incident trauma. Interestingly, people subjectively evaluated early post-trauma interventions as helpful and as a source of support despite objective measures suggesting no reduction in symptoms of PTSD. (e.g., Blacklock, 2012; Deahl et al., 1994; Guasingam, Burns, Edwards, Dinh & Walton, 2015; Kenardy et al., 1996; Regehr & Hill, 2001). Richins et al., (2019) finding reflects more accurately the aims for early post-trauma interventions, which are to remind people of their coping strategies, signpost services and identify potential warning signs of developing longer term psychological difficulties rather than an intervention for PTSD (Hawker et al., 2011).

Despite the research underpinnings being heavily criticised, the amendments to NICE guidance led to a withdrawal of long-standing early post-trauma interventions for many occupational groups (Hargrave, 2006; Hawker et al., 2011; Dyregov & Regel, 2012). Unfortunately, it has meant that those at risk of exposure to trauma frequently do not have an opportunity to engage in appropriate post-trauma support (Hawker et al., 2011)and organisations' have limited guidance on how to best respond to employees exposed to trauma but remain with a moral obligation to support their employees.

2.2 Trauma Risk Management

Critical Incident Stress Debriefing (CISD; Mitchell, 1983) is a widely used, single-session, seven phases structured group discussion, usually provided within ten days of the incident occurring so to prevent further long-lasting psychological distress or disorder (Mitchell & Everly, 1996). Issues have been raised around the timing of the interventions, their efficacy, and the potential for harm (Richins et al., 2019). Therefore, an innovative approach to early post-trauma intervention has been introduced: Trauma Risk Management (TRiM; Greenberg et al., 2011). TRiM differs with respect to other early post-trauma interventions, it is in house, peer-led active monitoring and triage, with a specific aim to maintain organisational functioning following traumatic events (Greenberg et al., 2011). In terms of the current service, following a request for TRiM intervention, a TRiM Manager consults with the referrer and conducts a *planning meeting*. Following this, a TRiM Practitioner provides a *Trauma Incident Briefing (TIB)*, most commonly in a group setting with those affected by the traumatic incident. The TIB includes a short presentation about the operational update for the incident and information to normalise and understand reactions to the incident. In comparison to other models, there is also the addition of offering a *TRiM Assessment* to individuals identified as needing further support (Greenberg et al., 2008). The risk assessment consists of ten items related to situational and personal risk factors and allows the TRiM Practitioner to identify the most appropriate support (Hunt, 2013). A month follow-up is later conducted where individuals are invited to discuss how things have changed and identify if further support is required.

Research on the clinical outcome of TRiM suggests that TRiM is not harmful (Greenberg & Langston, 2010) and can reduce psychological distress (Frappell-Cooke et al., 2010). Using semi-structured interviews, Greenberg et al., (2011) investigated the acceptability of TRiM in the Royal Navy and found that those aware of TRiM viewed it positively and supported it being peer-led as an addition to other personnel support measures. The research did raise concerns about the confidentiality of the service due to its peer-led nature (Greenberg et al., 2011). However, being peer-led, TRiM may also go some way to offer the universality factor, meaning that staff may feel that those facilitating TRiM can relate to their experiences that early research in the area suggests were a critical factor in effective early post-trauma interventions (Hawker et al., 2011). Whybrow et al., (2015) completed a review of TRiM, identifying 13 papers from a range of settings, including military and police. Similarly, to the previously detailed research, the authors concluded that TRiM was acceptable, did no harm, had a positive effect upon organisational functioning, and reduced absences from work due to sickness (Whybrow et al., 2015). However, it should be noted that the methods applied in data collection varied widely across the 13 papers. Although the evidence base for TRiM is largely within the armed forces sector (e.g., Greenberg et al., 2010; Jones et al., 2017), it is currently being introduced across a wide range of other services, including the police (Hunt et al., (2013),

emergency services (e.g., Lakey et al., 2018) and government organisations (Greenberg et al., 2009). There is limited published literature on TRiM in healthcare settings. A recent example by Flaherty and O'Neil (2021) discussed the steps involved in setting up a TRiM service within their NHS service; however, no outcomes relating to this were presented. There is no known research into TRiM within mental health settings, either from the implementation stage or reporting outcomes.

2.3 Implementation of TRiM

The evidence for TRiM suggests that this could be a promising approach to implement for staff within a mental health service which may mitigate some of the earlier difficulties identified with other post traumatic incident support. However, translating rapidly evolving research findings into daily healthcare practice is a slow and complex process (Balas & Boren, 2000; Czosnek et al., 2019). As a result, there is often a gap between the research findings and clinical practice, referred to as the research-to-practice gap (Green. 2008; Czosnek et al., 2019). Simply, finding effective interventions does not always mean successful implementation. Services such as the NHS can make huge financial investments in new services that do not meet aims, waste resources, and ultimately maintain the offer of inadequate or outdated care (Bloch et al., 2006; Fixsen et al., 2005; Cowie et al., 2020). On a service level, the failure to implement a new service can increase staff burden and decrease staff motivation to engage in innovative service change (Geerligs et al., 2018). As a result, it is recognised that research into implementation and sustainability is important and essential to the future of better health care services (McHugh & Barlow, 2010; Damschroder & Hagedorn, 2011).

"Implementation science" is the scientific approach to translating and promoting research knowledge into healthcare practice (Proctor et al., 2009; Grimshaw et al., 2012). Implementation science can lead to better utilisation of evidence-based practice and new and improved ways of working to improve patient care outcomes and, in terms of the current project, staff wellbeing outcomes (Wensing, 2015; Theobald et al., 2018). A range of research methods can be applied to implementation science, but methods typically aim to expand the focus from just individual patient outcomes and include the processes of health services and systems (Sanson-Fisher et al., 2014; Wensing, 2015). In the last decade, there has been an expansion of the implementation science literature, to which Nilsen (2015) provides a comprehensive introduction to the main implementation theories, models, and frameworks. Aarons et al., (2011) suggest that the differences between implementation approaches determine which is appropriate given each situation; for example, some approaches emphasise partnerships with other organisations over the embedding of research within the service. Moullin et al., (2015) also conducted a comprehensive review of the area providing the core concepts for effective implementation models from multiple models and theories. Core concepts included were the context in which the implementation is to occur, influencing factors, strategies, and evaluations (Moullin et al., 2015).

A four phased model developed initially for use with children and family services and now more widely applied to other public health sectors is the Exploration, Preparation, Implementation, Sustainment (EPIS) framework (Aarons et al., 2011). The first phase, exploration, refers to the relevant stakeholders of an organisation considering the service needs and deciding if the suggested change to the service is warranted. Moving into the preparation phase, the barriers, and facilitators of successful implementation across the organisations are identified and planned for. Guided by the preparation phase, the change in practice is then implemented with ongoing monitoring. Finally, the sustainment phase supports the continued review of the changes and identifies any appropriate adjustments (Aarons et al., 2011). The framework also considers the organisation's internal (e.g., leadership) and external (e.g., funding) characteristics and how these factors interconnect to lead to successful implementation. A systematic review by Moullin et al., (2019) of the EPIS framework provides an overview of research projects and examples of the framework's application. In applying the EPIS framework to the current research project, it is acknowledged that as the TRiM service has been implemented into the service, the current project sits within the Sustainment phase. As such, the current project's focus will explore the barriers and facilitators, which are often the focus during these stages of implementation (Nilsen, 2015). Similar research exploring the implementation of staff support services into healthcare organisations found facilitators such as staff's prior knowledge of interventions, support from leadership, additional facilitators, and barriers such as limited staffing and time, and pressurised environments (Byron et al., 2015; Duggan & Julliard , 2018; Quirk et al., 2018).

As the EPIS model suggests, successful implementation is a continuous cycle, therefore, the current project will also feed into the Exploration and Preparation phases and may offer valuable insights into how services can successfully implement and integrate TRiM to support their staff as research literature relating to this remains limited. Research remains limited as to how to implement TRiM . Greenberg et al., (2011) interviewed military personnel who had received TRiM training to assess the acceptability of TRiM within a military setting. TRiM was considered a valuable process for managing traumatic events, with peer delivery of the intervention proving an appropriate method; however, there is no in-depth exploration of what made it successful within the service. Lakey et al., (2018) interviewed staff as part of the Royal National Lifeboat Institution (RNLI) Trauma Risk Management (TRiM) pilot. It highlighted that what supported its implementation was the dedication of TRiM managers, the quality of support, and the thoroughness of the training. The pilot also suggested that implementation could be improved by ensuring that access to TRiM was fair across the board and easier to access. More recently, Flaherty and O'Neil (2021) described the development of their NHS trusts staff support service, which included implementing TRiM as a response to COVID-19. Similarly, with Greenberg et al., (2011), limited information was provided regarding how this was successfully implemented into the service but instead focused on the justification of the service provision, their pathway and what elements of TRiM were implemented in the service.

2.4 Enhanced Critical Incident Technique (ECIT)

Originally derived from the World War II Aviation Psychology Program, Critical Incident Technique (CIT; Flanagan, 1954) is a qualitative framework that has been useful for helping participants to identify and reflect on memorable events that could help identify characteristics or incidents that either positively or negatively contribute to the general aim of an activity (Butterfield et al., 2009; Durand, 2016). To increase the methodological rigour of CIT, Butterfield et al., (2009) developed Enhanced Critical Incident Technique (ECIT). ECIT included the addition of contextual questions at the start of the research interview to provide context to the data set, the inclusion of "wish list" items that would have been helpful at the time, and a nine-step credibility check which can be seen in Table 3 (Butterfield et al., 2009). Further detail regarding the steps of ECIT data analysis can be seen in the Analysis section.

ECIT has grown as a useful qualitative research method to explore complex situations in practical working environments across numerous disciplines, including public transportation, education psychology and nursing (Butterfield et al., 2009; Woolsey, 1986; Gremler, 2004; Debesay et al., 2021). Richards and Bedi (2015) provide a recent example of its application to mental health services. They investigated the critical incidents that were negative to the formation or strengthening of the therapeutic alliance of male clients with their mental health professionals to aid practitioners in providing more gender-sensitive care (Richards, 2015). ECIT therefore, was identified as the chosen data collection method for the current research project, as it allows researchers to focus on a specific phenomenon and what helped or hindered while providing examples (Gremler, 2004). Identifying what helps and hinders parallels well with barriers and facilitators, which is often the focus during the early stage of implementation to increase success and at later stages to increase sustainability (Nilsen, 2015).

2.5 Study Rationale

The current project explores the implementation of TRiM within a mental health service. Although the current evidence base is limited, research suggests that TRiM can be of beneficial support following traumatic incidents. However, information about how services have successfully implemented and integrated TRiM in services to support their staff remains limited, particularly in a healthcare setting which can provide unique and complex barriers and facilitators (Geerligs et al., 2018). Implementation science tells us that a thorough understanding of the barriers and facilitators to implementation is crucial to increasing the likelihood that the process of change is smooth, sustainable, and cost-effective (Geerligs et al., 2018; Rankin et al., 2015; Wajanga et a., 2014). Using a scientific method of ECIT to gather an understanding of the barriers and facilitators, it is hoped that this can be fed back to the service to support further adaption and implementation to the service whist

also transferred to other healthcare contexts to ensure the successful implementation of TRiM (Moir, 2018). The current research project will invite TRiM trained mental health practitioners (e.g., TRiM practitioners and TRiM managers) who have been delivering TRiM within the mental health service to participate in an interview to explore the barriers and facilitators to the implementation of TRiM in a mental health service.

2.6 Study Aims

The research project aims to answer the following research questions: What are the critical incidents that impact the implementation of Trauma Risk Management in mental health services. Critical incidents refer to what helps, what hinders and what may be helpful in future.

2.3 Methodology

A qualitative method was used within the current research project. Qualitative methods provide rich and in-depth data (King & Horrocks, 2010). Within a clinical setting, qualitative methods can identify the feasibility, acceptability, appropriateness, and contextual factors of new services or ways of working (Proctor et al., 2011; Aarons et al., 2016). As the study explored the implementation of TRiM, qualitative methods were identified as particularly helpful as the approach can identify the "how" and "why" questions of successful implementation (Hamilton, 2019). As such semi structured interviews, transcribed verbatim were identified as the chosen data collection method. For analysis, Enhanced Critical Incident Technique (ECIT; Flanagan, 1954; Butterfield et al., 2009) was chosen.

3.1 Enhanced Critical Incident Technique (ECIT)

Critical Incident Technique (CIT; Flanagan, 1954) is a qualitative framework that has been useful for helping participants to identify and reflect on memorable events that could help identify characteristics or incidents that either positively or negatively contribute to the general aim of an activity (Butterfield et al., 2009; Durand, 2016). To increase the methodological rigour of CIT Butterfield et al., (2009) developed Enhanced Critical Incident Technique (ECIT). ECIT included the addition of contextual questions at the start of the research interview to provide context to the data set, the inclusion of "wish list" items that would have been helpful at the time, and a nine-step credibility check which can be seen in Table 3 (Butterfield et al., 2009). Other qualitative methods were considered such as, interpretative phenomenological analysis (IPA; Smith, 2009; Smith & Osborn, 2015).IPA may have offered insights into TRiM practitioners and manager thoughts, beliefs, feelings in relation to the implementation of TRiM. However, in the context of the current project ECIT allowed the researcher to sufficiently answer the research question of what helps and hinders implementation of TRiM. It also offers a rigorous approach to producing validated and practical

insights from those who have implemented TRiM. The ECIT process and how it was applied to the current project are detailed in Table 2.1. Further detail regarding the steps of ECIT data analysis can be seen in the Analysis section.

Table 2.1

ECIT Process/Steps concerning the current project

Process	Corresponding Sections	Overview/Steps
Step 1 Developing Research Aims	Introduction	What helps and hinders staff implementing Trauma Risk Management (TRiM) successfully in mental health services?
Step 2 Planning and Developing Interview Guide	Materials	1. Contextual information (e.g., what made you decide to go to train in TRiM?) 2. ECIT data (e.g., what has helped you in implementing and delivering TRiM within the service?) 1. Demographic data (e.g., age, gender, occupation and years in occupation)
Step 3 Date Collection and Credibility Checks	Data Collection	1. Participants were encouraged to tell their story guided by an interview guide and follow-up questions including providing specific examples and the importance of these examples. 2. Participants are invited to complete voluntary follow-up interviews where they are provided with a summary of helping/hindering CIs and wish list (WL) items reported during the first interview. Participants are asked to provide their comments as to whether the information was correct, in need of revision or significant omissions were apparent.
Step 4/5 Data Analysis Interpretation, Reporting and Credibility Checks	Data Collection and Analysis	1. Guided by Frame of Reference (i.e., what the data will be used for). 2. Identify the Critical Incidents and Wish List items from each transcript. 3. Group similar incidents into Categories with Titles and Operational Definitions considering the specificity and generality of categories. 4. Finalise Categories with Titles and Operational Definitions

3.2 Epistemological Stance and Positionality

Initially, its developers cited CIT's roots within realism, as it assumed that reality is measurable (Flanagan, 1954). Since its development into ECIT, it has been recognised that participants share their own understanding of the CIs and therefore are subject to the participants cultural, social, political, and historical contexts; somewhat shifting the epistemological stance toward

a social constructionist perspective (Willig, 2001; Chell, 2004; Smith et al., 2009). Particularly as the ECIT process does not include direct behavioural observation, rather it gathers information on the perceptions of experience (Butterfield et al., 2009). It could be suggested that ECIT sits somewhere between these two continuums; therefore, the current research project takes a critical realism stance. Simply, it presumes to some extent that there is a single fixed reality that the researcher may come to know through the interview, but it also recognises that the reality of the experience is influenced by participants and researchers' beliefs.

To allow the reader to make an informed judgment on the researchers influence on the research process and outcomes it can be beneficial for the researcher to provide an understanding of their position in relation to the researcher topic, participants, and processes (Savin-Baden & Major, 2013; Holmes, 2014). In relation to the research topic the researcher has an interest in staff support coming from a healthcare background and the experience of traumatic incidents while at work. The researcher has no personal experience of the TRiM intervention and has received no training in the approach. Therefore, the researcher does not have experience implementing TRiM. The researcher works within the same mental health trust, however, does not work within the TRiM team and has no working relationships with the participants. In terms of the research context and process, the researcher was initially undertaking a quantitative research project exploring the staff wellbeing and occupational outcomes of those who have received TRiM intervention versus the mental health trusts' occupational health. Due to unforeseen circumstances of the COVID-19 pandemic it was inappropriate to continue to invite staff to participate in this research during this time. Therefore, the research was amended to the current project. As the initial project was quantitative in nature the researcher highlights that when deciding upon the qualitative method of the current project, the more quantitative aspects of ECIT (e.g., participant rates) may have been more comfortable to the researcher. However, as ECIT offers a structured, easily replicable method and quantitative outputs, whilst also allowing participants to provide rich and in depth understanding of critical incidents, ECIT was considered to remain the most appropriate method to answer the research question.

3.3 Ethical Considerations and Approval

Ethical approval was provided by the University ethics board (Appendix 1). The services research and innovation team then reviewed and agreed the project. To minimise the risk of participants experiencing discomfort or distress no direct questions were asked about any traumatic incidents, only questions relating to participants' experience of implementing a TRiM service were asked. Participants were informed before starting the interview should they experience any discomfort or distress they can pause or end the interview. To minimise the burden on practitioners, interviews were arranged according to participants working and personal needs. A verbal debrief was also provided to participants following the completion of the interview. Participants' anonymity was

maintained by keeping identifiable information, e.g., the consent form and demographic questionnaire, securely within the service property or on the NHS e-mail (a secure server). Participants were also informed that quotes may be used within the write up of the research and that any identifiable information would be changed to maintain anonymity. No participants asked for withdrawal from the research.

3.4 Service Overview

The research project took place in a National Health Service (NHS) mental health service. The service supports individuals from the ages of 18 plus to the end of life with a range of mental health diagnoses. The service currently offers Critical Incident Stress Debriefing (CISD; Mitchell, 1983) to staff that have experienced a traumatic event via an outsourced occupational health service. A new approach to early post-trauma intervention has been introduced to the mental health service: Trauma Risk Management (TRiM). The current project forms part of a wider research program exploring the TRiM with the service. Research has been conducted using qualitative methods to explore the experiences of those who have undergone TRiM intervention and plans are currently being developed to assess the wellbeing and occupational wellbeing of TRiM in comparison to CISD.

3.5 Participant Recruitment

Participants were recruited employed staff from a mental health service. A research participation email invitation (Appendix 2) was sent out to the TRiM managers and practitioners by the lead for TRiM. Potential participants who met the inclusion criteria were asked to provide their contact details and convenient times to be contacted by the researcher.

