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Investigating sexual offences: How police officers identify and adapt to the impact of trauma on survivors

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Submitted in partial fulfilment of the requirements for the degree of
Doctorate in Clinical Psychology

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Table of contents

	Page number
Table of contents.....	2
List of Tables.....	4
List of Figures.....	5
Acknowledgments.....	6
Chapter 1: Systematic Review: What factors are associated with secondary traumatic stress in policing?.....	7-53
Abstract.....	8
Introduction.....	9
Methods.....	13
Results.....	17
Discussion.....	38
References.....	44
Chapter 2: How does the psychological impact of alleged sexual offences on complainants affect criminal investigations? Police perspectives.....	54-101
Note on language.....	55
Plain language summary.....	56
Abstract.....	59
Introduction.....	60
Methods.....	65
Results.....	70
Discussion.....	88
References.....	96
Appendices.....	102
Appendix 1.1 Systematic review search terms.....	102
Appendix 1.2 The Appraisal tool for Cross-Sectional studies (AXIS).....	108
Appendix 1.3 Prisma reporting checklist for systematic reviews.....	110

Appendix 2.1 Topic guide.....	113
Appendix 2.2 Coding sample for Reflexive Thematic Analysis.....	115
Appendix 2.3 Reflective journal sample.....	116
Appendix 2.4 Major research project proposal.....	118
Appendix 2.5 Participant information sheet.....	119
Appendix 2.6 Participant consent form.....	120
Appendix 2.7 Police Scotland research request form.....	121
Appendix 2.8 Ethics board approval letter.....	125
Appendix 2.9 COREQ (COnsolidated criteria for REporting Qualitative research) Checklist.....	127

List of Tables

Chapter 1

Table 1. Data extraction table.....	18
Table 2. Methodological quality (AXIS).....	27

List of Figures

Chapter 1 Systematic Review

Figure 1. Prisma Flow Diagram16

Chapter 2 Major Research Project

Figure 2.1. Thematic Map.....71

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Chapter 1

Systematic Review: What factors are associated with secondary traumatic stress in
policing?

Prepared in accordance with the author requirements for The Police Journal: Theory,
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Abstract

This systematic review aimed to examine international literature on potential risk and resilience factors associated with secondary traumatic stress (STS) in policing.

Following search and screening stages, 20 eligible studies were identified. Quality appraisal of included studies was conducted using the AXIS tool. Blinded co-rating was completed at screening and appraisal stages. A narrative synthesis highlighted key results regarding role-related, organisational, person-level and coping factors.

The review highlighted the need for further research, particularly on modifiable risk and resilience factors to help inform clinical interventions/adaptations. Key clinical implications focused on reducing barriers to help-seeking and reporting STS, addressing frequency of secondary trauma exposure, and enhancing a supportive organisational culture. These recommendations aim to improve the well-being of police personnel and support offered to those experiencing STS in their line of work.

Introduction

Secondary Traumatic Stress

Secondary Traumatic Stress (STS) has been described as “the natural, consequent behaviours and emotions resulting from the knowledge about a traumatizing event experienced by a significant other; it is the stress resulting from helping or wanting to help a traumatized or suffering person” (Figley, 1995, pg. 7). It is conceptualised as an acute stress reaction resulting from indirect exposure to traumatic events with symptoms akin to Post-Traumatic Stress Disorder (PTSD) including intrusive re-experiencing, avoidance, and hyperarousal (Molnar et al., 2017). While the DSM-V incorporates STS within PTSD, it can be argued that the DSM-V definition of indirect exposure doesn't fully recognise the importance of the nature of the relationship or interaction with trauma survivors, for example, the impact of empathic connection (Mordeno et al., 2017). STS is viewed as a psychological risk factor when working closely with survivors of trauma (Molnar et al., 2017). Research has focused on various caring professions including mental health professionals (Buchanan et al., 2006), social workers (Bride, 2007), and emergency responders (Greinacher et al., 2019).