3.6 Participant Inclusion and Exclusion Criteria

Considering the workplace, participants were 18 years of age or over and up to 70 years old. The inclusion criteria included mental health practitioners who are TRiM managers or TRiM practitioners. Participants had to have had received training in TRiM and to have facilitated a minimum of one Trauma Incident Briefing (TIB) or Risk Assessment Interview. The TIB includes a group meeting where factual information of the incident, common reactions to trauma and ways of coping are communicated. The Risk Assessment session aims to identify those at risk of developing psychological problems after the traumatic incident. Mental health practitioners who are not TRiM managers or TRiM practitioners will not be included in this research project.

3.7 Participants

A total of twelve interviews were conducted. Four participants identified as male and 8 identified as female; their ages ranged from 30 to 60 years of age, with an average age of 48 years old.

There were a range of professional backgrounds for example, clinical psychologists, nurses, and spiritual care; a full list of job roles could not be provided as to assure confidentiality. In total six TRiM practitioners and eight trained as TRiM practitioners and managers participated; each participant had completed their TRiM training over six months before the interview date. The average number of TRiM interventions participants had completed was six.

3.8 Materials

The semi-structured interview (Appendix 3) was based upon the template outlined by Butterfield et al., (2009). The interview used open-ended questions as to not restrict the participant's story. The questions were framed to identify specific helpful, unhelpful and wish list factors with examples regarding the implementation of TRiM; examples are important in providing credibility to the data (Butterfield et al., 2009).

3.9 Data Collection Procedure

The researcher contacted the potential participants via telephone to provide an explanation of the research to them, providing a participant information sheet (PIS) (Appendix 4), and answering any questions. The participants were given a minimum of 48 hours to consider their decision to participate in the research. Once the practitioners expressed their interest to take part in the research the research interview was arranged via email. Before the recording of the interview commenced, consent forms (Appendix 5) were completed electronically and returned to the researcher through NHS e-mail as this is a secure server. The participants were also asked to provide verbal consent to taking part in the research at the beginning of the interview recording. Participants were also made aware of the limits of confidentiality and anonymity and procedures for storage of their personal information as stated in the participant information sheet.

Interviews were conducted remotely on a password-protected NHS service computer through Microsoft Teams with encrypted video recordings. The interview was semi-structured, lasting no longer than 90 minutes were conducted with participants to explore the critical incidents that impact the implementation of TRIM across the Mental Health service. After the interview, participants were verbally debriefed to check their well-being and referred to the PIS for information on support services.

On completing the research interview participants were given an optional follow up, via telephone or teams to review the interpretations made about the data by the researchers. At the follow-up interview, the researcher provided participants with a summary of helping/hindering CIs and wish list (WL) items reported during the first interview. Participants were asked to provide their comments as to whether the information was correct, in need of revision or significant omissions were apparent.

3.10 Analysis

The interview videos were transcribed by the researcher and transcriptions were analysed using the ECIT procedures and credibility checks (Flanagan, 1954; Butterfield et al., 2009). ECIT aims to identify and capture an in-depth understanding of participants' experience of the critical incidents, that help or hinder the implementation of TRiM within the service. The first step in the analysis was to identify a *Frame of Reference,* which refers to how the data will be used. The current study's Frame of Reference was to identify factors that could enhance the current implementation of TRIM for mental health service professionals. In line with the Butterfield et al., (2009) method, for three interviews chosen at random, an initial analysis was conducted using the frame of reference to identify Critical Incidents (CI) and Wish List (WL) items. Where appropriate the critical incidents were then refined and sorted into categorised based on themes.

Throughout data collection and analysis, a Credibility Check was adhered to. As stated previously Butterfield et al., (2009) developed the comprehensive set of nine credibility checks to increase the validity and rigour of ECIT. A full overview of the Credibility Check can be seen in Table 2.2 and includes details regarding the outcomes of the checks. As part of the initial credibility checks, at this point the three randomly selected transcripts were also reviewed by the researcher's supervisor and reviewed together to identify any discrepancies which were clarified and agreed upon.

The second step was to repeat the process with the initial identified CI's and WL's for the remaining transcripts. Transcripts were reviewed by the researcher within a word processing software and marked with helping and hindering CIs and WL items with associated examples describing the incident and the impact or importance with items. An annotated transcript extract example can be seen in Appendix 6. Where possible the researcher refined categories or creating a new category where a CI or WL did not fit any current themes. Table 2.2 (Appendix 7) depicts the tracking the emergence of new categories before final categorisation and operationalisation took place.

Thirdly, similar incidents were grouped into categories with titles and operational definitions. During this step, the researcher reviewed the CIs and WL items for patterns and themes, and these were added to a working document. As further transcripts were analysed items that fitted with the initial categories were added and when new categories were identified they were also added. Once exhaustiveness occurred within the data set no further interviews were conducted and a descriptive title category and operational definition were finalised, detailed in the results section. A further credibility check was completed whereby the researcher's supervisor received 25% of each of the helping/hindering CIs and WL items and was asked to sort them into each of the titles and operational definitions. This was compared with the researcher's categorisation to highlight any discrepancies, which were clarified and agreed upon.

Participation rates (e.g., the number of participants who identify the same incidents) were then calculated to determine category viability. To keep the final categories streamlined, those categories not meeting the minimum standard of 25 per cent (Borgen & Amundson, 1984, as cited in Butterfield et al., 2009) were either merged into other existing categories or not included in the final written results. Lastly, all identified categories (helping, hindering and wish list categories) were reviewed and organised into themes to provide an overview of the key themes within the data.

Table 2.2

Credibility Check Overview

Credibility Check	Overview
1. Descriptive Validity	Ensuring the video recording of all the interviews so that they can be accurately transcribed and capture each participant's story.
2. Interview Fidelity	The researcher's academic supervisor reviewed every fourth recorded interview and provided feedback to help ensure fidelity to the interview guide.
3. Independent Identification of CIs and WLs	The researcher's academic supervisor reviewed a randomly selected 25% of the interviews and extracted CIs, with the researcher aiming for 100% agreement. In the present study, 25% of interviews resulted in three interviews being reviewed with a 77% inter-coder agreement rate was found between the researcher and the reviewer. Discrepancy's related to critical incidents that covered two concepts and therefore required splitting and included a category that was later dismissed due to not meeting the research question.
4. Exhaustiveness	The point of exhaustion refers to the continuation of interviewing participants until no new categories are created. Appendix 7 shows Table 4.11.1 depicting the tracking of emerging new critical incidents; following the analysis of participant 11's interview transcript no new critical incidents were identified.
5. Participation Rates	Ensuring credibility of categories by confirming that at least 25% of the participants contributed to each viable category.
6. Placement of CIs and WLs	The researcher's supervisor tries to match 25% of critical incidents to their correct category headings. In the current project agreement for most categories was found between the researcher and the researcher's supervisor and the remaining differences were resolved by discussion.
7. Cross-checking by participants	Participants are invited for a voluntary second contact with the researcher to review the identified category headings, CLs and WLs and whether the interpretations needed revising or if anything was missing, and to confirm that the categories made sense. One participant opted for the second phone call, who agreed with results of the research and felt it was a true representation of their experience when facilitating TRiM.
8. Expert Opinion	An expert, a clinical psychologist outside of the organisation who is TRiM trained was asked whether the derived categories were useful, surprising, or if anything was missing. Unfortunately, due to unforeseen circumstances this check could not be completed.

Credibility Check	Overview
9. Theoretical Agreement	Reviewing research literature to find support for the emergent categories detailed within the discussion section.

Three transcripts were chosen at random and analysed first to identify initial critical incidents (Butterfield et al., 2009). From these interviews a total of 271 critical incidents and wish list items were extracted (helping 137, hindering 103, wish list 31). Using the identified frame of reference, the incidents were organised and sorted into 17 helping categories, 16 hindering categories, and nine wish list categories. The identified incidents were then used to review the remaining 10 participants interviews, where possible refining a category, or creating a new category, where a CI or WL did not fit any current themes.

Following the analysis of all participants' interviews, the CIs and WL incidents were further refined and organised to a final eight helping categories, seven hindering categories and three wish list categories. The list of helping, hindering, and wish list categories, generated from the interviews, with operational definitions are provided in tables 2.3, 2.4 and 2.5. These tables also include examples of participant critical incidents extracted from the 13 interview transcripts, which were grouped and formed each category. Additionally, to assist in assessing the strength of a category the tables show participation rates, defined as the percentage of participants contributing at least one CI towards the category and calculated by dividing the number of participants who cited a specific incident within a category by the total number of participants. Reporting participation rates has been cited as an important factor in assessing the relative strength of a category (Butterfield et al, 2009). All participation rates included in the results exceeded 25 percent participant rate and were reviewed in accordance with the credibility checks detailed in the analysis section above.

Table 2.3

Helping Categories Operational Definitions

Helping Categories Operational Definition	Operational Definition with Examples	Participation Rate (%)
Flexibility to meet service needs	The willingness and ability to apply the model flexibly to meet service needs. Examples of this included providing more than one TIB, running the sessions on an online platform e.g., Microsoft Teams, and TRiM staff being present on wards to support and encourage attendance. This ensures those who need to access the service can do.	83.33%
Clear structure and procedures to TRiM referral and intervention	TRiM being a clear and well-structured intervention has meant TRiM trained staff feel it is easy to implement interventions. It has also led to clear processes implemented into the service which can be containing for staff and support audits etc. of the service.	75%

Coordination by TRiM manager and TRiM Lead	The report of good coordination by the TRiM managers and the TRiM lead that provides a point of contact, the facilitation of efficient communication, good supervision and support in the organisation and facilitation of TRiM interventions.	75%
Team support, supervision, and professional development.	TRiM staff feeling supported through group supervision, working jointly together on referrals and regular check ins. Provides encouragement, ensures staff wellbeing and increases confidence in providing TRiM. Also includes the opportunity to engage in further training, professional development and practice to maintain feelings of competence and confidence.	66.67%
Team managers supporting TRiM in the service	The openness and willingness of team managers to TRiM intervention. The helpfulness of this is talked about in two ways. Firstly, on a staff team level with instigating the referral to TRiM and encouragement and practical support to attend TRiM. Secondly in relation to TRiM staff, managers providing flexibility and autonomy of TRiM staff dairy and understanding and support to do TRiM alongside normal role.	66.67%
Promotion through educating and word of mouth	The identification of useful ways of promoting the service to increase referrals and acceptance of TRiM support e.g., leaflets, speaking at team meetings, attending their first TRiM and spreading awareness to colleagues – word of mouth.	50%
Good TRiM resources and materials	The TRiM staff team adapting, developing and integrating TRiM resources and materials into the service. For example, adapted scripts to suit mental health services that acknowledge level of understanding of mental health and trauma, and the use of a supportive email prior and following TIBs.	41.67%
Peer-led	The recognition of TRiM being a peer led service, meaning that a wide range of professionals provide support bringing their own strengths, skills, experiences and points of view. Also, the recognition of it not just being a psychology led service and how that may increase staff members willingness to access the service.	33.33%

Table 2.4

Hindering Categories Operational Definitions

Hindering Categories Operational Definition	Operational Definition with Examples	Participation Rate (%)
Insufficient time for staff to engage or organise TRiM	Difficulties in trying to prioritise and make time for TRiM in busy services and staff struggling to prioritise their own mental health needs. A reference to minimal support from local team management to make space for staff support e.g., seeking covering for staff to attend. Also the negative impact of these factors on the communication between busy TRIM staff and busy staff members.	83.33%

Hindering Categories Operational Definition	Operational Definition with Examples	Participation Rate (%)
Lack of awareness and understanding of TRiM on a system level and staff team level	The limited awareness of TRiM on a system level meaning less referrals, with a reference to the limited understanding of what constitutes a traumatic incident for each team and what incidents meet the criteria for TRiM. The limited understanding from the staff accessing TRiM, meaning that staff are not sure how to make use of the intervention, may not feeling safe enough to engage due to fear of trust investigation processes, the poor connotations that come with the phrase "debrief" and how this can mean TRiM interventions can "go off track".	83.33%
Team culture	The team culture's influence on staff attendance dependence upon if staff believe it is ok or not ok for them to attend TRiM, the existing team dynamic, the anger on how traumatic incidents were initially managed and the managers "buy in" of TRiM.	83.33%
Staff stigma	A belief that staff may feel stigmatised for accessing staff support following traumatic incidents. A sense of staff believing they "should" be able to cope, and this is "just what we do" as mental health professionals.	75%
Limited TRiM managers and practitioners	A reference to the limited number of TRiM trained staff and those that are TRiM trained doing the role in addition to their daily roles, effectively "squeezing" it into their diaries. Often resulting in an inability to meet the demand and a portion of referrals being seen by the trust occupational health service.	75%
Limited TRiM referral information	Referring to the limited information that is sent on the TRiM referral e.g., missing incident information, staff numbers and contact details. Limited referral information can impact TRiM staff's confidence to fully understand the context of the traumatic incident, ensure appropriate support and can lead to staff members being missed out.	41.67%
Access to resources to implement and attend	The limited resources to implement TRiM including access to safe and confidential spaces to facilitate in person interventions and staff members access to suitable and sufficient technology.	33.33%

Table 2.5
Wish List Categories Operational Definitions

Wish List Categories Operational Definition	Operational Definition with Examples	Participation Rate (%)
More TRiM human resources with allocated time	An increase in TRiM human resources with allocated time or a dedicated TRiM team to meet the unpredictable demand of the service for example, more TRiM practitioners and managers, dedicated administration support. Including the training a wider variety of professionals to offer a peer led service reflective of a variety of professionals accessing the service.	91.67%
Promotion and marketing	Promotion and marketing to raise awareness and understanding of TRiM to increase referrals and normalise staff seeking support.	83.33%
Wider evaluation	An evaluation of TRiM within the service, identifying staff outcomes, elements that are successful and where the service needs adaption such as the TRiM referral process	41.6%

As part of the ECIT process several credibility checks were completed. Checks included an independent identification of CIs and WLs by the researcher's supervisor where an 77% inter-coding agreement rate was found, and any discrepancies were reviewed and discussed. Further checks included the continuation of interviewing participants until no new categories were found (point of exhaustion), calculating participant rates, the researcher's supervisor matching a percentage of interviewees quotes to the operational definitions and cross checking by participants. An expert, a clinical psychologist outside of the organisation who is TRiM trained was invited to review whether they felt that the derived categories were useful, surprising, or if anything was missing. Unfortunately, due to unforeseen circumstances this check could not be completed. Further details of the credibility checks can be seen above in Table 2.2.

2.4 Results

Participants identified a number of helping, hindering and wish list items. Below these are discussed with verbatim quotes chosen to illustrate them, repeated words have been excluded unless they were used to emphasise and point that participants were making. Participants names and any identifiable information has been changed to ensure confidentiality.

4.1 Helping Categories

From the critical incidents that participants identified a of total eight helping categories that are facilitators to the implementation of TRiM within the Mental Health Service (please note that this will be referred to as service from this point onwards) were formed. Below the helping categories are described in detail alongside verbatim quotes chosen to illustrate the category.

1.1 Helping Category 1: Flexibility to meet service needs

A number of participants (participant rate 83.33%) noted modifications that they had made to the TRiM process to ensure it better met the needs of referring teams. A number of modifications were described for example, having more than one Trauma Incident Briefing (TIB), providing remote sessions, and being present on referring wards. Collected together these modifications form helping category one, 'flexibility to meet service needs'. The TIB brings together a number of team members impacted by the traumatic event, which when working shifts can be difficult to arrange. Offering more than one TIB means that each staff member, chiefly those who work shifts, who wishes to attend the TIB is afforded this opportunity. This flexibility becomes of greater importance when more than one team is involved in a traumatic incident as Charlie describes:

> *"As I mentioned it was a multi-agency so there were lots of different staff. There were like three different subsets of teams. So there was a [service name] staff, there was the non-trust staff from another trust and then there was trust staff. So it was juggling things and trying to organise a TIB was quite difficult because there are different people and different shifts and it's a [service name] so it's shift based. So organising the TIB was a was a initial kind of difficult processing, trying to get people together all at once. So we divided it up into two TIBs... Umm, so we did two TIBs at different times for different staff depending on what day they could attend. So that was that was useful..."*

Participants also noted the flexibility that running interventions on an online platform e.g., Microsoft Teams offers, particularly with getting a larger number of team members together for TIBs and the flexibility of accessing TRiM written materials to support the facilitation of the intervention and increase practitioner's confidence in delivering it. Participants also identified that running interventions online allows staff members easier access, particularly if the staff member is off work due to annual leave, sickness or in relation to the traumatic incident, as illustrated by Leonie:

> *"...at the moment we're doing all via teams. And I think in a way teams can help a lot. Because even if you're off, whether you, if you did decide, oh, you know, I'm happy to take 40 minutes out and join the tib or some people choose to have a TRiM assessment when they're off. They don't want to do it when they're at work. You haven't got to go into work to this meeting. You can sort of, and particularly people are off. When we did a [SERVICE AREA], one we did like a mix it was during COVID and so some people had really struggled because of this patient, the and they'd had close dealings with them. So they were off work anyway. But they were sort of happier to dive in via teams."*

Recognising how busy staff teams in mental health services can be and the difficulties in putting their own needs first (explored more in the hindering categories) TRiM staff identified that being flexible and offering to attend on wards, in person, is of benefit, illustrated by Lara:

> "I was supposed to be there just as a as an observer for somebody else who was isolating due to Covid it at the time she was delivering it. Uhm. And I think something that helped was that I was there because I think it wouldn't happen otherwise. Everybody was really busy. And so I think being there and being able to say all that, but there's this thing available to you now or to the wider team actually 'cause the manager on site and could also attended. And so I think that helps his being there to be able to sort of thing encouraged that to go on."

Being present on wards means that they can support and verbally encourage attendance to TIBs to ensure wider access to those staff who may have been affected by the incident.

1.2 Helping Category 2: Clear structure and procedures to TRiM referral and intervention

With a participant rate of 75% the second helping category is a 'clear structure and procedures to TRiM referral and intervention'. Participants suggested clear structured of TRiM meant TRiM trained staff find it is easy to implement and feel confident in its delivery. Alistair describes how clear boundaries allow practitioners to be clear about what their role is and is not and how the simple structure guides implementation:

> "I think the kind of the TRiM process itself is really clearly structured. It's kind of a simple process as well, which I think is really helpful to follow the materials that we got on the training was, were really good. ... The kind of the role of the TRiM practitioner was fairly clear as well after the training, it was clear what we were there to do and also what we were there not to do as well. So felt like you know those two assessments that that you could do. Did provide some support for the individual. But also it wasn't. It was clear that you weren't getting involved in other things that might have taken quite a lot of your time as well."

Another benefit of the clear structure mentioned was that this enables audits to be conducted and data to be gathered, as illustrated by Nathaniel:

> "We're trying to keep as much fidelity to the model as we've been taught. And it just makes things easier or otherwise you'd have variation and it would be hard to, I guess, sold it and see what's occurred because you can't audit things. You can't provide evidence. It's very hard to argue for increased resources."