Related concepts

Vicarious Traumatization (VT) and compassion fatigue (CF) also seek to explain the psychological consequences of secondary exposure to trauma (Sprang et al., 2018). There is a tendency for the terms STS, VT and CF to be used interchangeably in the literature, reflecting some conceptual overlap (Sprang et al., 2018). However, although these psychological constructs are closely related, they can be distinguished through some defining characteristics.

VT emphasises negative cognitive impacts of prolonged secondary traumatic exposure (McCann and Pearlman, 1990), whereas STS includes behavioural and emotional symptoms in addition to shifts in cognition (Bride, 2007). CF is characterised as a state of physical and mental exhaustion with reduced empathic capacity, resulting from prolonged and cumulative secondary traumatic exposure (Adams et al., 2006). CF can be viewed as a broader concept than STS, as it is commonly conceptualised as a two-dimensional construct, or umbrella term, comprising of STS alongside burnout (BO) (Stamm, 2010). BO is also commonly associated with working with survivors of trauma, however, unlike STS, BO can be brought about by non-trauma related factors such as workplace conflict. BO is characterised by exhaustion, negative feelings towards work, psychological disengagement and reduced efficacy (World Health Organization, 2020).

While acknowledging the conceptual overlap, the current review will focus on STS as a distinct psychological concept, separate from, PTSD, VT, CF and BO. By taking this focused approach, the review aims to provide a clear representation of the factors associated with STS in policing. To ensure inclusion of relevant literature, the search strategy was developed with consideration of how these concepts are discussed in relation to STS.

Impact of STS

Preventing STS is critical for the wellbeing of individual officers and for wider organisational resilience (Foley and Massey, 2021). Potential negative consequences of STS include psychological distress, increased absenteeism, poor job performance, and decreased empathy towards victims (Gershon et al., 2009;

Ratrout and Hamdan-Mansour, 2020). The identification of risk and resilience factors associated with STS is key in preventing and responding to STS within policing. In emergency services populations, potential risk factors include emotional exhaustion, maladaptive coping strategies, trauma exposure level, and personal trauma history. Potential resilience factors include social support, perceived self-efficacy, and a sense of competence at work (Greinacher et al., 2019; Sprang et al., 2018).

STS in policing

Policing roles vary in the level and type of primary and secondary trauma exposure. STS research has primarily focused on personnel investigating internet child exploitation (Foley et al., 2022). However, other roles, like working closely with rape victims, also involve indirect exposure to traumatic material (Hesketh and Tehrani, 2019).

Several relevant reviews exist in this area. Foley and colleagues (2022) conducted a systematic literature review of STS and PTSD within UK policing. The influence of police culture emerged as a key theme in which negative aspects, such as concerns about appearing 'weak', could hinder the disclosure of psychological distress at work. The review highlighted the maladaptive use of alcohol as a coping method and emphasised the positive effects of peer, co-worker, and supervisory support in mitigating the impacts of trauma. The review also identified several methodological limitations within the included studies such as challenges in reporting of mixed populations, insufficient reflexivity and consideration of bias, and potential bias from the use of questionnaires, which they noted as particularly relevant within policing populations given reported stigma around reporting of work-related distress.

Harper (2018) also highlighted similar findings regarding alcohol use and different types of support in a systematic review on STS in law enforcement working in child abuse investigations. Coping through light-hearted humour was identified as a potential protective factor, while coping through denial, gallows humour, exposure levels, and job demands were identified as potential risk factors. Greinacher and colleagues (2019) conducted an international systematic review of STS in first responders and reported low prevalence rates across the literature. Immunising effect, social desirability and job loss concerns were highlighted as potentially impacting on reported prevalence rates. In a 2020 review, Sharp and colleagues (2020) found that UK emergency responders, including police, may generally cope well with indirect exposure but that STS could be a concern for specific groups of responders. Further research into STS within emergency responder populations was recommended. It's important to note that this review, while addressing the wellbeing of emergency responders broadly, did not specifically focus on policing populations.

Current review and aim

The current review aims to expand upon previous reviews by systematically examining and synthesising international literature on factors related to STS in policing. Differing from Foley and colleagues (2022) emphasis on PTSD resulting from direct exposure and STS stemming from indirect exposure within UK based literature, this review encompasses international research and focuses solely on STS, allowing for a more comprehensive understanding of STS in policing. Additionally, it employs a more rigorous methodological approach by introducing a quality appraisal tool and a second reviewer. In the current review, seven studies

from Foley and colleagues (2022) were excluded due to their focus on PTSD, four were excluded due to qualitative design, two were excluded for lacking separate STS measurement, and one was excluded for not investigating factors associated with STS. The current review includes six studies from Foley and colleagues (2022) and an additional 14 international studies. It aims to highlight potential clinical implications for policing populations and offer recommendations for future research.

Review question: What are the potential risk and resilience factors associated with STS in policing professionals?

Methods

Search strategy

A search of seven databases was conducted in April 2023, including Medline, PsychInfo, Embase, ASSIA, and Web of Science Core Collection. Two criminal justice databases, Lexis Library and Criminal Justice Database, were added after consulting a university librarian. Hand searches of a key journal (The Journal of Police and Criminal Psychology) and citations within eligible studies were conducted. The search strategy and protocol were registered on Prospero (registration number CRD42023418948).

Search terms

A university librarian was consulted in developing the search terms. Abstract and title fields were searched using key words, adjacency operators and subject headings (Appendix 1.1). All four concepts (STS, CF, VT and BO) were included in the search to avoid omitting relevant studies:

1. (Subject heading e.g. secondary trauma)
2. (Vicarious adj2 trauma*) OR (indirect adj2 trauma*) OR (indirect adj2 stress)
OR (second* adj2 trauma*) OR (second* adj2 stress) OR “compassion
fatigue” OR “burnout”
3. 1 OR 2
4. (Subject heading e.g. police professional)
5. (“law enforcement” OR police* OR “police personnel” OR “task force” OR
(forensic adj2 investigator) OR (digital adj2 investigator) OR (child adj2
investigator) OR (Liaison adj2 Officer)
6. 4 OR 5
7. 3 AND 6

Eligibility Criteria

- Inclusion criteria:
 - Includes police personnel;
 - examining factors associated with STS;
 - studies examining VT, CF, or BO if a separate STS measurement is reported;
 - studies including other professions if police data is presented separately;
 - quantitative design;
 - English.
- Exclusion criteria:
 - Focused on primary trauma;
 - involving volunteers or trainees;

- qualitative design;
- case studies, books, review papers and unpublished dissertations.