As the above quote suggests it allows for evidence to be collected about its effectiveness so that requests for more resources can be made and justified. TRiM operates on a strict timeline for when certain aspects need to be accomplished. For example, the initial planning meeting with the referrer needs to be completed within 72 hours. Participants identify that mental health services are fast paced and busy, with traumatic incidents occurring frequently. Therefore, TRiM having prompt time frames as Charlie illustrates are helpful for implementation within the mental health service as it complements the pace of the service:

"The timeliness factor is really good. The fact that it's very prompt. Umm, I think mental health services need that because we can be, the settings I work in a very fast pace, so home treatment things move on very quickly. The client load or the kind of patient and caseload is changing all the time. So I think you can just strike when the iron's hot. So I like the fact that, you know, TRiM is very much kinda you need to arrange a planning meeting within X amount of days and. Do a TIB with as soon as you can, and another aspect I think that's really helpful and useful. Umm, I think like I said, kind of that mental. I think some of the kind of the, the basic kind of emotional reaction stuff or kind of the psycho-educational stuff might not be as kind of directly suited to mental health because I think a lot of people you're talking to know about these things anyway. So the way you introduce that might be slightly different. You still talk about it, but do it in a different way. I think it's quite containing..."

Charlie suggests "striking whilst the iron is hot" i.e., getting the TRiM intervention done quickly, is also important in terms of staff acknowledging and understanding trauma reactions.

1.3 Helping Category 3: Coordination by TRiM manager and TRiM Lead

The third helping category is 'coordination by TRiM manager and TRiM lead', with a participant rate of 75%. TRiM managers coordinate referrals from the point of initiation, which involves for example, gathering referral information i.e., staff names and traumatic incident details, being point of contact for the referring team and allocation of the TIB and risk assessments. The TRiM lead coordinates the implementation of TRiM across the organisation. A TRiM manager is put in place to oversee and manage the response to each incident that occurs. Participants state that the good coordination provides a point of contact, the facilitation of efficient communication between the TRiM team and the referring team, and support in the organisation and facilitation (i.e., list of staff that need to attend) of TRiM interventions. Participants also identified how having that oversight is essential as Joan suggests:

"And I think the support we've kind of received from Olivia as the TRiM coordinator um just very clear on what what we were addressing and how to go about it and so how many staff we were likely to need to support and things like that, so I haven't having someone with that overview made it a lot easier to go in knowing what to expect. So I guess I have been some interventions where I've got it and I'm not, I don't know what on earth I'm gonna face when I get there. Umm, but that was really that was really easy. We just having knowing that somebody had kind of oversight of the whole thing. And that was before I was a TRiM manager, so I was a TRiM manager. Now I can see why that oversight is so essential.

R: Yeah. What do you think it was about that, that oversight and having that information that that was so helpful for you? What kind of things did it impact on?

Joan: I think it reduces the anxiety because also you never really know what somebody's gonna say, what's going to come up. But if you've got a sort of an idea of the sorts of things you might be talking about, I guess it reduces the anxiety of almost that not knowing what to say. And I think I'd imagine that's quite common in kind of anyone having these conversations that you know, you know what if what if I say the wrong thing or something? That's not helpful. Where if you know, sort of what you might be dealing with, you've got an idea of what can and can't be helpful. UM and it meant I I just felt really prepared for it. Umm, which I guess does wonders for my confidence like personally anyway."

Joan also suggests that having sufficient information and feeling that there is good oversight of the referral can help relieve some of the anxiety they may experience and increase their confidence of facilitating TRiM interventions.

1.4 Helping Category 4: Team support, supervision, and professional development.

Bringing together several topics with similar themes around feeling supported, the fourth helping category is 'team support, supervision, and professional development' with a participant rate of 66.67%. Participants identified feeling supported through group supervision, team meetings and regular check-ins, exemplified by Lara:

> *"But like continued sort of CPD in practice and supervision in doing TRiM and actually we have that. So we link in with whoever is the TRiM managers that's signed you in with things you link back in for supervision afterwards um and feedback and the TRiM service has, I think we've moved to bimonthly now meetings as a sort of chance to check in and practice skills and revisit things between us as a group and it's a like a group supervision sessions that's available too. Um they do exist and those are helpful things already."*

Participants identified that the encouragement, the opportunity to engage in further training, professional development and practice ensures their wellbeing, maintains feelings of competence and confidence in providing TRiM. Meaning that they are more likely to offer their time to provide TRiM interventions. Participants also highlighted the importance of good team working and cohesiveness. For example, Briony highlights how approachable the TRiM team members are, meaning they feel comfortable to ask questions that seek support that might otherwise impact on their ability to provide TRiM interventions:

> *"I think, yeah, I think it's about building relationships, isn't it? I mean, I've worked on a couple of cases now with the same person. And so I feel that, you know, I know how she works. She knows how I work. So, I suppose it just, it feels comfortable. The process feels comfortable, you know, because we've done a couple of assessments together now. So the process just feels comfortable. And if I had a query, you know if I had a query about, uh, the case that we're gonna, we were gonna be working on as something I'd have no hesitation to give the couple of people I've worked with in the [service area] TRiM team, you know, a couple of them I haven't worked with yet, but the two people that, have the couple of people I have worked with, I'd have no problem dropping them an email or picking up the phone and saying, you know, can you help me think through this or I don't understand that risk factor in the assessment or something like that. So. I think. It's about working with colleagues who are approachable, who you know, you know that you can ask them a question. And you know, there's no worry about you. You know, you don't kind of think all they're gonna think on daft or I don't know what I'm on about or it just feels, I think it feels comfortable. That's the word. And it's that familiarity. Like I say, [researcher], you know, you get used to how somebody works, don't you? So you know what to expect, I suppose."*

Also, Briony describes that working jointly with other team members on a regular basis also allows them to make use of each other's strengths.

1.5 Helping Category 5: Team managers supporting TRiM in the service

With a participant rate of 66.67% helping category five is 'team managers supporting TRiM in the service'. Category five suggests that how open and willing the team managers are toward TRiM is a critical factor. This was discussed in relation to both managers supporting potentially traumatised staff to access TRiM but also in terms of managers supporting TRiM managers and practitioners to deliver TRiM as a part of their substantive role. On a staff team level with instigating the referral to TRiM and encouragement and practical support to attend TRiM, illuminated by Grace:

> *"I think the engagement and drive from team managers is really quite crucial…Because if they can make it a priority for people and can very clearly articulate, I want you to do this because it's going, it's designed to support you as an individual. And yes, I know you've got a cracking caseload waiting to be got on with, but actually you need to do this and that permission to not do things that might be pressured on time, uhm, that's certainly, uhm, very, very crucial. And to a certain extent the culture that a team manager has fostered within the team as well."*

Participants also stated that those team managers that lead by example, i.e., attending the TIB themselves and sharing their own experiences, can also have a powerful impact on staff members and facilitating attendance and engagement in TRiM. Leonie provides an example of this:

> *"Umm. Yeah. I think with the one I was talking about before, when we did it over three days the [service area] one and that was the death of a patient as well. So that was quite serious. But the manager in a way, it wasn't a traditional TIB. We broke it down into three days and there was a small group came over the three days, he turned up and he was very much a part of, I'm with you guys, I'll talk about my experiences as well and now I've found this difficult. So he like really engaged and sort of really was very supportive. The range in the meetings he gave three days, three slots and he turned up at all three TIBs. So I think because he really felt this is useful and my staff needed this and they are upset, it was very unexpected and not quite sure whether it was actual suicide or an accident. And you had a lot of young staff as well, and young staff who were involved very closely with her. So I think the fact that he works so well with us, he was so supportive, came along, he said, well, you know, I haven't been sleeping that well…"*

Also, participants highlighted that their own managers' support and understanding to do TRiM in addition to their role is important, as explained by Lara:

> *"I think that was helpful and also support of my manager. That's another thing that I think is helpful in terms of getting it done. Erm and being able to attend those things. So my manager is a TRiM manager, doesn't necessarily manage the TRiMs that I go and do always, but I think also it is really supportive of the process, and I think that helps in terms are getting things done, and gaining access and so on."*

 Lara demonstrates the importance of managers providing staff with flexibility and autonomy over their dairies help to facilitate TRiM interventions.

1.6 Helping Category 6: Promotion through educating and word of mouth

Helping category six is 'promotion through educating and word of mouth' with a participant rate of 50%. Participants identified useful ways of promoting TRiM to increase referrals and acceptance of TRiM support, to ensure those that would benefit from the service are referred and in a position to attend. Participants gave examples such as leaflets, speaking at team meetings, and speaking directly with team members to "sell" the service, as illustrated by Leonie:

> *"I contacted him (the manager) and he's like, well, I don't really know what it's about. I don't really understand it. So I had a call with him, went through, explained what it all was what the purposes the aims were and then it was completely on board and he was fantastic and he helped me so much. And he said, oh yeah, I'll encourage the staff. He gave him the time he opened the meeting and he was brilliant to work with. I found he was so useful to work with. He kept in contact with me. We had a chat beforehand. How many people have responded? Who's likely to turn up? And that was a very, very positive one. I think that made it was like a pleasure to do it because you're actually working hand in hand with somebody, you know, and got their full support to do it"*

As the above quote demonstrates increasing the understanding of TRiM and developing a relationship with the referring team manager can increase the likelihood of a successful TRiM intervention. Participants also stated that staff team members attending their first TRiM and spreading awareness to colleagues i.e., promotion through word of mouth, as a particularly useful means of raising awareness, as described by Helena:

> *"She, she said, actually it's, cause normally you then booking a follow up session and she said actually it's been so helpful to be able to talk, to have everything validated, the way I'm feeling. And actually, she'd been able to see that she had made some progress as well. And so she felt that, you know what I think I'm going to be all right, but I think my colleague really needs it. And I'm gonna tell him to take up the offer, and she took my email and she was going to pass it on to him and to take up the offer because she said I'm gonna tell him it's been really useful. I did follow it up and I did just check in to see if she did want to follow up. But again, she said no, I'm doing really well."*

The participant above describes how a staff member she provided a TRiM intervention for stated that as they had a good experience of TRiM they would suggest to another team member that they should also access the service i.e., promotion through word of mouth.

1.7 Helping Category 7: Good TRiM resources and materials

The seventh category with a 41.67% participant rate is 'good TRiM resources and materials'. The participants identified that the TRiM staff team have adapted, developed, and integrated TRiM resources and materials into the service well. For example, adapted scripts to suit mental health services that acknowledge the level of understanding and training with which mental health staff have around the experience of traumatic experiences. Participants also felt that the adaption of the

materials helped with confidence to facilitate TRiM, especially when new to the approach as suggested by Briony:

> *"What I found really helpful being a newbie, you know to the TIBs is one of our colleagues. One of our colleagues put together a bit of a script. I'm not one to read off scripts because it can kind of come across as a bit clunky at times, can't it? But what was really helpful about that script was, so prior to the TIB, you know, I adjusted did it, amended it. So I've got my own kind of script that was it you know, it's kind of concise enough for me to make sure I didn't miss any points."*

Participants also stated that the leaflets and supportive email prior and following TIBs that are sent to staff help with supporting not only referrals to be made but increasing the likelihood of individual staff accessing TRiM. For example, Nathaniel describes how a staff member recognised that they were struggling after the initial TIB and prompted by the supportive email, sought further support from the TRiM team:

> *"Uh, we emailed everyone who was invited, we do a nice email just explaining what we do, what's on offer, you know, confidential, outside of trust processes, even if you feel fine maybe come along, or at least let us know and we'll have a chat with you. So that's that, offer continues on. So I imagine they got that email. Uh. Read it. Had a little think and then thought they'd see how they go and just found that they were struggling. They thought actually I'll do it. So I think because we go the extra mile that little bit. And they know they can respond to that email. We will pick it up 'cause someone always has got the mailbox. And we respond back like quick within an hour."*

The above quote also suggests that the supportive email goes the "extra mile" and offers reassurance that TRiM is outside of the mental health service process and that the offer of support is there if they want it.

1.8 Helping Category 8: Peer-led

TRiM is a peer-led service (Greenberg et al., 2011) and participants recognised the benefit of having a wide range of professionals to provide support bringing their own strengths, skills, experiences, and points of view. Therefore, the final category with a participant rate of 33.33% was 'peer-led'. Participants highlighted that as a peer-led service it is not just the psychology staff that offer interventions but a wider range of staff and how that may increase staff members' willingness to access the service, Patricia provides an example of this:

> *"Uh. I suppose one thing that I. There's somebody I've seen. I've actually seen a three times and one of the things that helped her engage was the fact that it's not, um, psychologically driven. It doesn't fall under psychology, and she actually said the last time I met because we were talking about kind of ongoing support that she wouldn't have accessed it if it was kind of led by psychology. So I suppose that's another thing that's quite good. So people who maybe wouldn't traditionally access kind of staff support and well-being stuff or stuff, or wouldn't want to kind of engage in psychology still feel they can engage in TRiM, which was which was quite nice actually.*

R: That's good, isn't it? And did they, did that person kind of explain why that was or or have you got any kind of hypothesis or?

Patricia: Quite a senior member of staff and was just. Yeah, she's she said Ohh psychology CBT stuff like that no I just would not. I think she I think her phrase was she wouldn't touch it with a barge pole. I don't know why, but it was just not a thing for her."

As the above quote suggests, having a range of professionals with the TRiM team means a flexible service to suit staff needs and preferences. Participants who were non-clinical staff also spoke about the privilege they feel when supporting their peers when providing TRiM interventions, point out by Leonie:

"Yeah, yeah, I think it. Yeah. You work in hospital environments and it's nice to actually be that person providing that service yourself. And I think to be able to be given the privilege to be able to assess somebody and help somebody particularly a peer. And in it you had to say, you know, what do you do? What sort of you know, how do you show that you care about other people and what do you do?"

The privilege that Leonie refers to in the above quote may not directly link to implementation however it may go some way to suggest why when extremely busy, staff offer up their time to support the implementation of TRiM.

A summary of the operational definitions and the participant rates for each of the helping categories is described in table 2.3.

Table 2.6
Helping Categories Operational Definitions

4.2 Hindering Categories

From the critical incidents that participants identified, in total seven hindering categories that are a barrier to the implementation of TRiM in the service were identified. The full list of hindering categories, with operational definitions and participation rates' is provided in table 2.4. Below the hindering categories are described in detail alongside verbatim quotes chosen to illustrate the category.

2.1 Hindering Category 1: Insufficient time for staff to engage or organise TRiM

With the highest participant rate of 83.33%, hindering category one was 'insufficient time for staff to engage or organise TRiM'. Participants highlighted the difficulties staff members have trying to make time to accommodate a TRiM response following an incident in busy services, particularly when teams are short staffed, working shifts and no cover is made available to allow staff to attend

this. When this occurs it can mean that the TRiM timescales are not met, potentially impacting on the effectiveness of the intervention, as Joan illustrates:

> *"Umm, I think the nature of the ward. And the nature of that environment because it's quite busy. And the staff working shifts, it's harder to fit to the timescales of TRiM because again, they're very specific. So in terms of getting the job TIB in the first sort of seven to two hours, that that was really difficult to do. And I think I do think we went over that time scale. And then I guess. The sort of the next part of that was doing the intervention. So because we were already over the timescale for the team, we were then over the timescale for the interventions like in the first seven days. And even though the staff are really keen, obviously took it, took time to set those things up. Umm. I think in terms of difficulties, that's probably that's probably the thing I struggle with most generally with trim, but with this intervention specifically was the time scales and just keeping as close as possible to those…Yeah, so now I that kind of passed sort of seven to 14, pass sort of 14 day there is almost no point in doing them. And I think we were sort of pushing towards day 11 or 12 post incident. So it then felt pressured from my end to make sure all these were done before that two week kind of time. Um yeah, which, which can be different, and sometimes it's just the way it goes and that it that interventions, the intervention interventions are still useful, but they might not be quite as effective because they've been so long after the incident."*

Participants also recognised that due to the busyness of the services, staff teams are struggling to prioritise their own mental health needs. This can mean that TRiM referrals may not be initiated at all, or attendance at TIBs being poor, as suggested by Lara:

> *"…but it felt very different when I was in this other ward. It felt like there was all sorts of things that were the priority in that moment rather than people attending that thing. And. And accessing the TIB…actually in that moment that the manager who had agreed for us to attend for active at that time really didn't seem to be being very proactive in freeing up to staff team to attend it. You know, it wasn't like that space had been created for them in anyway."*

Included within the above quote is also the reference to minimal support from local team management to make space for staff support e.g., seeking cover for staff to attend. When this occurs, it can impact on the implementation of TRiM and may influence any future attempts to engage staff in TRiM interventions. Participants also spoke about the busy-ness of staff impacting on the communication between busy TRiM staff and busy staff members. Joan said: "*I think communication is always difficult because most of it's via email. Um and sometimes you know people are really busy, emails get missed or someone's on leave for a day or their they have their non-working day."(Joan).* Participants also recognises that when TRiM staff busy this can also delay in implementing TRiM, especially within the time frames that allow for successful and meaningful intervention. It can also mean that the TRiM staff are not able to facilitate a TRiM intervention and referrals are therefore support by the mental service's external occupational health team.

2.2 Hindering Category 2: Lack of awareness and understanding of TRiM on a system and staff team level

Hindering category two is 'lack of awareness and understanding of TRiM on a system and staff team level', has a participant rate of 83.33%. Participants identified that there is a limited awareness of TRiM on a system level meaning across the managerial staff of the service. The result of this is less referrals, as suggested by Lara:

> *"But also I think a lot of people don't know we exist as a service. I think a lot of people in the trust don't know that TRiM is happening or that they can make use of it. So I don't think people would ask necessarily."*

To further elaborate, there is also appears to be a limited understanding of what constitutes a traumatic incident for each team and what incidents meet the criteria for TRiM. It is also noted that different teams and areas of the service will have different threshold for if they refer to TRiM. Where one incident may be highly impactful in one team, it may not be viewed as having the same impact especially in teams where there if a high incident rate, as Willow suggests:

> *"...knowing, yeah, what is, what is what is a TRiM incident and what isn't. And so I think, yeah, so many difficult things happen. Uh so often. And yeah, so I think it, I think that's also sort of creates a culture change where you start to become a bit more aware that certain things actually could be traumatic and they need an input. So I think that that takes each team time to start that kind of change. And I kind of thought about that when I was talking to my manager about it and he started talking about some of the difficult things that were happening on his ward, which they haven't trimmed, and so I think it's...So I think that is one of the things that hinder that that people just they, when it's your job, you don't know which bits are the bad bits. It's just work, isn't it? So yeah, that just takes time. And also I think different environments are uh, yeah, the that threshold is different in different environments. So some environments have more resources in built because they're seen as more traumatic."*

As the above quote also suggests, whether a team refer to TRiM can also depend upon how much support already exists within the team. For example, do they have regular supervision or reflective practice. On an individual staff level participants identified that staff have also misunderstood the remit of TRiM. As a result, staff are not sure how to make use of the intervention and the focus of the TRiM intervention can then shift to discussing the service investigation process, causing the intervention to go off track. Participants also identified that staff may fear the service investigation processes which can also impact on the uptake and participation in the TRiM intervention, as illuminated by Lara:

> *" And I think lack of knowledge about TRiM. Possibly also. So for the assessment, the man I met for the assessment despite the fact that apparently he'd agreed to this and it's all been arranged and I'd have well we'd had joint emails and we email each other to arrange time and stuff. He didn't really seem to understand. When it was when I got there. He's very grateful and he really enjoyed it. But I think he was a bit concerned at one level, that it was going to be part of an investigation process or something and I don't think he realized that it was not that at all and it was very separate to anything like that. And it was solely about his*

wellbeing and so on. So I think there might be something about Um people understanding what it isn't as well as what it is."