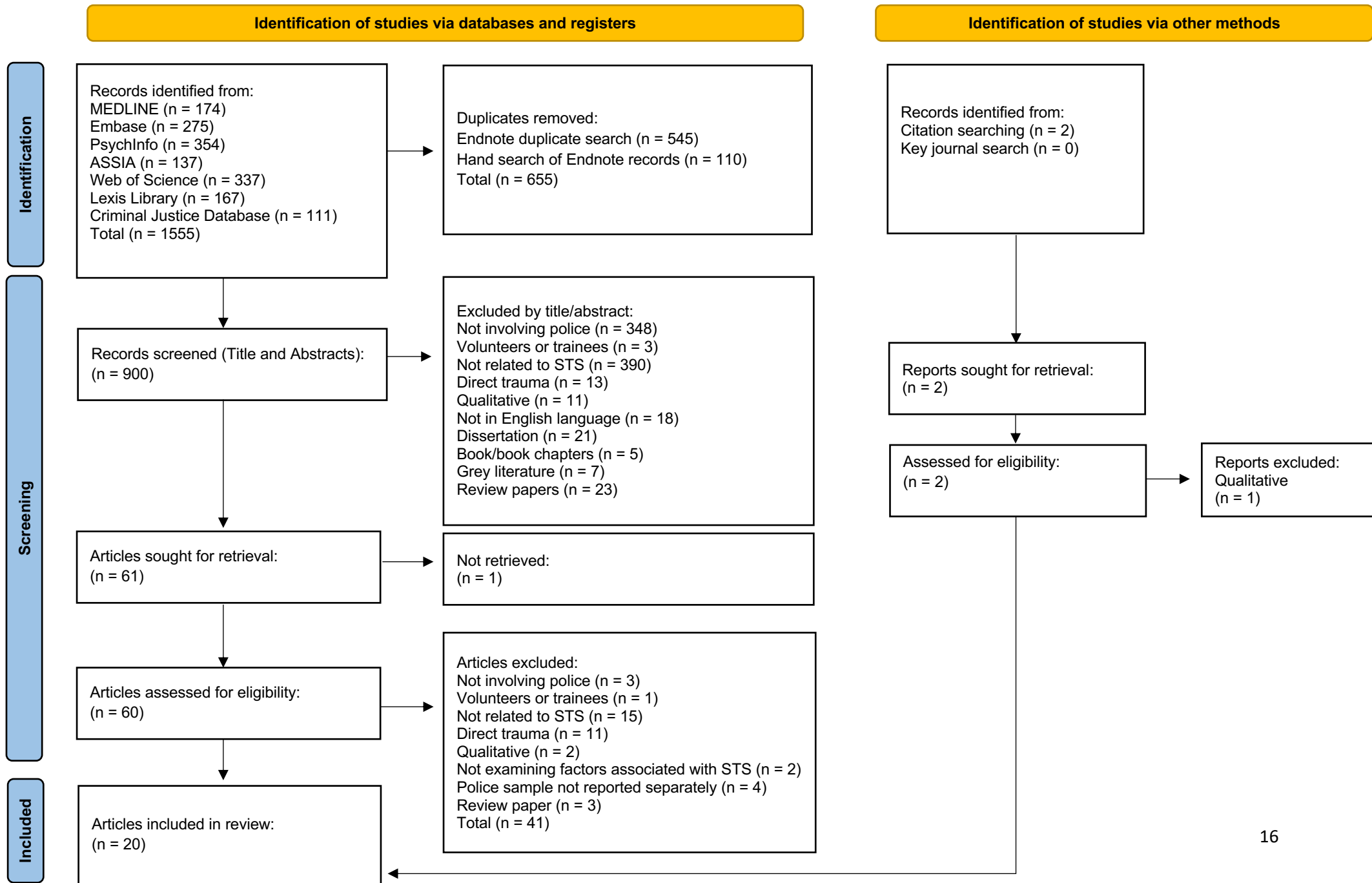
Screening

Endnote was used to manage references. 1,555 records were identified and after removing 655 duplicates, 900 remained. The lead researcher completed title-abstract screening against eligibility criteria, resulting in the exclusion of 839 records. Of the remaining 61 studies, 60 full-text papers were obtained and screened by the lead researcher, resulting in a final selection of 20 studies. A second reviewer (JC) performed blind co-screening on a random 10% sample at title-abstract and full-text stages. Inter-rater agreement was high, with substantial agreement indicated by Cohen's (1960) chance-corrected kappa (title-abstract: 83%, $k = 0.667$; full-text: 98%, $k = 0.662$). Discrepancies between raters were resolved by discussion. Figure 1. provides an overview of the study selection process.

Quality appraisal and Inter-rater reliability

The Appraisal tool for Cross-Sectional studies (Appendix 1.2) was utilised for quality appraisal (AXIS; Downes et al., 2016). A design specific tool was chosen as 19 of the 20 eligible studies were cross-sectional. The AXIS was used in a recent systematic review including studies of cross-sectional and longitudinal design (Stanescu et al., 2019). All included studies were appraised by the lead researcher, and a random sample of three were appraised by JC following a calibration stage involving joint review of one paper. Level of agreement was high (80%). The lead research and JC met to discuss and resolve discrepancies and further quality appraisal was conducted by the lead researcher based on these discussions.