Participants also identified the connotations that come with the phrase "debrief" and the association of this term will be reviewing what went wrong within the incident and how it could be prevented in the future, rather than support for the staff themselves, as illustrated by Nathaniel:

"Well, debrief is used an awful lot for lots of things…I think it's simply been a term that overtime, I'm going back 20 years now, so debriefs weren't accepted back then. You know, it's really the done thing. So the fact that's its coming into the language is a good thing. People are more accepting of it. But sometimes it has connotations of blame. So let's have a debrief. Let's have a hot debrief. Who did what? What were you doing? And what we're doing, and people can feel very anxious and almost attacked and I've had to do "debriefs". Uh, in my old job, and I did my reading up around them, so I've tried to. Avoid those pitfalls, but I think, I think they it can mean a number of different things to different people at that. And therefore it's, it's not always so helpful. Um and there isn't a specific one way to really do them. So it's so it's so people are not necessarily sure of what to expect. So yeah, it's a term that's being used for some time now. Different meanings for different people, different ways of doing it, and people will have had very different experience, also very different experiences of it. And it's something I probably would like to get away from."

As the above quote suggests, if staff have a unhelpful view of the term debrief and if they associate this with TRiM it may impact on the initiation of a referral and engagement with the intervention. Participants also suggested that staff may feel that facilitating TRiM for their team may be a doubling up of work or another thing to do: *"…You know, so if it's seen as an extra an add-on because that then means extra time out for the team to attend another meeting and things like that…Resources or asking the team to attend yet another meeting…" (Briony),* on top of their already busy work schedule.

2.3 Hindering Category 3: Team culture

Several factors were brought together to form the third helping category 'team culture', with a participant rate of 83.33%. Firstly, participants stated that the team's culture can influence on staff attendance dependent upon if staff believe it is ok or not ok for them to attend TRiM, as suggested by Nathaniel:

" Culture. Culture. And they I could be wrong. I don't think I am, and I've been around awhile, and I've worked in a lot of services and I think that sometimes people feel like they can't say actually this is awful and I'm struggling. Uh, so I think culture is a key one. It's not everywhere. We've had different responses from different areas in the main most attend. And we've noted it with home treatments. I mean, there are some where they come an its fine, but there are a few. More than a few were actually they've not come. Or, but then what can happen is later on they seek out help. So in a week or two we get an email. That's, so culture is a is a big one…"

Similarly, participants felt that some staff did not wish to speak in front of their colleagues due to fear of getting upset. Which may suggest a culture in which it is safe or even unsafe to share vulnerability.

The existing team dynamic was also identified as a factor influencing if staff would attend or participate in TRiM. For example, if the staff team do not get along, or they do not feel supported by their manager they are less likely to attend for example the TIB which brings the staff group together. Included in this is also if there is any anger toward their colleagues on how a traumatic incident was managed as suggested by Helena:

> "Some staff I don't think want the group TIB at the beginning. They prefer one to one. Others are, like I said earlier in the interview, it's really helpful, but for some they don't want to talk in front of the colleagues, or they don't wanna get upset in front of the colleagues. Or, they don't want the same one of the colleagues are we really angry about that or I feel like we managers let me down. You know, I feel like the service is let me down. So obviously that can be a barrier, some are put off by the group and don't want to go to the group"

The above quote may indicate that how staff view their team can impact on their willingness to engage in TRiM and their belief that the support will be helpful. Participants identified that when the team's manager are struggling with the "buy in" of TRiM, meaning they are unsure if it would be useful for their team, it can mean there can be resistance for a referral to be initiated to TRiM but also can impact on the engagement from individual staff members, as suggested by Briony:

> "...the example I was giving you about somebody not kind of really opting in, they did eventually, but you know, they had to be numerous conversations really with the manager and a bit of pressure put on really. So you know, staff were able to access a TIB at least, which was good. So I I can. But actually it's interesting you know, because. So interesting point really because. I'll go so far as to say something about, if a manager of a team isn't fully on board and doesn't opt in to TRiM, I think that does have a ripple effect out into the staff team because, thinking about one case where the manager wasn't fully on board and a bit of pressure needed to be put on and what I mean by that is you know multiple conversations about, you know, I think we need to move this forward and actually put a referral through. That led to a TIB, but interestingly, we didn't have any take up for one to one assessments. So I think there is something about that about. Where we've seen. And there is a bit of a correlation, I think where we've seen managers that are fully supportive, to the TRiM team becoming involved we've had take up. So we've had staff take up the opportunity to TRiM assessments. Compared to and, this is just out of my experience where you've had to have those multiple conversations with the manager to get the TRiM team involved. That one incident, we didn't have any, we didn't have any take up for one to one assessments. So, makes me kind of think really that that you know. That that could be a knock on effect. Do you know what I mean? The team dynamics, the team culture. You know, because. The team manages approach effects, how the team works, doesn't it? You know, we dependent on each other, aren't we? It's. Looking at the systems."

As the above quote suggests, when there has been difficulties in initiating a TRiM referral this can have a "knock on effect" of whether staff who are invited to the TIB attend or opt to engage in a risk assessment. Therefore, individuals who may benefit from extra support may? not receive that help.

2.4 Hindering Category 4: Staff stigma

Numerous participants (participant rate 75%) identified staff experiencing stigma for accessing support services which forms the 'staff stigma' category. Stigma in this case appears to be

related to how internally staff believe that as they are mental health professionals they should not need to engage in services for support for their own wellbeing, for example, "…it can be a bit of attitude of shrug things off and carry on". Participants sensed staff believing that this is "just what we do" as mental health professionals and "should" be able to cope and the influence of this on staff up take of TRiM interventions, illustrated by Nathaniel:

> "There is a certain. Maybe. Maybe a view that you should be able to handle everything. You see, you know so. So I think TIBs are good because they. Remind people that they are human and they can experience stress. And as I said to you at the start of this, people forget about themselves and they do. It reinforces that we (TRiM) will support them, but they need to look after each other and themselves, so there's a degree of personal and group responsibility as well…"

As Nathaniel goes on to describe below, the stigma that staff can experience can stop staff potentially accessing useful help and result in negative consequences for them and the organisation:

> "The worst case? If that's all you do. Then you then some people are going to struggle and fall by the wayside. Aren't they, because not everyone will be able to do that, or at least they'll be able to do it for a period of time. So everyone has their own individual limit. And if they don't deal with things that are causing them distress, conscious or unconscious. And then it will come out in other ways like it will become potentially mental ill health, mental illness. Uh. Sick days. And burnout leaving the job. Potentially an impact on how they give care."

As the above suggests there can be long term consequences to this for the staff members welling, services in relation to sick days and in the care provided to their patients.

2.5 Hindering Category 5: Limited TRiM managers and practitioners

The fifth hindering category with a participation rate of 75% was 'limited number of TRiM managers and practitioners'. The category covers a number of related topics for example, the limited number of TRiM trained staff and the impact of this on capacity to accept TRiM referral and TRiM trained staff not having enough time in their dairies to facilitate TRiM. Participants identified that there is a limited number of staff that are trained to provide TRiM. Participants described how this resulted in the inability to meet the demand and a proportion of TRiM referrals that are appropriate and meet the criteria for a TRiM intervention being seen by the service's occupational health service instead as illustrated by Grace:

> "We've really struggled with TRiM manager capacity really struggled with it. They're just for the size of organization we just don't have enough. And the infrastructure around how we offer it and how that's organised is is, it's just not developed far enough yet, and I don't, that's not a judgment on anybody involved because I'm part of the senior group that that sets that out. It it's it's been, you know, we've been responding to to what we've got the best way we can. But there is a there is an element of, you know, just and a fair amount has had to go to, what you do you call it? [OCCUPATIONAL SUPPORT], because there hasn't been enough capacity."

Participants also reflected on those that are TRiM trained doing the role in addition to their daily roles, effectively "squeezing" it into their diaries, as demonstrated by Lara:

> *"And maybe some more dedicated resource because I think everybody that's doing this is doing it as an addition to their day job. Um and I don't know if anybody has time dedicated to it. I think Olivia probably does as the lead. But I think everybody else is kind of squeezing it into probably an already fairly full diary to sort of move things around and make gaps."*

Participants identified several hindrances related to this, including, losing confidence to provide interventions effectively as they are not doing them routinely, having no flexibility to meet staff members needs and an increase in referrals should the service be more widely advertised, and struggling to complete interventions within the time frame set out by TRiM, demonstrated by Helena:

> *"I think. I think the timing, I think you know because of TRiM intervention is meant to be done. We never achieved the target within 72 hours it it's just so, so difficult to achieve that target because obviously. Having people who've got gaps available in the diary. You know is a, you know, if you look in my diary my Monday to Wednesday's often chocker because well it is because that's the reality so actually that's a barrier getting it done within the time um period and also shift patterns. So for this particular assessment, I did. It was not only a barrier getting it done within the time period, because of my working day, so I only work three days for this organization. I work elsewhere for different trust two days a week. So being able to coordinate my diary Monday to Wednesday with the healthcare assistance shift patterns. So there was, we were emailing backwards and forwards and she was like really really really want this. However, I'm doing nights for the next week and then I'm on annual leave for the week after. And then I'm on days but it's a Thursday Friday. So actually it took us a while to get it in the diary so we didn't meet the target that we were meant to meet. So I think that's a barrier."*

Participants also explained the pressure and guilt and as if they are letting down colleagues when they don't have capacity to do TRiM in, as spoken about by Patricia:

> *"I think sometimes if we have a lot of incidents come through at any given time there's not always the managers there to manage it. Um, and I know if it's just the one incident every now and again I don't mind having one on the go, but there was at one point, I think, two or three that I could have picked up on, and I think I just had to say no I can't. I can't do that and then you feel really bad because kind of if you're not doing it somebody else is going to do it or it's going to be a critical incident debrief instead."*

Similar sentiments were shared by Willow, who describes that by not having time to deliver TRiM she felt that she was not "pulling (her) weight" by not helping out:

> *"...like I'm really busy and I'm really busy for like 3 weeks. Like I just I go back-to-back in terms of appointments so. So the request to do a TIB or an assessment like in two days time like I just haven't got the, I just haven't got the space and then if I do cancel stuff that needs to be put somewhere else and I don't have the space within a few weeks to kind of put it in so. Uh, yes, it's so. So that's really tricky. And then so. So there's not only sort of not having the space, then there's the, the sort of the anxiety that causes with the rest of the TRiM team thinking I'm not pulling my weight or not helping out. Yeah. And then yeah, so that all feels quite difficult. Because I want to be supportive to it. But yeah, and then it means that certain members of the team do more than others and I think that's yeah, that that feels quite difficult*

and so it's not only me that has that problem like, the people that I'm trying to TRiM and TIB also have that problem, so and so there's just no space in anyone's Diaries. So. So if I do have some space or I do it early morning or I do it sort of after I finish work and getting other people within the team to do the TIB like it's just really difficult and then trying to arrange assessments and like, so I've done two and people wanted assessments but trying to fit them in and actually it wasn't me that couldn't fit them in. It was then that couldn't fit them in. Yeah, they won't work or they were short staffed on the ward or something came up or they forgot. Or like there's just yes. So actually kind of actually. Coming together and doing it is just really challenging."

As the above quote suggests you can see it was clear that participants had not been given allocated time in their roles for TRiM and when they are busy with their primary roles TRiM cannot take priority. This also appears to impact on their confidence in delivering TRiM and their own wellbeing.

2.6 *Hindering Category 6: Limited TRiM referral information*

Limited information that is sent on the TRiM referral e.g., missing incident information, staff numbers and contact details, the seventh hindering category with a participant rate of 41.67% is 'limited TRiM referral information'. Participants identified that having limited referral information can impact in numerous ways. For example, difficulties in ensuring appropriate and timely support as having to go back to the referrer for more information delays intervention. As suggested by Nathaniel, it can also delay staff getting support and preventing any potential long-term distress:

"I guess the impact is, is it delays the TIB, it also delays the potential of identifying anyone who's really struggling there and then. So our intervention might be delayed, which means the additional support that somebody needs might be delayed. And these are, you know, these are the ways we can help you. These are the ways you can get support, it delays that. And I do think that's important to get out there. It also stops the team being brought together, 'cause it's a hell of a thing and, people draw support from their peers, particularly their uh their individual team members. So potentially it delays that. Process of normalising and accepting and just supporting each other in and. As I said, if someone is really struggling, might delay at our assessment of them, which would delay their support, which would potentially raise the potential of them. Uh developing. Some kind of psychological distress that might be avoided or at least minimised."

Another example is that it can impact on TRiM staff's confidence to fully understand the context of the traumatic incident, explained by Briony:

"This is gonna sound a bit waffly, but I didn't know what was coming up in the room. So it was a bit unpredictable, which I know ordinarily, of course, a lot of our work can be unpredictable, and that's fine. But in this situation, in order to be able to. I suppose respond appropriately. To the staff. I would rather have had more information. You know, I suppose I felt a bit insecure and uncontained because. I you know. We're offering a professional service, you know, and I suppose maybe its about me. You know that I wanted. I wanted to come across that I knew, I knew what had happened. It's respect isn't it, to know and to understand what somebody's going through and what's kind of brought them here today, so it's no different to kind of a therapeutic intervention in a way, although it isn't, you know. So something about, you know, feeling that I know enough in the room to be able to umm, come across I suppose, you know, genuine that I know, I understand what you've been through

before you walk in the room, you know. I know what's happened and I know what you're struggling with is that kind of not knowing?"

The impact of this can be in TRiM staff's confidence in providing the right support, feeling that they are respecting the staff members they are supporting and respond appropriately.

2.7 Hindering Category 7: Access to resources to implement and attend

Hindering category seven is 'access to resources to implement and attend', with a participant rate of 33.33%. The final category refers to the limited resources to implement TRiM such as access to safe and confidential spaces to facilitate in person interventions where you will not be interrupted. Briony refers to this as being a bit of a "battle" at times:

> "*There's been a couple of instances where I haven't been able to book a room, so you know where to do the assessment to ensure that you know the walls aren't paper thin. So where to be able to actually book a room where you know. You can ensure confidentiality and you know a safe space to meet and stuff, so sometimes that's been an issue. It's been an issue of, you know, you're overcome it, but it's been a bit of a battle to kind of book a room to be able to facilitate the assessment.*"

Participants also expressed that for staff they may have limited access to resources to be able access to suitable and sufficient technology: "*Potentially technology could be a barrier 'cause we're on teams right now. And teams well actually requires quiet a lot of computer memory to run. So not everyone has one, or has that advanced a computer…*" *(Nathaniel)*. On wards in particular where there is limited ability to access a computer staff may struggle to respond to emails when TRiM interventions are being set up. Also, in relation to this, staff may struggle to access TIBs that are run on Microsoft Teams when they are on shift.

The operational definitions and participation rates for the hindering categories are shown in table 2.4.

4.3 Wish List Categories

Three wish list (WL) categories were concluded from the critical incidents identified by participations. WL categories are things that participants felt may enhance the implementation of TRiM within the mental health service. The WL categories included the increase of TRiM human resources with allocated time, promotion or marketing, and a wider evaluation. The list of WL items, with operational definitions and participation rates' is provided in table 2.5 Below each WL item is described in detail alongside verbatim quotes chosen to illustrate the category.

3.1 Wish List Categories 1: More TRiM human resources with allocated time

The wish list category with the greatest participation rate (91.67%) was 'more TRiM human resources with allocated time'. This category highlights the desire for there to be more of a TRiM

human resource to meet the demands of the service (i.e., practitioners and managers, administration) so that more TRiM interventions can be provided: *"I think just having more people trained both as managers and practitioners. So there's more staff available…So more interventions could be delivered." (Helena).* Similar sentiments were expressed by many participants including Patricia:

> *"…I think just being able to kind of spread the load a little bit just so having more staff kind of involved in it I think would help…It's a really good thing to offer, but I'm just aware we had a business meeting just a month ago and it was something like 27 referrals we've had since the last meeting and I think 8 have been trimmed so there's only a small proportion and some don't get a response. And I think Olivia was saying it's about half and half between critical incident and TRiM at the moment, and I think that's purely down to just not having the staff to do it. Suppose a wish list would just be more staff."*

Participants recognise there is no point in just training more practitioners or managers without also solving the problem of allocated time. Without the allocated time in practitioners or manages dairies an increase in referrals cannot be accommodated. as illustrated by Briony:

> *"I think if we had more practitioners and practitioners on a rota that would help us to be able to respond to more TRiM referrals. Umm, because I don't think you can. We could have an extra 50 TRiM practitioners. But if those practitioners diaries rammed all the time, we're all gonna be saying sorry, can't help. So you could have, you could have enough practitioners. But because they're so tied up with the work they're involved in, no time and no space to do any assessments, and then the longer people go without actually implementing it. You know, I can, I can guess it affects people's confidence and the less likely they are to put the hand up to say actually you know, I'll do that assessment. And because it's like any training, isn't it? You know, if we, if we're not able for whatever reason to have a go and put the theory into practice, we lose our confidence, don't we?"*

The above quote also suggests that with no allocated time and not regularly providing TRiM interventions TRiM trained staff can feel de-skilled and as a result are less likely to volunteer their time to facilitate TRiM. Further suggestions to improve the human resources of the TRiM service included an on-call rota, or a dedicated TRiM team: *"Oh, if we had a magic wand, you know the argument might be let's just have a TRiM team. Let's stop, you know at the moment I'm doing a day job, and it's not part of my job description." (Grace).* Participants also felt that if they had more dedicated time they would be able to meet the needs of teams in a more flexible manner. For example, to be there on wards to facilitate attendance as Willow describes:

> *"Yeah, I mean I guess having some dedicated time would be very helpful and umm, having some dedicated time where you can actually go to the ward where someone is and say right, let's go and have half an hour, just go and have a coffee and check out how things are. Yeah, so that that would be very helpful rather than having to organise a meeting and which can be cancelled. And yeah. So being able to just go to the ward. And to do it quickly, I think it would be very helpful and. I think having the same people that you know a sort of dedicated team, I think that would be very helpful…"*

A unique selling point of TRiM described within the research literature is that it is of its peer led nature (Greenberg et al., (2011) and participants identified a wish to have a wider variety of

professionals trained in TRiM. Participants recognised that staff support services are often facilitated and led by psychology trained clinicians, as described by Grace:

> *"More trained practitioners and a sense in which. Hmm. It is. Currently it is still very heavily psychology led. It is not a psychology intervention…And I wouldn't want to see it carry on, you know, being, I get that it has to be held somewhere. Olivia does a fantastic job and Olivia has got her boundaries really really well worked out and all the rest of it. But it's just it's a curious model to offer the organisation that it's so heavily psychology, uhm, influenced. So, might, that would be my view.*
>
> *R: Yeah, so it sounds like having more of a range of backgrounds.*
>
> *Grace: Well, it's designed as a peer led support program…So. I would like to see it better reflecting that I suppose."*

To have a wider range of professionals trained and offering TRiM interventions would allow the service to be better in line with the TRiM framework. It would also mean that the TRiM service would more appropriately reflective of the variety of professionals that may access the service; and as previous helping category "peer-led" suggests, may increase the likelihood of a wider range of staff accessing the service who might otherwise not.