Figure 1. Prisma Flow Diagram



Results

Narrative synthesis

Given the heterogeneity of the studies a narrative approach to data synthesis was deemed appropriate, the reporting of which followed Synthesis Without Meta-Analysis guidelines (Campbell et al., 2020). This approach involved developing a narrative account of the data including an investigation of patterns across the data, study quality, limitations and biases, and implications for future research and clinical practice.

Study and Sample Characteristics

Information extracted from included studies, relevant to the review aim, is presented in Table 1. 19 studies were of cross-sectional design, one was longitudinal. Eight were conducted in the US, six in the UK, three in Europe, one in Australia, one in South Africa, and one included a UK and US sample. 11 studies sampled police investigating crimes against children. Six sampled police who worked with victims and/or offenders of various serious crimes. Three included samples of general or mixed policing roles.

STS measurement

Five measures of STS were used in the included studies: The Secondary Traumatic Stress Scale (STSS; Bride et al., 2004) in 12 studies, The Professional Quality of Life Scale (ProQOL; Stamm, 2010) in five studies, The Compassion Fatigue Scale–Revised–Short Scale (CF-Short; Adams et al., 2006) in one study, The PTSD Checklist–Civilian Version (PCL-C; Weathers et al. 1991) in one study, and the

Table 1. Data extraction table

Study Design	Key variables and measures		Key Findings
Author (year) Study design Sample	Dependent variable (STS) Measurement	Independent Variables	Factors associated with higher and lower STS levels (any remaining factors not included in results presented below were not associated with STS)
<p>1. Acquadro Maran et al. (2020)</p> <p>Cross-sectional</p> <p>Italian Police officers in operational services</p> <p>N=112</p>	Secondary Traumatic Stress Scale (STSS; Bride et al., 2004)	<p>Organisation-level factors</p> <p>Job autonomy (Bakker et al., 2003)</p> <p>Organisational support (Caplan et al., 1975)</p> <p>Role clarity: ad hoc scale</p> <p>Workload (Karasek et al., 1998)</p> <p>Cognitive load (Bakker et al., 2003)</p> <p>Citizens' demands (Dormann and Zapf, 2004)</p> <p>Emotive dissonance (Zapf et al., 1999)</p> <p>Work-family conflict (Netemeyer et al., 1996)</p> <p>Person-level factors</p> <p>Secondary trauma self-efficacy (STSE) (Cieslak et al., 2013)</p> <p>Resilience (Di Fabio and Palazzeschi, 2012)</p> <p>Coping mechanisms</p> <p>Family support (King et al., 1995)</p>	<p>Associated with Higher STS:</p> <p>Work-family conflict ($r = .33, p < 0.01$), Emotional dissonance ($r = .20, p < 0.05$)</p> <p>Associated with lower STS:</p> <p>Role clarity ($r = -.29, p < 0.01$), STSE ($r = -.29, p < 0.01$), Job autonomy ($r = -.21, p < 0.05$)</p> <p>Only work-family conflict remained significantly related to STS after controlling for other variables ($\beta = 0.28, p = .00$)</p>
<p>2. Bourke et al. (2014a)*</p> <p>Cross-sectional</p> <p>U.S Internet Crimes against Children (ICAC) taskforce personnel</p> <p>N=677</p>	STSS	<p>Role-related factors</p> <p>Frequency and difficulty of viewing crimes against children (CAC) images: Self-rated</p> <p>Coping mechanisms</p> <p>Coping Mechanisms (Carver, Scheier, and Weintraub, 1989)</p> <p>Tobacco and alcohol use: Self-report</p> <p>Physical activity (Karolinska Institute, 2002)</p>	<p>Associated with higher STS:</p> <p>Coping through denial ($\beta = .13, p < .001$), difficulty with disturbing media ($\beta = .35, p < .001$), frequency of viewing disturbing media ($\beta = .19, p < .001$), increased alcohol use ($\beta = .12, p < .001$), increased tobacco use ($\beta = .12, p < .001$)</p> <p>Associated with lower STS:</p> <p>Positive supervisory support ($\beta = -.19, p < 0.001$), co-worker support ($\beta = -.09, p = .02$), male gender ($\beta = -.06, p = .05$)</p>
<p>3. Bourke et al. (2014b)*</p> <p>Comparative cross-sectional</p>	STSS	<p>Role-related factors</p> <p>Frequency and difficulty of viewing crimes against children (CAC) images: Self-rated</p>	<p>Associated with higher STS:</p> <p>Coping through denial, increased tobacco use, increased alcohol use, higher frequency of exposure to media, higher self-report difficult with</p>

<p>US and UK ICAC investigators</p> <p>N = 965 (US=677; UK=288)</p>		<p><u>Organisation-level factors</u> Co-worker and Supervisor support: Likert scale</p> <p><u>Coping mechanisms</u> Internal and external coping strategies (Carver, Scheier, and Weintraub, 1989) Tobacco and alcohol use: Self-report Physical activity (Karolinska Institute, 2002)</p>	<p>exposure</p> <p>Associated with lower STS: Co-worker support (U.S. only): Supervisor support, social support, male gender</p>
<p>4. Brady (2017)</p> <p>Cross-sectional</p> <p>U.S Internet Crimes against Children (ICAC) Task Force personnel</p> <p>N=433</p>	<p>STS subscale of the Professional quality of Life Scale (ProQOL; Stamm, 2010)</p>	<p><u>Role-related factors</u> Tenure investigating CAC, total number of weekly hours spent investigating CAC, supervisor role, undercover duties, average age of the child victim, direct exposure to CAC, indirect exposure to CAC</p> <p><u>Organisation-level factors</u> Organisational support, feeling overwhelmed</p> <p><u>Person-level factors</u> Gender, personal history of trauma</p> <p><u>Coping mechanisms</u> Home life support: Likert scale Coping mechanisms (Eastwood and Ecklund, 2008)</p>	<p>Associated with higher STS: History of trauma ($b = 1.96, p < .05$), spiritual coping ($b = .24, p < .05$), frequently feeling overwhelmed ($b = 2.81, p < .001$), frequent indirect exposure to CAC material ($b = 1.68, p < .01$)</p> <p>Associated with lower STS: Male Gender ($b = -2.80, p < .01$), home life support ($b = -1.25, p < .01$), organisational support ($b = -1.11, p < .01$), older victim ($b = -1.77, p < .01$)</p>
<p>5. Burruss et al. (2018)</p> <p>Cross-sectional</p> <p>U.S. cybercrime investigators</p> <p>N=360</p>	<p>STSS</p>	<p><u>Role-related factors</u> Exposure to crimes against children (CAC) materials: hours examining CAC materials per week</p>	<p>Associated with higher STS: Increased exposure to CAC evidence ($b = 0.246; p < .000$)</p>
<p>6. Craun and Bourke (2014)*</p>	<p>STSS</p>	<p><u>Role-related factors</u></p>	<p>Associated with higher STS:</p>