3.2 *Wish List Item 2: Promotion and marketing*

The wish list category with the second highest participant percentage rate (83.33%) was 'promotion and marketing' which refers to raising awareness of TRiM to increase the likelihood of referrals and to dispel any unhelpful belief of what TRiM is. Participants suggested several ways in help promote TRiM. One such suggested method was having TRiM representatives in teams that would help teams identify if an incident would warrant a referral to TRiM, as illustrated by Willow:

> *"I think if there was a TRiM representative in every team, I think that would be very helpful. So that not that they would do the TRiMs, but that they would be able to keep chipping away going or is that a TRiM incident? Is that a TRiM incident, you know, just to do that."*

Other suggestions were regular and reoccurring adverts on the services' intranet, email reminders, and pop-up events that had flyers and promotional gifts such as mugs etc. Participants felt that by having these regular reminders of the TRiM service it would ensure those who would benefit from a referral to TRiM are aware of the service and help to embed it within the service. Similarly, Nathaniel also suggested having it as a regular meeting agenda item in clinical governance meetings so that it remains on higher management radar:

> *"…I talked about clinical governance, for instance, but I think it's a good it's a good a meeting as any, is if that was a standing item it was routinely discussed it would stay on the radar. Which would then mean that from the directors to the associate directors to the service managers to the managers. That everyone would know that is a key part of the business really."*

The wish list item also highlighted that managers and practitioners believed it to be imperative to increase the understanding of what TRiM is, to normalise staff seeking support and highlight the differences between TRiM and debriefs and investigation processes within the mental health service, as outlined Leonie:

> "But I do think by rolling it out, by being a normal thing. The teams properly understanding that this is peer support, nothing to do with the normal processes and debriefs and everything else that goes on this. It's not going on your personal record. This is completely different and how much, although we explain that how much people know or believe that I don't know. But I think with the proper rollout, I think you know I think it is education and people are more aware it's more acceptable to go isn't it because more people are going and it's not like a bad thing. So I I do think that will be a, you know, make a difference when we can actually do get to that point."

The importance of this is illustrated by the above quote. Participants reflected that staff are not always sure how to make use of the intervention, may not feeling safe enough to engage due to fear of the service's investigation processes, they may have poor connotations of the phrase "debrief". The hindering categories of 'lack of awareness and understanding of TRiM on a system level and staff team level' explores this in more detail.

3.3 Wish List Item 3: Wider evaluation

A number of participants (41.67%) felt that an evaluation of TRiM within the service would be helpful to identify referral rates, staff outcomes, what those who have received TRiM find helpful and not helpful, and get a better overview of the needs of the service, as Briony suggests:

> "You know what have we learned so far? You know? Or maybe something about just thinking on my feet and maybe something about, you know, we started TRiM we introduced TRiM into the trust in so and so date from that date we've had so many referrals from those referrals we've done so many TIBs from those TIBs we've had so many assessments. You know, and a bit of, I suppose, a bit of an evaluation really as well a bit of follow up as to. You know. What we've been doing, and I mean we hear we hear that people find it helpful, but you know, it'd be helpful to know how many people find it helpful and you know, is there anything that we could be doing differently? So I suppose a bit of an evaluation really..."

Participants also felt that the evaluation would also identify the elements of TRiM that have been successful and where the service may need adaptation such as the referral process, so that the service better fit the needs of the mental health service as a whole, as illustrated by Grace:

> "I think it would be really useful for us to have a step back and a look at the model as a whole to see what works. Which bits of it worked really well for us and which bits of it actually struggles to, uhm, do exactly what it says on the tin...I think some of the benefits would be around actually, having a version of the model, that works really well for us instead of us trying to squeeze ourselves, square pegs round holes, instead of us trying to squeeze ourselves into a model undoubtedly works extremely well in in some services, we might have a better fit. Now, admittedly, we would need to be very careful that we weren't losing anything in that

translation, um, but other than that, I think it could be, you know it could It could be a real benefit."

Overall, the identified wish list (WL) categories were reflective of the hindering categories identified by participants who were able to suggest practical and meaningful suggestions on ways to manage barriers and move forward with the implementation of TRiM to improve on the current situation.

The operational definitions and participant rates for the wish list categories are shown in Table 2.5.

2.5 Key Themes

Across the helping, hindering and wish list categories, four key themes were derived which capture and summarise the 18 categories for the implementation of TRiM within a mental health service.

1. Resourcing and allocated time
2. Promotion and normalisation of seeking support
3. Communication and leadership
4. Shaping and developing TRiM to meet needs of the organisation

Due to the number of facilitators, barriers and wish list items being identified meeting the minimum criteria for participant rate 25% and above, all the critical items identified were reviewed to identify themes across them in order to summaries the themes in the 4 key findings. The step to include key finding is not typical for ECIT, as such in open to researchers influence, however, by summarising the findings in this way provides a useful method of feedback and highlight wider themes regarding the implementation of TRiM. Table 2.6 shows the key findings, with descriptions and linked to the relevant categories. These key findings are discussed in the context of the wider research literate below in the discussion.

Table 2.7
Key Themes

	Key Themes	Description	Helping Categories	Hindering Categories	Wish List Categories
1.	Resourcing and allocated time	Ensuring that there are enough resources including staff, allocated time, materials, and administration support to provide an effective TRiM service.	Good TRiM resources and materials	Insufficient time for staff to engage or organise TRiM Limited TRiM managers and practitioners Access to resources to implement and attend	More TRiM human resources with allocated time
2.	Promotions and normalisation to seek support	Using promotion to raise awareness of TRiM and	Promotion through educating and word of mouth	Team culture	Promotion and marketing

Key Themes	Description	Helping Categories	Hindering Categories	Wish List Categories
	normalise seeking support after traumatic incidents to ensure that staff receive support.		Lack of awareness and understanding of TRiM on a system level and staff team level Staff stigma	
3. Communication and leadership	The importance of good communication and leadership in providing a effective and time efficient service for staff teams and a supportive environment for TRiM staff.	Coordination by TRiM manager and TRiM Lead Team support, supervision, and professional development Team managers supporting TRiM in the service	Limited TRiM referral information	
4. Shaping and developing the TRiM service to meet needs of the organisation	Shaping and developing the TRiM service so that it remains true to the TRiM model but is flexible to meet needs of the organisation and the staff it supports.	Peer-led Clear structure and procedures to TRiM referral and intervention Flexibility to meet service needs		Wider evaluation

2.6 Discussion

This research project addressed the question of what are the critical incidents that impact the implementation of Trauma Risk Management in mental health services. Critical incidents refer to what helps, what hinders and what may be helpful in the future. In order to answer this question Enhanced Critical Incident Technique (ECIT; Flanagan, 1954; Butterfield et al., 2009) was utilised, which proved a useful methodology to better understand the implementation of TRiM. Particularly as it identifies critical factors, those that help, hinder, and items that are wished for which implementation science tells us are crucial to increasing the likelihood of a smooth, sustainable, and cost-effective change to any service (Geerligs et al., 2018; Rankin et al., 2015; Wajanga et a., 2014). For the current project clinicians who provide TRiM in the service were interviewed and from that data a total of 18 categories were identified (8 helping, 7 hindering and 3 wish list). Across the 18 categories, four key important themes were noted:

- Resourcing and allocated time

- Promotion and normalisation to seek support
- Communication and leadership
- Shaping and developing the TRiM service to meet needs of the organisation

Problems with workforce growth has meant that NHS services have not kept up with the increasing demands and has led to staff shortages and chronic excessive workloads (Kings Fund, 2021; Department of Health, 2019). The first key finding, ensuring that there are enough resources including staff, allocated time, materials, and administration support to provide an effective TRiM service, is therefore not surprising. Participants identified that increasing the numbers of TRiM managers and practitioners is not sufficient and that for the service to be able to meet the number of referrals TRiM staff also need allocated time to deliver the service. Better job planning, which has identified within the NHS long term plan, could be a useful tool in addressing this barrier (NHS, 2019).

Research has found staff may view mental health problems as a weakness, and that they may believe that they should be resilient and able to cope (Tay et al., 2017; Rodrigues et al., 2021). They may experience shame, embarrassment, and the fear of being judged negatively by other accumulating in staff being unwilling to seek help (Tay et al., 2017). TRiM, at its core is a staff support service, non-surprising then, when implementing TRiM, the second key finding recognises the barrier of service culture and self-stigma. The findings also suggested the importance of raising awareness of TRiM and normalising seeking support after traumatic incidents to ensure that staff receive support. Similarly, on a national level, prompted by COVID-19 pandemic, the UK government and associated healthcare bodies have also highlighted the importance of a cultural change and tackling the self-stigma by improving the offer and awareness of support to staff, asserting it should continue post pandemic (House of Commons, 2021; Iacobucci, 2021).

Likewise, Mind (2021) in their 'Supporting the mental health of NHS staff' guide identified that the line managers in the NHS hold an important role in shifting the culture to endorse help-seeking behaviours by opening up conversations around mental health. Mind (2021) also suggests managers develop *Wellness Action Plans,* which identifies practical steps to support staff to stay well at work. Similarly, the importance of leadership was also found in the current project, with the importance of good communication and leadership in the implementation of TRiM. Consistent with the NHS Change Model (NHS, 2018), participants identified good leadership as important in providing an effective and time efficient TRiM service for staff teams and cultivating a supportive environment for TRiM staff.

The current study's findings are consistent with the research literature exploring the implementation of staff support services. For example, with the research of Byron et al., (2015) who explored the barriers and facilitators to implementing an adapted version of Mindfulness-Based Stress Reduction

(MBSR) for healthcare staff. Similar, to the current research project, Byron et al., (2015) found facilitating variables such as securing initial buy-in, logistical factors including scheduling and location, organizational leadership at several levels, staffs prior experience with mindfulness, the identification of local champions. Barriers identified were insufficient time and staff cover for attending training sessions, preparation time, and ensuring the work did not go into personal time. Similarly, Duggan and Julliard (2018) found several conditions as necessary for the successful implementation of a Mindfulness Moment Initiative (MMI) in a healthcare setting. These conditions included: additional support at the institutional level, including leadership support, more education around the benefits of mindfulness, additional mindfulness moment facilitators from a wider range of professional backgrounds. The key findings also align with Quirk et al., (2018) who explored barriers and facilitators to implementing workplace health and wellbeing services from the perspective of senior leaders in NHS services. The authors found facilitators of developing a strategic approach to implementation, effective communication and advertisement, being creative and innovative with resources and conducting a needs analysis and evaluation before, during and after implementation, incentives such as Commissioning for Quality and Innovations (CQUIN) to facilitate an organisational culture and structure that promotes and supports a healthy workforce Quirk et al., (2018). Barriers included financial aspects such as staff shortages, characteristics of the NHS workplace such as shift work, time restraints and multi-sites, a perceived lack of staff motivation or personal responsibility Quirk et al., (2018).

The final key finding highlighted the importance of shaping and developing TRiM so that it remains true to the TRiM model but also flexible to meet the needs of the organisation and the staff it supports. When considering the key findings of the current project in the context of TRiM implementation literature participants highlighted the helpful implementation factor of and the importance of ensuring the service is peer-led and reflects the variety of the professionals who may access the service. Being peer-led and providing the universality factor has been suggested to be a critical factor in effective early post-trauma interventions (Hawker et al., 2011) and is viewed as a positive benefit within TRiM research (Greenberg et al., 2011). The current study's findings are consistent with Lakey et al., (2018) who interviewed staff as part of the Royal National Lifeboat Institution (RNLI) TRiM pilot. Facilitators to implementation highlighted were the dedication and support of TRiM managers, the support and skilful ability of TRiM practitioners to engage staff, well developed training and materials, and the structured approach to delivering TRiM. Barriers, framed as improvements to implementing TRiM suggested by the pilot were ensuring that access to TRiM was fair across the board and easier to access by ensuring all those affected are invited and by raising awareness of the service. They also identified the importance of local management fully understanding TRiM, ensuring there are enough practitioners to meet the demand of the service and making time for keeping up to date with training. More recently, Flaherty and O'Neil (2021) described

the development of their NHS services staff support service, which included implementing TRiM as a response to COVID-19. Although limited information was provided regarding how this was successfully implemented into the service the aspects that were explored by the authors closely reflect the key findings of the current research. For example, aligning closely with the model in terms of time frames and ensuring a quick response to referrals and recognising the importance of supporting the staff providing TRiM. They also highlighted that as the service was responding to the pandemic they increased the human resources from a wide range of professional backgrounds of TRiM.

When reviewing the outcomes of the research in relation to the Exploration, Preparation, Implementation, Sustainment (EPIS) framework (Aarons et al., 2011), the current project identified numerous critical incidents in the implementation of TRiM in a mental health service and offers encouragement to the TRiM team that what they are doing is working. Each of the four phases of the EPIS framework are influenced by outer and inner context factors. The outer context as it suggests relates to factors external to the organisation such as the policy environment and the target individuals in this case staff that may be accessing TRiM. Several the of the key findings could be considered outer context factors for example, participants recognised the impact individual, staff factors such as self-stigma felt for accessing support services. The inner context refers to the factors within an organisation such as leadership, resources, and direct service providers in this case TRiM managers and practitioners. The key finding relating the importance of good communication and leadership could be considered an inner context factor. For example, participants identified that the coordination and leadership by TRiM manager and TRiM Lead, impacts on how successfully TRiM is implemented in the service. Another key finding that could be influenced by outer and inner factors is the importance of ensuring resources and allocated time. On an outer factor level, the impact of social policy and funding can impact on the budget for staffing. As for inner factor level, the amount of budget provided for TRiM will depend on the management within each NHS service.

6.1 Clinical Implications

Making changes in healthcare systems is complex, as such, systems theory may offer a useful lens of understanding. For example, the Five Ecological Systems (Bronfenbrenner, 1977) highlights the interdependent interactions between individuals and contextual systems, which can be a useful tool when evaluating for example, health-promotion interventions, as it also includes an understanding of the policy, community, organisational, and social context to changing behaviour (Eriksson, et al., 2018; Salmon et al., 2020). Applying this model to the current research, it may be useful for the team to review the key finding of resourcing and allocated time in the context of the many layers of influence, such as the wider political landscape in terms of government funding for the NHS. When considering clinical implications, it may also be useful to review the outcomes of the research in relation to the Exploration and Preparation phases of the EPIS framework. For example,

the service may wish to consider the wish list items and if these could be feasibly incorporated into the service. For example, some thought could be given to how TRiM staff may be able to within their job plan allocate time to providing TRiM rather than it being additional to their routine role. It may also be useful for the service to consider those barriers that participants identified that were not covered by the wish list items such as the limited TRiM referral information. When considering the broader clinical implications other mental health services that wish to implement TRiM within their service can use the four key findings of the current research as a basis to help support successful implementation. The results offer practical methods such as ensuring time is allocated to TRiM staff and shaping material resources to meet the needs of the service, to which may enhance the application of the model to their service.

6.2 Research Implications

The current project provides a useful contribution to the wider research literature on the implementation of TRiM but also specifically to NHS organisations. The project could go on to support a wider evaluation of TRiM reviewing the critical incidents at a later stage of implementation. It may also be helpful to consider the critical incidents in relation to staff mental health well-being outcomes following TRiM intervention. More specifically outcomes related to self-stigma and team culture may be useful. Research exploring the experience of being a TRiM practitioner or manager may also offer further useful contributions to the TRiM research literature as it may highlight the impact of providing TRiM on their wellbeing. The current research project also highlights the usefulness of the application of ECIT to implementation research. The use of ECIT in the current project provided rich and comprehensive data in the barriers and facilitators for implementing TRiM. Therefore, this approach may be useful for others implementing new and novel services and it provides clear and specific factors that could assist in successful implementation.

6.3 Strengths & Limitations

The sample size is relatively small from one NHS organisation potentially impacting on the generalisability of the study's findings. However, this is the first known research exploring the factors impacting on the implementation of TRiM within an NHS mental health service and makes a novel contribution to the research literature. The key findings of the research also aligns with broader research regarding implementing staff support services, which suggests that the findings could be considered relevant to other organisations, both NHS and non-NHS, that may wish to implement TRiM for their staff. Potential limitations to the methodology of Enhanced Critical Incident Technique (ECIT) such as the framework and format of the interview, can restrict, to a certain extent, what participants may talk about. It also directs participants to very specific content, i.e., helpful, hindering and wish list factors. However, ECIT allowed the researcher to sufficiently answer the research question as it offers a rigorous approach to producing validated and practiced insights from

those who have implemented TRiM. It should also be noted that the participants that agreed to be interviewed are staff that provide the TRiM service within the trust and volunteer their time to providing this service. Therefore, they may have a vested interested in the service doing well. This may have affected the findings of the research with a particular impact on the identified barriers and wish list items that would need to be considered regarding the implementation on TRiM. However, overall, as the research interview also invited participants to consider the factors that were facilitators, or beneficial to the implementation on TRiM as such it is felt that this may mitigate some of the potential biases.

6.4 Conclusion

Overall, the four key findings, resourcing and allocated time, promotion and normalisation to seek support, communication and leadership and shaping and developing the TRiM service to meet needs of the organisation, provide useful insight into the implementation of TRiM in mental health services for those mental health professionals who have experienced a traumatic incident at work. It identified specific facilitators, barriers, and wish list items for implementing TRiM that may also be useful for others mental health services or other organisations that wish to also provide TRiM for their staff teams.

2.7 References

Aarons, G. A., Fettes, D. L., Sommerfeld, D. H., & Palinkas, L. A. (2012). Mixed methods for implementation research: application to evidence-based practice implementation and staff turnover in community-based organizations providing child welfare services. Child maltreatment, 17(1), 67-79. https://doi.org/10.1177/1077559511426908

Aarons, G. A., Green, A. E., Trott, E., Willging, C. E., Torres, E. M., Ehrhart, M. G., & Roesch, S. C. (2016). The roles of system and organizational leadership in system-wide evidence-based intervention sustainment: a mixed-method study. Administration and Policy in Mental Health and Mental Health Services Research, 43(6), 991-1008. https://doi.org/10.1007/s10488-016-0751-4

Aarons, G. A., Hurlburt, M., & Horwitz, S. M. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. Administration and policy in mental health and mental health services research, 38(1), 4-23.https://doi.org/10.1007/s10488-010-0327-7

American Psychiatric Association. Committee on Disaster, & Civil Defense. (1954). Psychological first aid in community disasters.