<p>Cross-sectional</p> <p>U.S Internet Crimes against Children (ICAC) taskforce Personnel</p> <p>N=508</p>		<p>Frequency of viewing CAC images: 5-point scale</p> <p>Self-reported difficult viewing CAC images: Likert scale</p> <p>Organisation-level factors</p> <p>Supervisory support and Co-worker support: two 4-point scales</p> <p>Coping mechanisms</p> <p>Use of Gallows humour: Likert scale</p> <p>Use of light-hearted humour: Likert scale</p> <p>Coping through social support and coping through denial (Carver, Scheier, and Weintraub, 1989)</p> <p>Tobacco and alcohol use: Self-report</p>	<p>Use of gallows humour ($\beta = .14, p < .001$), difficulty with disturbing material ($\beta = .29, p < .001$), frequency of exposure to disturbing media ($\beta = -.12, p = .005$), increased alcohol use ($\beta = -.33, p < .001$)</p> <p>Associated with lower STS:</p> <p>Use of light-hearted humour ($\beta = -.11, p = .006$), social support ($\beta = -.07, p = .01$), co-worker support ($\beta = -.11, p = .02$)</p>
<p>7. Craun et al. (2014)</p> <p>Longitudinal</p> <p>U.S Sexual Offender Investigation coordinators (SOICs) and Deputy Marshals</p> <p>747 unique respondents across 3 waves</p>	<p>STSS</p>	<p>Factors included in all 3 waves:</p> <p>Role-related factors</p> <p>Self-reported difficult with disturbing material: Likert scale</p> <p>Organisation-level factors</p> <p>Supervisor Support and Co-workers support: Two 4-point scales</p> <p>Coping mechanisms</p> <p>Coping: (Carver, Scheier, and Weintraub, 1989)</p> <p>Factors added to last 2 waves:</p> <p>Role-level factors</p> <p>Frequency interacting with disturbing material: 5-point scale</p> <p>Coping mechanisms</p> <p>Alcohol and tobacco consumption: Self-report</p> <p>Physical activity (Karolinska Institute, 2002)</p>	<p>Associated with higher STS:</p> <p>Coping through denial ($\beta = .09, p = .01$), frequency interacting with disturbing material ($\beta = .12, p < .001$), difficulty with disturbing material ($\beta = .18, p < .001$), low level of exercise ($\beta = .15, p = .003$)</p> <p>Associated with lower STS:</p> <p>Social support ($\beta = -.12, p < .001$), supervisory support ($\beta = -.10, p < .001$), co-worker support ($\beta = -.08, p = .01$), no increase in consumption of alcohol or tobacco ($\beta = -.11, p = .006$)</p>

<p>8. Craun and Bourke (2015)*</p> <p>Cross-sectional</p> <p>U.S Internet Crimes against Children (ICAC) investigators</p> <p>N=350</p>	<p>STSS</p>	<p>Role-related factors Frequency Interacting with material: ad-hoc scale Self-reported difficult with disturbing material: Likert scale</p> <p>Person-level factors Frequency of making jokes at expense of victims/offenders: Likert scale Joking with sexual innuendo: Likert scale</p> <p>Coping mechanisms Coping (Carver, Scheier, and Weintraub, 1989) Co-worker and supervisor support: two three-item scales Alcohol and tobacco consumption: Self-report</p>	<p>Associated with higher STS: Humour at expense of victim ($\beta = .24, p < .001$), coping through denial ($\beta = .16, p = .01$), increased alcohol use ($\beta = .36, p < .001$), increased tobacco use ($\beta = .27, p = .04$), self-reported difficulty with disturbing material ($\beta = .14, p = .001$), frequency of exposure to disturbing material ($\beta = .25, p < .001$)</p> <p>Associated with lower STS: Supervisory support ($\beta = -.13, p = .003$), co-worker support ($\beta = -.19, p = .001$)</p>
<p>9. Cronje et al. (2020)</p> <p>Cross-sectional</p> <p>South African Family Violence, Child Protection and Sexual Offences (FCS) police officers</p> <p>N=51</p>	<p>STSS</p>	<p>Role-related factors Level of exposure to traumatised complainants: Complainants assisted per week, number of hours performing FCS-related work per week/per month, overall tenure, number of years working in FCS Exposure to type of crime: Rape, indecent assault, child molestation, domestic violence, and robbery</p>	<p>Associated with higher STS: Exposure to cases of indecent assault ($r = .28, p < .05$) and child molestation ($r = .29, p < .05$)</p>
<p>10. Gray and Rydon-Grange (2020)</p> <p>Cross-sectional</p> <p>U.K Police from specialist sexual and violent offending teams</p> <p>N=78</p>	<p>STSS</p>	<p>Person-level factors Attachment style (Fraley et al., 2000) Psychological resilience variables: Dispositional mindfulness (Baer et al., 2006) Psychological flexibility (Bond et al., 2011) Coping self-efficacy (Chesney et al., 2006)</p>	<p>Associated with higher STS: Anxious attachment ($r = .26, p < .05$), avoidant attachment ($r = .38, p < .01$), tenure in current role ($r = .29, p = .02$)</p> <p>Associated with lower STS: Psychological resilience variables: coping self-efficacy ($r = -.57, p < .001$), dispositional mindfulness ($r = -.46, p < .001$), psychological flexibility ($r = -.46, p < .001$)</p>