Balas, E. A., & Boren, S. A. (2000). Managing clinical knowledge for health care improvement. Yearbook of medical informatics, 9(01), 65-70. DOI: 10.1055/s-0038-1637943

Blacklock, E. (2012). Interventions following a critical incident: Developing a critical incident stress management team. Archives of Psychiatric Nursing, 26.

Bloch, R. M., Saeed, S. A., Rivard, J. C., & Rausch, C. (2006). Lessons learned in implementing evidence-based practices: Implications for psychiatric administrators. Psychiatric Quarterly, 77(4), 309-318. https://doi.org/10.1007/s11126-006-9016-9

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American psychologist, 32*(7), 513. https://doi.org/10.1037/0003-066X.32.7.513

Borsky, A., Zhan, C., Miller, T., Ngo-Metzger, Q., Bierman, A S., & Meyers, D. (2018). Few Americans receive all high-priority, appropriate clinical preventive services. Health Affairs, 37(6), 925–928. https://doi.org/10.1377/hlthaff.2017.1248

Butterfield, L. D., Maglio, A. S. T., Borgen, W. A., & Amundson, N. E. (2009). Using the enhanced critical incident technique in counselling psychology research. Canadian Journal of Counselling and Psychotherapy, 43(4). https://cjc-rcc.ucalgary.ca/article/view/58863

Byron, G., Ziedonis, D. M., McGrath, C., Frazier, J. A., deTorrijos, F., & Fulwiler, C. (2015). Implementation of mindfulness training for mental health staff: Organizational context and stakeholder perspectives. Mindfulness, 6(4), 861-872. https://doi.org/10.1007/s12671-014-0330-2

Chell, E. (1998). Critical incident technique. In G. Symon & C. Cassell (Eds.), Qualitative methods and analysis in organizational research: A practical guide (pp. 51–72). Sage Publications Ltd.

Cowie, J., Nicoll, A., Dimova, E. D., Campbell, P., & Duncan, E. A. (2020). The barriers and facilitators influencing the sustainability of hospital-based interventions: a systematic review. BMC health services research, 20(1), 1-27. https://doi.org/10.1186/s12913-020-05434-9

Czosnek, L., Lederman, O., Cormie, P., Zopf, E., Stubbs, B., & Rosenbaum, S. (2019). Health benefits, safety and cost of physical activity interventions for mental health conditions: A meta-review to inform

translation efforts. Mental Health and Physical Activity, 16, 140-151. https://doi.org/10.1016/j.mhpa.2018.11.001

Damschroder, L. J., & Hagedorn, H. J. (2011). A guiding framework and approach for implementation research in substance use disorders treatment. Psychology of addictive behaviors, 25(2), 194. https://doi.org/10.1037/a0022284

Deahl, M., Gillham, A., Thomas, J., Searle, M., & Srinivasan, M. (1994). Psychological sequelae following the gulf war factors associated with subsequent morbidity and the effectiveness of psychological debriefing. British Journal of Psychiatry, 65, 60-65. DOI:10.1192/bjp.165.1.60

Debesay, J., Kartzow, A. H., & Fougner, M. (2021). Healthcare professionals' encounters with ethnic minority patients: The critical incident approach. Nursing Inquiry, e12421. https://doi.org/10.1111/nin.12421

Department of Health. (2019). The NHS Long Term Plan. www.longtermplan.nhs.uk.

Duggan, K., & Julliard, K. (2018). Implementation of a mindfulness moment initiative for healthcare professionals: perceptions of facilitators. Explore, 14(1), 44-58. DOI: 10.1016/j.explore.2017.09.009

Durand, M. (2016). Employing critical incident technique as one way to display the hidden aspects of post-merger integration. International Business Review, 25(1), 87-102. https://doi.org/10.1016/j.ibusrev.2015.05.003

Dyregrov, A. (1989). Caring for helpers in disaster situations: Psychological debriefing. Disaster management, 2(1), 25-30.

Dyregrov, A., & Regel, S. (2012). Early interventions following exposure to traumatic events: implications for practice from recent research. Journal of Loss and Trauma, 17(3), 271-291. https://doi.org/10.1080/15325024.2011.616832

Eccles, M. P., Weijer, C., & Mittman, B. (2011). Requirements for ethics committee review for studies submitted to Implementation Science. Implementation science, 6(1), 1-3. https ://doi. org/10.1186/1748-5908-1-1.

Eriksson, M., Ghazinour, M., & Hammarström, A. (2018). Different uses of Bronfenbrenner's ecological theory in public mental health research: what is their value for guiding public mental health policy and practice?. *Social Theory & Health*, *16*(4), 414-433. https://doi.org/10.1057/s41285-018-0065-6

Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., Wallace, F., Burns, B., ... & Shern, D. (2005). Implementation research: A synthesis of the literature.

Flaherty, M., & O'Neil, V. E. (2021). Psychological peer support for staff: implementing the Trauma Risk Management model in a hospital setting. Nursing Management, 28(5). doi: 10.7748/nm.2021.e1977

Flanagan, J. C. (1954). The critical incident technique. Psychological bulletin, 51(4), 327. https://doi.org/10.1037/h0061470

Fox, J. H., Burkle, F. M., Bass, J., Pia, F. A., Epstein, J. L., & Markenson, D. (2012). The effectiveness of psychological first aid as a disaster intervention tool: research analysis of peer-reviewed literature from 1990-2010. Disaster medicine and public health preparedness, 6(3), 247-252. https://doi.org/10.1001/dmp.2012.39

Frappell-Cooke, W., Gulina, M., Green, K., Hacker Hughes, J., & Greenberg, N. (2010). Does trauma risk management reduce psychological distress in deployed troops?. Occupational Medicine, 60(8), 645-650. https://doi.org/10.1093/occmed/kqq149

Geerligs, L., Rankin, N. M., Shepherd, H. L., & Butow, P. (2018). Hospital-based interventions: a systematic review of staff-reported barriers and facilitators to implementation processes. Implementation Science, 13(1), 1-17. https://doi.org/10.1186/s13012-018-0726-9

Green, L. W. (2008). Making research relevant: if it is an evidence-based practice, where's the practice-based evidence?. Family practice, 25(suppl_1), i20-i24., https ://doi.org/10.1093/fampr a/cmn05 5.

Greenberg, N., Dow, C., & Bland, D. (2009). Psychological risk assessment following the terrorist attacks in New York in 2001. Journal of mental health, 18(3), 216-223. https://doi.org/10.1080/09638230802053391

Greenberg, N., Langston, V., & Jones, N. (2008). Trauma risk management (TRiM) in the UK Armed Forces. BMJ Military Health, 154(2), 124-127. http://dx.doi.org/10.1136/jramc-154-02-11

Greenberg, N., Langston, V., Everitt, B., Iversen, A., Fear, N. T., Jones, N., & Wessely, S. (2010). A cluster randomized controlled trial to determine the efficacy of Trauma Risk Management (TRiM) in a military population. Journal of traumatic stress, 23(4), 430-436. https://doi.org/10.1002/jts.20538

Greenberg, N., Langston, V., Iversen, A. C., & Wessely, S. (2011). The acceptability of 'Trauma Risk Management'within the UK armed forces. Occupational medicine, 61(3), 184-189. https://doi.org/10.1093/occmed/kqr022

Gremler, D. D. (2004). The critical incident technique in service research. Journal of service research, 7(1), 65-89. https://doi.org/10.1177/1094670504266138

Grimshaw, J. M., Eccles, M. P., Lavis, J. N., Hill, S. J., & Squires, J. E. (2012). Knowledge translation of research findings. Implementation science, 7(1), 1-17. https://doi.org/10.1186/1748-5908-7-50

Gunasingam, N., Burns, K., Edwards, J., Dinh, M., & Walton, M. (2015). Reducing stress and burnout in junior doctors: The impact of debriefing sessions. Postgraduate Medical Journal, 91, 182-187 http://dx.doi.org/10.1136/postgradmedj-2014-132847

Hargrave, A. (2006). InterHealth and trauma management. Developing Mental Health, 4, 1-2.

Hawker, D. M., Durkin, J., & Hawker, D. S. (2011). To debrief or not to debrief our heroes: that is the question. Clinical psychology & psychotherapy, 18(6), 453 -463. https://doi.org/10.1002/cpp.730

Holmes, A. G. D. (2020). Researcher Positionality--A Consideration of Its Influence and Place in Qualitative Research--A New Researcher Guide. *Shanlax International Journal of Education*, *8*(4), 1-10. https://orcid.org/0000-0002-5147-0761

House of Commons Health and Social Care Committee. (2021) Workforce burnout and resilience in the NHS and social care: second report of session 2021-22. https://committees.parliament.uk/work/494/workforce-burnout-and-resilience-in-the-nhs-and-social-care

Hunt, E., Jones, N., Hastings, V., & Greenberg, N. (2013). TRiM: An organizational response to traumatic events in Cumbria Constabulary. Occupational Medicine, 63, 549-555. https://doi.org/10.1093/occmed/kqt113

Iacobucci, G. (2021). Staff burnout: MPs demand "total overhaul" of NHS workforce planning. https://doi.org/10.1136/bmj.n1461

Jones, N., Roberts, P., & Greenberg, N. (2003). Peer-group risk assessment: a post-traumatic management strategy for hierarchical organizations. Occupational Medicine, 53(7), 469-475. https://doi.org/10.1093/occmed/kqg093

Kenardy, J., Webster, R., Lewin, T., Cart, V., Hazeli, P., & Carter, G. (1996). Stress debriefing and patterns of recovery following a natural disaster. Journal of Traumatic Stress, 9, 37-49. https://doi.org/10.1002/jts.2490090105

King, N., & Horrocks, C. (2010). Interviews in qualitative research. Sage.

Kline, R. (2019). Leadership in the NHS. BMJ Leader, leader-2019. doi:10.1136/leader-2019-000159

Kothari, R., Forrester, A., Greenberg, N., Sarkissian, N., & Tracy, D. K. (2020). COVID-19 and prisons: Providing mental health care for people in prison, minimising moral injury and psychological distress in mental health staff. doi: 10.1177/0025802420929799

Lakey et al., (2018). Trauma Risk Management: Evaluation of the RNLI pilot. https://www.bl.uk/britishlibrary/~/media/bl/global/social-welfare/pdfs/non-secure/t/r/a/trauma-risk-management-evaluation-of-the-rnli-pilot-18.pdf

Liberati, E., Richards, N., Willars, J., Scott, D., Boydell, N., Parker, J., ... & Jones, P. B. (2021). A qualitative study of experiences of NHS mental healthcare workers during the Covid-19 pandemic. BMC psychiatry, 21(1), 1-12. https://doi.org/10.1186/s12888-021-03261-8

Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., & Maguen, S. (2009). Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. Clinical psychology review, 29(8), 695-706. https://doi.org/10.1016/j.cpr.2009.07.003

McHugh, R. K., & Barlow, D. H. (2010). The dissemination and implementation of evidence-based psychological treatments: A review of current efforts. American Psychologist, 65(2), 73–84. https://doi.org/10.1037/a0018121

Mind (2021). Supporting the mental health of NHS staff: The role of NHS line managers in supporting better mental health. https://cdn.mentalhealthatwork.org.uk/wp-content/uploads/2021/07/15134830/BMA-Stigma-Resource-2-v2.pdf

Mitchell, J. T. (1983). When disaster strikes ... the critical incident debriefing process. Journal of the Emergency Medical Services, 8, 36-39.

Mitchell, J.T. & Everly, G.S. (1996). Critical incident stress debriefing – an operations manual for the prevention of traumatic stress among emergency services and disaster workers (2nd ed. revised). Ellicott City, MD: Chevron.

Moir T (2018) Why Is Implementation Science Important for Intervention Design and Evaluation Within Educational Settings? Front. Educ. 3:61. doi: 10.3389/feduc.2018.00061

Moullin, J. C., Dickson, K. S., Stadnick, N. A., Rabin, B., & Aarons, G. A. (2019). Systematic review of the exploration, preparation, implementation, sustainment (EPIS) framework. Implementation Science, 14(1), 1-16. https://doi.org/10.1186/s13012-018-0842-6

NHS. (2010). Cost of violence against NHS staff: A report summarising the economic cost to the NHS of violence against staff 2007/8Service, NHS Counter Fraud Service: N. S. M. London: NHS Business Service Authority.

NHS. (2019). *NHS Long Term Plan.* https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf

NHS. (2020). *NHS Staff Survey National Results NHS Staff Survey.* https://www.nhsstaffsurveys.com/results/national-results/

NHS. (2018). The Change Model Guide. https://www.england.nhs.uk/publication/the-change-model-guide/

Nilsen, P. (2015). Making sense of implementation theories, models and frameworks. Implementation Science, 10(1), 1-13. https://doi.org/10.1186/s13012-015-0242-0

O'Connor, K., Neff, D. M., & Pitman, S. (2018). Burnout in mental health professionals: A systematic review and meta-analysis of prevalence and determinants. European Psychiatry, 53, 74-99. https://doi.org/10.1016/j.eurpsy.2018.06.003

Pappa, S., Barnett, J., Berges, I., & Sakkas, N. (2021). Tired, worried and burned out, but still resilient: a cross-sectional study of mental health workers in the UK during the COVID-19 pandemic. International Journal of Environmental Research and Public Health, 18(9), 4457. https://doi.org/10.3390/ijerph18094457

Proctor, E. K., Landsverk, J., Aarons, G., Chambers, D., Glisson, C., & Mittman, B. (2009). Implementation research in mental health services: an emerging science with conceptual, methodological, and training challenges. Administration and Policy in Mental Health and Mental Health Services Research, 36(1), 24-34. https://doi.org/10.1007/s10488-008-0197-4

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., ... & Hensley, M. (2011). Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. Administration and policy in mental health and mental health services research, 38(2), 65-76. https://doi.org/10.1007/s10488-010-0319-7

Quirk, H., Crank, H., Carter, A., Leahy, H., & Copeland, R. J. (2018). Barriers and facilitators to implementing workplace health and wellbeing services in the NHS from the perspective of senior leaders and wellbeing practitioners: a qualitative study. BMC Public Health, 18(1), 1-14. https://doi.org/10.1186/s12889-018-6283-y

Rankin, N. M., Butow, P. N., Thein, T., Robinson, T., Shaw, J. M., Price, M. A., ... & Grimison, P. (2015). Everybody wants it done but nobody wants to do it: an exploration of the barrier and enablers of critical components towards creating a clinical pathway for anxiety and depression in cancer. BMC Health Services Research, 15(1), 1-8. https://doi.org/10.1186/s12913-015-0691-9

Raphael, B., & Wilson, J.P. (Eds.). (2000). Psychological debriefing: Theory, practice and evidence. Cambridge, England: Cambridge University Press.

Regehr, C., Hill, J. (2001). Evaluating the efficacy of crisis debriefing groups. Social Work With Groups, 23, 69-79. doi: 10.1300/J009v23n03_06

Renwick, L., Lavelle, M., Brennan, G., Stewart, D., James, K., Richardson, M., ... & Bowers, L. (2016). Physical injury and workplace assault in UK mental health trusts: An analysis of formal reports. International journal of mental health nursing, 25(4), 355-366. https://doi.org/10.1111/inm.12201

Richards, M., & Bedi, R. P. (2015). Gaining perspective: How men describe incidents damaging the therapeutic alliance. Psychology of Men & Masculinity, 16(2), 170.

Richins, M. T., Gauntlett, L., Tehrani, N., Hesketh, I., Weston, D., Carter, H., & Amlot, R. (2019). Scoping Review: Early Post-Trauma Interventions in Organisations. Commissioned by Public Health England, The British Psychological Society, and College of Policing. https://www.bps.org.uk/sites/bps.org.uk/files/Member%20Networks/Sections/Crisis/CDT%20Scoping%20Review%20Early%20Post%20Trauma%20Interventions%20in%20Organisations%20Report_09052019%20FINAL.pdf

Rodrigues, N. C., Ham, E., Kirsh, B., Seto, M. C., & Hilton, N. Z. (2021). Mental health workers' experiences of support and help-seeking following workplace violence: A qualitative study. Nursing & Health Sciences, 23(2), 381-388. https://doi.org/10.1111/nhs.12816

Royal College of Physicians (2015). Work and wellbeing in the NHS: why staff health matters to patient care. London, UK. https://www.rcplondon.ac.uk/guidelines-policy/work-and-wellbeing-nhs-why-staff-health-matters-patient-care

Salmon, J., Hesketh, K., Arundell, L., Downing, K., & Biddle, S. (2020). Changing Behavior Using Ecological Models. In M. Hagger, L. Cameron, K. Hamilton, N. Hankonen, & T. Lintunen (Eds.), *The Handbook of Behavior Change* (Cambridge Handbooks in Psychology, pp. 237-250). Cambridge: Cambridge University Press. doi:10.1017/9781108677318.017

Sanson-Fisher, R. W., D'Este, C. A., Carey, M. L., Noble, N., & Paul, C. L. (2014). Evaluation of systems-oriented public health interventions: alternative research designs. Annual Review of Public Health, 35, 9-27. https ://doi. org/10.1146/annur ev-publh ealth -03201 3-18244 5.

Scanlan, J. N., & Still, M. (2013). Job satisfaction, burnout and turnover intention in occupational therapists working in mental health. Australian occupational therapy journal, 60(5), 310-318. https://doi.org/10.1111/1440-1630.12067

Smith, J, A., Flowers, P & Larkin, M. (2009). Interpretative phenomenological analysis: theory, method and research. Sage, London.

Smith, J. A., & Osborn, M. (2015). Interpretative phenomenological analysis as a useful methodology for research on the lived experience of pain. British journal of pain, 9(1), 41-42. https://doi.org/10.1177/2049463714541642

Smith, J. A., Flowers, P., & Larkin, M. (2009).Interpretative phenomenological analysis: Theory, method and research. London: Sage

Tay, S., Alcock, K., & Scior, K. (2018). Mental health problems among clinical psychologists: Stigma and its impact on disclosure and help-seeking. Journal of Clinical Psychology, 74(9), 1545-1555. https://doi.org/10.1002/jclp.22614

The Kings Fund (2021). Naming the issue: chronic excessive workload in the NHS. https://www.kingsfund.org.uk/blog/2021/06/naming-issue-chronic-excessive-workload-nhs#comments-top

The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness. (2017) Annual Report: England, Northern Ireland, Scotland and Wales. University of Manchester. https://documents.manchester.ac.uk/display.aspx?DocID=37580

The National Institute for Health and Care Excellence. (2005) Post-traumatic stress disorder. (Clinical Guideline No. 116). https://www.nice.org.uk/guidance/ng116/resources/posttraumatic-stress-disorder-pdf-66141601777861

Theobald, S., Brandes, N., Gyapong, M., El-Saharty, S., Proctor, E., Diaz, T., ... & Peters, D. H. (2018). Implementation research: new imperatives and opportunities in global health. The Lancet, 392(10160), 2214-2228. https://doi.org/10.1016/S0140-6736(18)32205-0

van Leeuwen, M. E., & Harte, J. M. (2017). Violence against mental health care professionals: prevalence, nature and consequences. The Journal of Forensic Psychiatry & Psychology, 28(5), 581-598. https://doi.org/10.1080/14789949.2015.1012533

Wajanga, B. M., Peck, R. N., Kalluvya, S., Fitzgerald, D. W., Smart, L. R., & Downs, J. A. (2014). Healthcare worker perceived barriers to early initiation of antiretroviral and tuberculosis therapy among Tanzanian inpatients. PLoS One, 9(2), e87584. https://doi.org/10.1371/journal.pone.0087584

Wensing, M. (2015). Implementation science in healthcare: Introduction and perspective. Zeitschrift für Evidenz, Fortbildung und Qualität im Gesundheitswesen, 109(2), 97-102. https://doi.org/10.1016/j.zefq.2015.02.014

Whybrow, D., Jones, N., & Greenberg, N. (2015). Promoting organizational well-being: a comprehensive review of Trauma Risk Management. Occupational Medicine, 65(4), 331-336. https://doi.org/10.1093/occmed/kqv024

Williamson, V., Murphy, D., & Greenberg, N. (2020). COVID-19 and experiences of moral injury in front-line key workers. Occupational Medicine, 70(5), 317-319. https://doi.org/10.1093/occmed/kqaa052

Williamson, V., Stevelink, S. A., Greenberg, K., & Greenberg, N. (2018). Prevalence of mental health disorders in elderly US military veterans: a meta-analysis and systematic review. The American Journal of Geriatric Psychiatry, 26(5), 534-545. https://doi.org/10.1016/j.jagp.2017.11.001

Willig, C. (2001) Introducing Qualitative Research in Psychology: Adventures in Theory and Method, Buckingham: Open University Press.

Woolsey, L. K. (1986). The critical incident technique: An innovative qualitative method of research. Canadian Journal of Counselling, 20(4), 242–254.

Chapter 3 Press Release: Empirical research paper

3.1 Press Release: Systematic review

University of Birmingham News Release

The Internal Reliability of the Impact of Events Scale, a 10 Year Update

Receiving a diagnosis of Post-Traumatic Stress Disorder (PTSD) can be important for individuals. It can acknowledge and validate their distress, ensure appropriate treatment, and is a crucial aspect of the asylum process (Heeke et al., 2020). Self-report measures, sometimes referred to as screening questionnaires, are often employed to determine the diagnosis of PTSD. The Impact of Event Scale (IES; Horowitz et al., 1979) and its revised version, Impact of Event Scale-Revised; IES-R (Weiss & Marmar, 1997), is a popular measure.

The IES-R was not initially designed to assess Post Traumatic Stress Disorder (PTSD), it is a 22 item self-report scale that assesses event-specific distress. However, for its focus on traumatic distress, it has continued to be widely used by those in trauma research and clinical practice (Elhai et al., 2005). It is also included in the NICE PTSD guidance states is a valuable screening questionnaire(NICE 2005, Updated 2008). It is also a screening tool for PTSD in the Improving Access to Psychological Therapies (IAPT) services (Thomlinson et al., 2017; National Collaborating Centre for Mental Health, 2018). The IES-R has also been translated and used worldwide with numerous adaptations, such as the Children's Revised Impact of Event Scale (CRIES; Perrin et al. 2005) and Impact of Event Scale – Intellectual Disabilities (IES-IDs; Hall et al., 2014).

A measure's reliability is essential to establish the tool's suitability for clinical and research purposes. In the case of this meta-analytic review, one such way to determine the psychometric properties of assessment tools is the internal reliability. A measure's internal reliability refers to the extent to which items in the scale are related (Fong et al., 2010), and is primarily measured by something called Cronbach's alpha (Cronbach, 1951).

But why does internal reliability matter? A scale with poor internal reliability can result in an inaccurate and confounded measurement of what it is trying to measure. Clinicians also have an ethical obligation to remain vigilant and curious of the assessment tools used within healthcare services to ensure they are fit for purpose. It becomes of even greater importance when clinical decisions, such as identifying treatment pathways and the effectiveness of services, are made based on

the assessment outcome. The review aimed to review the empirical studies of the internal reliability of the IES and IES-R that were published after a previous review by Vassar et al., (2011).

Of the 1754 initial papers identified, 25 papers met the criteria and were analysed. 21 studies reported a total of 18309 participants. Four studies reported on the psychometric properties of the IES, and 19 studies reported alpha coefficients for the IES-R. Participants had experienced a broad range of trauma-related situations (e.g., cancer-specific distress, first-episode psychosis, intimate partner violence, and work-related threats of violence). Also included were participants from occupational groups who are at high risk of experiencing trauma-related events (e.g., law enforcement officers, firefighters, ambulance personnel).

For internal consistency, a meta-analytic[1] analysis was performed. The results suggested that the IES and IES-R are reliable tools for assessing event-specific distress, achieving a result greater than the recommended threshold (i.e., >0.70). The review results suggest that the IES and IES-R remain psychometrically sound for measuring event-specific distress in English speaking individuals. It should also reassure clinicians and patients that it remains an appropriate measure to use within clinical practice and appropriately inform interventions.

Interestingly, 194 papers reported on translated versions of the IES and IES-R. Future reviews would benefit from the inclusion of translated versions of the IES and IES-R to develop an understanding of the psychometric properties of these versions. Of note, this would assist in knowing how language variants of the IES and IES-R might impact the reliability of the internal consistency of the tool.

ENDS

For media enquiries please contact Catherine White, School of Psychology, University of Birmingham, tel: 0121 414 4932: email:

Notes to editor:

- The University of Birmingham is ranked amongst the world's top 100 institutions. Its work brings people from across the world to Birmingham, including researchers, teachers and more than 6,500 international students from over 150 countries.

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[1] A meta-analysis is a statistical analysis that combines the results of multiple scientific studies.

3.2 References

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, *16*(3), 297-334. 10.1007/BF02310555

Fong, D. Y., Ho, S. Y., & Lam, T. H. (2010). Evaluation of internal reliability in the presence of inconsistent responses. Health and quality of life outcomes, 8(1), 1-10. https://doi.org/10.1186/1477-7525-8-27

Hall, J. C., Jobson, L., & Langdon, P. E. (2014). Measuring symptoms of post-traumatic stress disorder in people with intellectual disabilities: The development and psychometric properties of the Impact of Events Scale-Intellectual Disabilities (IES-ID). British Journal of Clinical Psychology, 53, 315–332.

Heeke, C., O'Donald, A., Stammel, N., & Böttche, M. (2020). Same same but different? DSM-5 versus ICD-11 PTSD among traumatised refugees in Germany. Journal of Psychosomatic Research, 134, 110129. https://doi.org/10.1016/j.jpsychores.2020.110129

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. Psychosomatic medicine, 41(3), 209-218.

National Collaborating Centre for Mental Health (2018). The Improving Access to Psychological Therapies Manual: Appendices and helpful resources. Retrieved: http://www.yhscn.nhs.uk/media/PDFs/mhdn/Mental%20Health/iapt-manual-resources-FINAL.pdf

Perrin, S., Meiser-Stedman, R., & Smith, P. (2005). The Children's Revised Impact of Event Scale (CRIES): Validity as a screening instrument for PTSD. *Behavioural and Cognitive Psychotherapy*, *33*(4), 487-498. https://doi.org/10.1017/S1352465805002419

The National Institute for Health and Care Excellence. (2005, Updated 2008) *Post-traumatic stress disorder.* (Clinical Guideline No. 116). https://www.nice.org.uk/guidance/ng116/resources/posttraumatic-stress-disorder-pdf-66141601777861

Thomlinson, R., Muncer, S., & Dent, H. (2017). Co-morbidity between PTSD and anxiety and depression: implications for IAPT services. Archives of Depression and Anxiety, 3(1), 14-17. https://doi.org/10.17352/2455-5460.000017

Vassar, M., Knaup, K. G., Hale, W., & Hale, H. (2011). A meta-analysis of coefficient alpha for the Impact of Event Scales: A reliability generalisation study. South African Journal of Psychology, 41(1), 6-16. https://hdl.handle.net/10520/EJC98626

Weiss, D., & Marmar, C. (1997). The Impact of Scale – Revised. In J. P. Wilson & T. M. Keane (Eds.), Assessing psychological trauma and PTSD: A practitioner's handbook (pp. 399–411). New York: Guilford Press.

3.3 Press Release: Empirical research paper

University of Birmingham News Release

Trauma Risk Management: What are the Facilitators and Barriers to the Implementation of Trim in a Mental Health Service.

Traumatic incidents for mental health staff are common. Overall, in the UK, assaults in the mental healthcare sector account for nearly 70% of all the reported National Health Service (NHS) assaults on staff (NHS, 2010; Renwick et al., 2016). Such events can be costly to the staff members' mental and physical wellbeing contributing to the growing problem of burnout and poor wellbeing in healthcare staff (Royal College of Physicians [RCP], 2015). It can also be costly to organisation, in terms of job dissatisfaction, low organisational commitment, sickness levels, employee turnover and the quality of care (Scanlan et al., 2013; O'Connor et al., 2018; van Leeuwen & Harte, 2015). Therefore, it is crucial to manage the potential impact of traumatic events on staff.

Early post-trauma interventions, sometimes referred to as psychological debriefings, often employ crisis intervention or trauma psychoeducation to reduce emotional distress following exposure to trauma (Raphael & Wilson, 2000; Richins et al., 2019). Following controversy with the National Institute for Health and Care Excellence (NICE) guidance for post-traumatic stress disorder (PTSD; NICE, 2005) it led to the withdrawl of much needed post-traumatic incident support. Leaving organisations' with limited guidance on how to best respond to employees exposed to trauma. As such it has meant that those at risk of exposure to trauma do not have an opportunity to engage in appropriate post-trauma support (Hawker et al., 2011).

The current research project took place in an NHS mental health service which are implementing an innovative approach to early post-trauma intervention: Trauma Risk Management (TRiM; Greenberg et al., 2011). TRiM differs with respect to other early post-trauma interventions, it is in house, peer-led active monitoring and triage, with a specific aim to maintain organisational functioning following traumatic events (Greenberg et al., 2011). Information about how services have successfully implemented and integrated TRiM in services to support their staff remains limited, particularly in a healthcare setting which can provide unique and complex barriers and facilitators (Geerligs et al., 2018).

So why is it important to find out the helpful factors and barriers? Implementation science tells us that a thorough understanding of the barriers and facilitators to implementation is crucial to increasing the

likelihood that the process of change is smooth, sustainable, and cost-effective (Geerligs et al., 2018; Rankin et al., 2015; Wajanga et a., 2014). Identifying these factors can be fed back to the service to support further adaption and implementation to the service whist also transferred to other healthcare contexts to ensure the successful implementation of TRiM (Moir, 2018).

Therefore, TRiM trained mental health practitioners (e.g., TRiM practitioners and TRiM managers) who have been delivering TRiM within the organisation were interviewed to gain a better understanding of barriers and facilitators of implementing of TRiM within a mental health service. Using the method of Enhanced Critical Incident Technique (ECIT; Butterfield et al., (2009) methodology, found four key important themes were noted:

- The importance of ensuring resources and allocated time
- Promotion and normalisation to seek support
- The importance of good communication and leadership.
- Shaping and developing the TRiM service to meet needs of the organisation

The above provides useful clinical consideration for the current NHS organisation and others that may wish to successfully implement TRiM. Practical methods can be derived, such as ensuring time is allocated to TRiM staff. The four key themes may also contribute to the wider research literature on the implementation of TRiM and may support wider evaluations of TRiM giving special consideration to staff mental health well-being outcomes following TRiM intervention. More specifically outcomes related to self-stigma and team culture may be useful.

The author would like to acknowledge all the very busy NHS staff who gave their time to take part in the study and their contribution to the development and implementation of TRiM for their fellow colleagues.

ENDS

For media enquiries please contact Catherine White, School of Psychology, University of Birmingham, tel: 0121 414 4932: email:

Notes to editor:

The University of Birmingham is ranked amongst the world's top 100 institutions. Its work brings people from across the world to Birmingham, including researchers, teachers and more than 6,500 international students from over 150 countries.

3.4 References

Butterfield, L. D., Maglio, A. S. T., Borgen, W. A., & Amundson, N. E. (2009). Using the enhanced critical incident technique in counselling psychology research. *Canadian Journal of Counselling and Psychotherapy*, *43*(4). https://cjc-rcc.ucalgary.ca/article/view/58863

Geerligs, L., Rankin, N. M., Shepherd, H. L., & Butow, P. (2018). Hospital-based interventions: a systematic review of staff-reported barriers and facilitators to implementation processes. Implementation Science, 13(1), 1-17. https://doi.org/10.1186/s13012-018-0726-9

Greenberg, N., Langston, V., Iversen, A. C., & Wessely, S. (2011). The acceptability of 'Trauma Risk Management'within the UK armed forces. *Occupational medicine*, *61*(3), 184-189. https://doi.org/10.1093/occmed/kqr022

Hawker, D. M., Durkin, J., & Hawker, D. S. (2011). To debrief or not to debrief our heroes: that is the question. *Clinical psychology & psychotherapy*, *18*(6), 453 -463. https://doi.org/10.1002/cpp.730

Moir T (2018) Why Is Implementation Science Important for Intervention Design and Evaluation Within Educational Settings? Front. Educ. 3:61. doi: 10.3389/feduc.2018.00061

NHS (2010). Cost of violence against NHS staff: A report summarising the economic cost to the NHS of violence against staff 2007/8Service, NHS Counter Fraud Service: N. S. M. London: NHS Business Service Authority.

O'Connor, K., Neff, D. M., & Pitman, S. (2018). Burnout in mental health professionals: A systematic review and meta-analysis of prevalence and determinants. *European Psychiatry*, *53*, 74-99. https://doi.org/10.1016/j.eurpsy.2018.06.003

Rankin, N. M., Butow, P. N., Thein, T., Robinson, T., Shaw, J. M., Price, M. A., ... & Grimison, P. (2015). Everybody wants it done but nobody wants to do it: an exploration of the barrier and enablers of critical components towards creating a clinical pathway for anxiety and depression in cancer. BMC Health Services Research, 15(1), 1-8. https://doi.org/10.1186/s12913-015-0691-9

Raphael, B., & Wilson, J.P. (Eds.). (2000). Psychological debriefing: Theory, practice and evidence. Cambridge, England: Cambridge University Press.

Renwick, L., Lavelle, M., Brennan, G., Stewart, D., James, K., Richardson, M., ... & Bowers, L. (2016). Physical injury and workplace assault in UK mental health trusts: An analysis of formal reports. International journal of mental health nursing, 25(4), 355-366. https://doi.org/10.1111/inm.12201

Richins, M. T., Gauntlett, L., Tehrani, N., Hesketh, I., Weston, D., Carter, H., & Amlot, R. (2019). Scoping Review: Early Post-Trauma Interventions in Organisations. Commissioned by Public Health England, The British Psychological Society, and College of Policing. https://www.bps.org.uk/sites/bps.org.uk/files/Member%20Networks/Sections/Crisis/CDT%20Scoping%20Review%20Early%20Post%20Trauma%20Interventions%20in%20Organisations%20Report_09052019%20FINAL.pdf

Royal College of Physicians (2015). *Work and wellbeing in the NHS: why staff health matters to patient care*. London, UK. https://www.rcplondon.ac.uk/guidelines-policy/work-and-wellbeing-nhs-why-staff-health-matters-patient-care

Scanlan, J. N., & Still, M. (2013). Job satisfaction, burnout and turnover intention in occupational therapists working in mental health. *Australian occupational therapy journal*, *60*(5), 310-318. https://doi.org/10.1111/1440-1630.12067

The National Institute for Health and Care Excellence. (2005) *Post-traumatic stress disorder.* (Clinical Guideline No. 116). https://www.nice.org.uk/guidance/ng116/resources/posttraumatic-stress-disorder-pdf-66141601777861

Van Emmerik, A. A., Kamphuis, J. H., Hulsbosch, A. M., & Emmelkamp, P. M. (2002). Single session debriefing after psychological trauma: A meta-analysis. *The Lancet*, *360*(9335), 766-771. https://doi.org/10.1016/S0140-6736(02)09897-5

Wajanga, B. M., Peck, R. N., Kalluvya, S., Fitzgerald, D. W., Smart, L. R., & Downs, J. A. (2014). Healthcare worker perceived barriers to early initiation of antiretroviral and tuberculosis therapy among Tanzanian inpatients. PLoS One, 9(2), e87584. https://doi.org/10.1371/journal.pone.0087584

Chapter 4 Appendices

4.1 Appendix 1: Ethics Approval

18/07/2022, 13:13

Application for Ethical Review ERN_21-1835

(Research Support Services)

Mon 07/02/2022 16:34

Dear █████

Re: "Trauma Risk Management: What are the critical incidents that impact on the implementation of TRiM in mental health services"
Application for Ethical Review ERN_21-1835

Thank you for your application for ethical review for the above project, which was reviewed by the Science, Technology, Engineering and Mathematics Ethical Review Committee.

On behalf of the Committee, I confirm that this study now has full ethical approval.

I would like to remind you that any substantive changes to the nature of the study as described in the Application for Ethical Review, and/or any adverse events occurring during the study should be promptly brought to the Committee's attention by the Principal Investigator and may necessitate further ethical review.

Please also ensure that the relevant requirements within the University's Code of Practice for Research and the information and guidance provided on the University's ethics webpages (available at https://intranet.birmingham.ac.uk/finance/accounting/Research-Support-Group/Research-Ethics/Links-and-Resources.aspx) are adhered to and referred to in any future applications for ethical review. It is now a requirement on the revised application form (https://intranet.birmingham.ac.uk/finance/accounting/Research-Support-Group/Research-Ethics/Ethical-Review-Forms.aspx) to confirm that this guidance has been consulted and is understood, and that it has been taken into account when completing your application for ethical review.

Please be aware that whilst Health and Safety (H&S) issues may be considered during the ethical review process, you are still required to follow the University's guidance on H&S and to ensure that H&S risk assessments have been carried out as appropriate. For further information about this, please contact your School H&S representative or the University's H&S Unit at healthandsafety@contacts.bham.ac.uk.

Kind regards

Research Ethics Manager
Research Support Group
University of Birmingham
Email █████
Video/phone: If you would like to arrange a Teams/Zoom/telephone call, please email me and I will get in touch with you as soon as possible.
Web: https://intranet.birmingham.ac.uk/finance/RSS/Research-Support-Group/Research-Ethics/index.aspx
Postal address: Mrs Sue Cottam, Finance Office, University of Birmingham, c\o Room 106 Aston Webb, B Block, Edgbaston, Birmingham, B15 2TT.

Click Research Governance for further details regarding the University's Research Governance and Clinical Trials Insurance processes, or email researchgovernance@contacts.bham.ac.uk with any queries relating to research governance.

4.2 Appendix 2: Participant Email Invite

Dear All,

As you are we are currently conducting a research project into the effectiveness and experiences of delivering Trauma Risk Management in[name of service].

As a TRiM Manager or Practitioner, you are invited to participate in an evaluation which will explore TRiM practitioners and managers understanding of the facilitators and barriers, to implementing a TRiM provision within a mental health service.

Taking part in this research would involve an interview to talk about your experience of implementing Trauma Risk Management. It also includes an optional follow-up via telephone to review the interpretations made about the data by the researchers. This is a credibility check to ensure that the analysis of the data accurately reflected participant's lived experiences and that they felt that their voices had been represented in a way in which they were happy with.

I have attached the participant information sheet which provides further details about the evaluation.

If you would like to participate in the evaluation, please reply individually to this email with your contact details and a convenient time for the researcher to contact you to discuss your potential participation and any questions you have.

Best wishes,

Catherine White
Trainee Clinical Psychologist

4.3 Appendix 3: Interview Guide

Version 2.21.02.2022

Interview Guide: "Trauma Risk Management: What are the critical incidents that impact on the implementation of TRiM in [name of service]."

Participant #: _____

Date: _____

Interview Start Time: _____

1. Contextual Component

Pretext: As you know, I am investigating the critical incidents that impact on the implementation of TRiM in mental health services. This is the first of two interviews, and its purpose is to collect information about facilitators and barriers to implementing TRiM in [name of service] .

a. As a way of getting started, perhaps you could tell me a how did you first hear about TRiM?

b. What made you decide to go to train in TRiM?

c. What was your experience of the TRiM training?

d. How do you feel the TRiM approach fits within mental health services?

2. Critical Incident Component

Transition to Critical Incident questions:

    a. Tell me about a TRiM intervention that you have done? What has helped you in implementing and delivering the TRiM intervention within [name of service]?

(Probes: What was the incident/factor? How did it help you? Can you give me a specific example [planning, TIB, individual sessions and organisation]?)

Helpful Factor & What It Means to Participant (What do you mean by…?)	Importance (How did it help? Tell me what it was about …. That you found so helpful)	Example (What led up to it? Incident, outcome of incident).

b. Thinking about that same TRiM intervention, what made it more difficult to implement and deliver the TRiM intervention within [name of service]?

(Alternative question: What kinds of barriers did you and your team face in facilitating the TRiM intervention within [name of service]? What made it harder to get the TRiM intervention set up in the service? Can you give me a specific example [planning, TIB, individual sessions and organisation]?))

Hindering Factor & What It Means to Participant (What do you mean by…?)	Importance (How did it hinder? Tell me what it was about …. That you found so unhelpful)	Example (What led up to it? Incident, outcome of incident).

c. Summarize what has been discussed up to this point with the participant as a transition to the next question:

We've talked your understanding about facilitators and barriers to implementing TRiM in mental health services (name them). Are there other things, a wish list, that could help you to continue doing well?

(Alternative question: I wonder what else might have made the experience easier, but you didn't have at the time? If I had a magic wand and you could have had any number of resources to support implementing TRiM in the service, what would you ask for?)

Wish List Item & What it Means to Participant (What do you mean by…?)	Importance (How would it help? Tell me what it is about…. That would be so helpful.)	Example (How would this be helpful, in what circumstances?).

3. Demographics Component

  i. Occupation
  ii. Number of years in this occupation
  iii. Occupation/job level
  iv. Service area
  v. Length of time in current job
  vi. TRiM job role
  vii. TRiM training date
  viii. Approximate number of TRiM interventions facilitated
  ix. Age
  x. Sex

Interview End Time: _____

Length of interview: _____

Interviewer's Name: _____

4.4 Appendix 4: Participant Information Sheet

Study Number: ERN_21-1835   Version 4.21.02.2022

PARTICIPANT INFORMATION SHEET (PIS)

Title of Evaluation: Trauma Risk Management: What are the critical incidents that impact on the implementation of TRiM in [name of service].

Name of Evaluator: Catherine White (Trainee Clinical Psychologist).

Invitation and Brief Summary

You are invited to take part in a evaluation about Trauma Risk Management (TRiM) and the facilitators and barriers (critical incidents), relevant to implementing a TRiM provision within [name of service]. We are looking for around twenty people to take part in this research. Before you decide, it is important for you to understand why the evaluation is being done and what it will involve. **Please take time to read the following information carefully** and discuss it with others if you wish, including friends, relatives, and your general practitioner. If there is anything you do not understand, or if you would like more information, please ask. Thank you for reading this.

Mental health practitioners can experience traumatic events at work, including staff assaults, patient suicides, and self-harm. These traumatic events can have a large impact on staffs' mental and physical wellbeing and even lead to staff needing to take time off work. [name of service] have support services for staff who experience traumatic events at work, including Trauma Risk Management (TRiM). TRiM has been introduced within the last three years. There is little research about using TRiM in mental health services and so the University of Birmingham and [name of service] are evaluating TRiM to find out more about the implementation of TRiM within the Trust. For example, we would like to know more about what helps to deliver TRiM and what is challenging and what may make implementation easier. As you have had a key role in implementing TriM, either as a TriM manager or TriM practitioner, we are inviting you to take part in this evaluation.

Taking part in this evaluation would involve an interview to talk about your experience of implementing Trauma Risk Management, taking no longer than 90 minutes and will take place on Microsoft Teams. It also includes an optional follow up via telephone/Microsoft Teams meeting to review the interpretations made about the data by the researchers. This is a credibility check to ensure that the analysis of the data accurately reflected participant's lived experiences and that they felt that their voices had been represented in a way in which they were happy with.

What would taking part involve?

Staff that are TRiM practitioners or managers will be invited to take part in the evaluation. **If you agree to take part, you will be asked to attend an interview lasting up to 90 minutes.** The interview will take place on Microsoft Teams. You will be asked to give consent before taking part in the interview and for the interview to be video recorded. In the interview you will be asked questions about your experience of TRiM, such as your experience of implementing TRiM within the service, the facilitators, and barriers of implementing TRiM and your wish list for making TRiM successful in the trust.

Your interview will be recorded on Microsoft teams. Your interview will be transcribed verbatim and given an ID code. Your name and contact details and associated ID code will be kept on a password protected spreadsheet on a secured [name of service] server. You will have one week after the interview to withdraw from the evaluation. Once your interview has been transcribed and analysis has begun (1 week after your interview) you will no longer be able to able to withdraw from the evaluation. Anonymised extracts from your interview may also be used to illustrate critical incidents in the write up of the evaluation.

The information collected about you may be used to support other research in the future and may be shared anonymously with other researchers. This information would not be your personal information, but information from the interview.

What are the possible benefits of taking part?

This evaluation will help us understand how [name of service] can offer support to staff who experience traumatic events at work.

What are the possible disadvantages and risks of taking part?

As the interview will involve questions about your experiences of TRiM you might think back to the traumatic events from the TRiM interventions you may have previously provided and feel distressed. But we do not expect any enduring distress from the interview, and we will check your wellbeing throughout. We will not ask you any questions about the traumatic event you experienced.

If you find the interview difficult and wish to continue, please inform the evaluator. With your consent, the evaluator will inform the relevant team manager so that [name of service] can provide further support.

If you find the interview difficult and would like to stop the interview, please inform the evaluator. The interview will stop, and you will be offered support. It will be your choice whether you wish to continue the interview at a later date, not continue with an interview at a later date and whether the evaluators can keep the interview we have recorded, or delete the interview and withdraw from the study. These options will be discussed with you, and you can make the best choice for yourself.

If you are distressed in the interview, then we will offer you support, and we will inform the relevant team manager so that[name of service] can provide further support. In this situation, we would stop the interview and discuss with you at a later date whether you wish to re-arrange the interview, allow us to keep what has been recorded of the interview, or to withdraw from the study and have your interview deleted.

Disclosing risk

We have a duty of care to ensure your safety and that of others. Therefore, if you tell us about any risk to yourself or someone else then this information will need to be given to [name of service]support service managers to make sure you are offered timely support. By risk we mean physical or psychological harm towards yourself or others. If the information you disclose suggests you may benefit from additional psychological support, this information will also be passed onto [name of service] support service managers, so they best assist you. Similarly, if you disclose information around unethical practice, e.g., poor care/treatment for a patient, then this information will be passed onto support service managers

Do I have to take part?

No. It is up to you to decide whether or not to take part. If you do not wish to take part in the evaluation, this will not impact on your job role within [name of service].

What if I do not wish to continue with the study?

You can withdraw from the evaluation without giving a reason, you just need to inform the evaluator of your decision. If you do decide to withdraw during the interview your interview recording will be deleted and not used. You will also have one week after the interview to withdraw from the evaluation. Once your interview has been transcribed and analysis has begun (1 week after your interview) you will no longer be able to able to withdraw from the evaluation. We need to manage your records in specific ways for the evaluation to be reliable. This means that we won't be able to let you see or change the data we hold about you.

Would my taking part in this study be kept confidential?

Initially the following information from you will be collected for this evaluation.

This information will include:

- your name

- your contact details, e.g., phone number and e-mail.

This information will be kept within [name of service] only and will be stored until you have completed the interview and/or the optional follow-up interview. People will use this information to do the evaluation or to check your records to make sure that the evaluation is being done properly.

During the interview demographic information such as the area of the service that you work in and the number of TRiM interventions you have conducted will be collected. This is collected to give an anonymous descriptive overview of all the participants who completed the research project and will be incorporated into the write up of the study.

All information collected from you will be processed by the University of Birmingham in accordance with the provisions of the Data Protection Act 2018. People who do not need to know who you are will not be able to see your name or contact details, your interview will have a code number instead and once you have completed the interview and/or the optional follow-up interview this code will be deleted along with your identifiable information detailed above. The video recording of the interview will be stored securing on [name of service] servers and deleted once transcribed. The transcripts will then be transferred securely onto the University's Data Store and deleted after 10 years. The report we write about the data we collected will present quotes from the interviews, but we will write the report in a way that no-one can work out that you took part in the evaluation. The overall results of the study may be published in scientific journals. However, all your personal information will remain confidential.

The only circumstances in which confidentiality would be breached would be in the rare situation in which it was judged that you or someone else was at risk of serious harm or if a court applied for the information. In these circumstances, we would discuss the matter with you and would only disclose information that is needed.

Where can you find out more about how your information is used?

You can find out more about the evaluation by contacting Catherine White:

You can find out more about how we use your information at:

- www.hra.nhs.uk/information-about-patients/
- Our leaflet available from www.hra.nhs.uk/patientdataandresearch
- By asking one of the evaluation team
- By contacting the University of Birmingham's Data Protection Officer (Nicola Cárdenas Blanco) on 0121414 3916 or by sending an email to dataprotection@contacts.bham.ac.uk

Who is organising and funding the research?

The evaluation is being carried out by Catherine White as part of a Clinical Psychology Doctorate, under the supervision of Dr Christopher Jones. [name of service] supports the study.

This evaluation has been reviewed by the governing process for postgraduate research at the University of Birmingham to protect your safety, rights, wellbeing, and dignity and has been given favourable opinion.

What will happen to the results of the research?

This evaluation is being carried out as part of a Clinical Psychology Doctorate and will be written up and submitted as an academic piece of work. It is also hoped that the results will be published in an academic journal and shared with [name of service] services. Any publication would not identify you individually.

Expenses and payments

We are unable to offer any payment or reimbursement of expenses that you may incur in participating in this evaluation.

What if there is a problem?

We believe this is a low-risk study but if you have a concern or complaint about any aspect of the way you have been treated during the course of this study, you may contact the [name of service] supervisor: Dr Elizabeth Newton,

If you have been affected by any issues raised by this study and require additional support, please do not hesitate to contact services for support:

[name of service] Occupational Health: Tel: 121 227 7117

Samaritans: Tel: 116 123; email: jo@samaritans.org

4.5 Appendix 5: Consent Form

Study Number: ERN_21-1835   Version 4.21.02.2022

CONSENT FORM

Title of Evaluation: Trauma Risk Management: What are the critical incidents that impact on the implementation of TRiM in mental health services.

Name of Lead Evaluator: Catherine (Trainee Clinical Psychologist)

	Please initial to confirm
1. I confirm that I have read the information sheet dated 21/02/2022 (version 4) for the above evaluation. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2. I understand that the interview will be video recorded on Microsoft Teams, anonymised, and then transcribed verbatim. I also understand that anonymised excerpts from my interview will be used in the write up of the service evaluation.	
3. I understand that my participation is voluntary and that I am free to withdraw without giving any reason, without my care or legal rights being affected. I understand that from one week after the interview, I can no longer withdraw from the evaluation as my interview will have been anonymised and no longer retrievable.	
4. I understand that relevant sections of my data collected during the study may be looked at by individuals from [name of service] where there is an indication of risk of harm to myself or others, or where there is an indication of unethical behaviour from myself or others, or where I may benefit from additional psychological support. I understand that this information will be passed on to [name of service] support service managers.	
5. I understand that the information collected about me may be used to support other research in the future and may be shared anonymously with other researchers.	
6. I understand that anonymised demographic information will be collected.	
7. I agree to take part in the above study.	

8. If applicable, I consent to the optional follow up, via telephone or Microsoft Teams to review the interpretations made about the data by the evaluators.	

Name of Participant _____ Date _____ Signature Date _____

Name of Person Date _____ Date _____ Signature Date _____

taking consent

4.6 Appendix 6: Example Coding Extract

354 R: And then having that statement in the tib to clarify what the incident <u>was</u> and people have said
355 that's been helpful before and then you said having the approachable team is good for making you
356 feel comfortable and I suppose it's comfortable to ask questions.

357 P8: Yeah, definitely.

358 R: <u>So</u> I wondered if there are any barriers that you found to implementing trim or the risk
359 assessments. I guess what's made it harder to facilitate them to the I guess standard that you would
360 like? Or I guess, things that have gotten in the way?

361 P8: Umm. Well, I suppose, I suppose part of that is a bit like we're saying about the information. So
362 that's always made it feel a bit awkward if you don't know the information before you do an
363 assessment. Umm, I'm just trying to think. Also, as well and I understand this because trim is still in
364 its early days really, but, if you're working with something that doesn't exactly fit the trim criteria. So
365 might be a case that doesn't exactly fit the trim criteria, but you want to offer, you still feel that you
366 need to offer some support. And that's not, you know it, it's kind of you just need to be bit flexible in
367 your approach really and you know have more discussions with your peers and things like that so.
368 Um. It's not that it's not doable, you just need to be a bit more flexible around things or suppose.
369 What else has made it difficult? I suppose, yeah, this is interesting. Where the manager of a team,
370 where an <u>incidents</u> happened and the manager of the team, doesn't understand about trim, so lack
371 of awareness and or, how do I say this? Not really buying into trim. <u>So</u> where we've got umm. Where
372 we've got a manager that <u>might be might be</u>, does know. OK, there's this thing called trim and they
373 know what the criteria <u>is</u> and they know how to refer but actually they they're not really sure that
374 it's a helpful process. Because they just haven't bought into it. That can make it difficult because. You
375 know, because you know, you know something's happened, you know that potentially staff could be
376 affected by something, but if they're manager isn't opting in, because the referral <u>has to</u> come from
377 a manager, which I think you know, I think we could do with looking at that really. Um, potentially,
378 staff could lose out if their manager. For whatever reason, isn't on board with trim. So that can make
379 it difficult. What else? I'm just thinking.

380 R: I guess what you said about the lack of awareness or the lack of kind of buying and staff, maybe
381 not getting that intervention, and what impacts do you think for staff not getting that support?

382 P8: I mean potentially, I mean I can, I can surmise, because the example I was giving you about
383 somebody not kind of really opting in, they did eventually, but you know, they had to be numerous
384 conversations really with the manager and a bit of pressure put on really. <u>So</u> you know, staff were
385 able to access a tib at least, which was good. <u>So</u> I <u>I</u> can. But <u>actually</u> it's interesting you know,
386 because. So interesting point really because. I'll go so far as to say something about, if a manager of
387 a team isn't fully on board and doesn't opt in to trim, I think that does have a ripple effect out into
388 the staff team because, thinking about one case where the manager wasn't fully on board and a bit
389 of pressure needed to be put on and what I mean by that is you know multiple conversations about,

9

incident doesn't meet the criteria
Reply

Catherine White
HELPING flexibly and seeking support from team members to explore options with trim referrals that don't quite meet the criteria
Reply

Catherine White
HINDERING lack awareness of trim by the team manager
Reply

Catherine White
HINDERING team manager not buying into the service not believing it would be a helpful process and then staff miss out
Reply

Catherine White
HINDERING trim referral has to come from a manager so if manager isn't on board then staff miss out
Reply

Catherine White
HINDERING team manager not opting in needing numerous conversations and pressure so staff could access a tib
Reply

Catherine White
HINDERING team manager not buying into it and ripple effect onto staff team effect o uptake of rx
Reply

4.7 Appendix 7: Tracking the Emergence of New Critical Incidents

Note: HE=Helpful Critical Incidents; HI=Hindering Critical Incidents, WL=Wish List Items

Table 4.11.1
Tracking the Emergence of New Critical Incidents

Date of CI/WL extraction	Participant #	Identified critical incidents	New critical incidents emerged? (of the incidents how many are new)
13/05/2022	1	HE: 6 HI: 9 WL: 3	HE: 6 HI: 9 WL: 3
20/05/2022	4	HE: 12 HI: 9 WL: 4	HE: 8 HI: 2 WL: 1
20/05/2022	8	HE: 9 HI: 9 WL: 5	HE: 2 HI: 2 WL: 2
31/05/2022	2	HE: 3 HI: 3 WL: 4	HE: 0 HI: 0 WL: 2
31/05/2022	3	HE: 4 HI: 5 WL: 2	HE: 0 HI: 0 WL: 0
31/05/2022	5	HE: 5 HI: 3 WL: 3	HE: 0 HI: 1 WL: 0
31/05/2022	6	HE: 6 HI: 5 WL: 2	HE: 0 HI: 1 WL: 0
01/06/2022	7	HE: 11 HI: 11 WL: 5	HE: 1 HI: 0 WL: 1
02/06/2022	10	HE: 10 HI: 7 WL: 4	HE: 0 HI: 1 WL: 0
02/06/2022	11	HE: 8 HI: 6 WL: 6	HE: 0 HI: 0 WL: 0
31/05/2022	12	HE: 8 HI: 6 WL: 3	HE: 0 HI: 0 WL: 0
02/06/2020	9	HE: 7 HI: 5 WL: 2	HE: 0 HI: 0 WL: 0