<p>11. Hurrell et al. (2018)</p> <p>Cross-sectional</p> <p>U.K Child protection police officers</p> <p>N=101</p>	<p>STSS</p>	<p><u>Role-related factors</u> Working full or part-time Tenure in CAIU, Overall tenure Exposure to Childhood sexual abuse (CSA): Number of CSA perpetrator and survivor interviews in the last 6 months</p> <p><u>Person-level factors</u> Age, gender, ethnicity Personal trauma history Positive and negative coping strategies: (Carver, 1997) (factor analysis of scale resulting in positive and negative subscales)</p>	<p>Associated with higher STS: Number of interviews in last 6 months ($r = 0.24, p < .05$), positive coping ($r = .50, p < .001$), negative coping ($r = .55, p < .001$)</p> <p>Only negative coping strategies remained significantly related to STS after controlling for other variables ($\beta = .20, p < .05$)</p>
<p>12. Kunst et al. (2017)</p> <p>Cross-sectional</p> <p>Dutch Police family liaison officers (PFLO) working with victims and bereaved relatives in violent crime and large-scale incidents</p> <p>N=224</p>	<p>STS subscale of the Compassion Fatigue Scale– Revised– Short Scale (CF-Short; Adams et al., 2006)</p>	<p><u>Role-related factors</u> Tenure</p> <p><u>Organisation-level factors</u> Caseload</p> <p><u>Person-level factors</u> Personal trauma history (Kleijn et al., 2003) Secondary posttraumatic growth (SPG) (Tedeschi and Calhoun, 1996)</p>	<p>Associated with higher STS: SPG ($r = .17, p < .05$)</p> <p>Associated with lower STS: Age ($\beta = -.01, p < .05$), co-worker support ($\beta = -.02, p < .05$)</p>
<p>13. Losung et al. (2021)</p> <p>Cross-sectional</p> <p>Australian Police detectives investigating child abuse, sexual assault, and family violence (CSF)</p> <p>N=216</p>	<p>ProQOL STS subscale</p>	<p><u>Role-related factors</u> Overall tenure Time working in CSF Rank</p> <p><u>Organisational-level factors:</u> Geographical location</p> <p><u>Person-level factors:</u> Gender, Age Empathy (Lietz et al., 2011)</p>	<p>Associated with higher STS: Tenure: < 1 year working in in CSF had lower risk for STS than those working for 1–5 years ($F(4, 208) = 2.80, p < 0.05$).</p> <p>Associated with lower STS: Affective response ($r = -.15, p < .05$), self-other awareness ($r = -.39, p < 0.01$), perspective taking, ($r = -.23, p < 0.01$), emotional regulation ($r = -.52, p < 0.01$)</p>

			Only Self-other awareness ($\beta = -.67, p < .05$) and emotional regulation ($\beta = -.83, p < .01$) remained significantly related to STS after controlling for other variables.
<p>14. Ogińska-Bulik and Bąk (2022)</p> <p>Cross-sectional</p> <p>Polish Police officers (Uniformed branch, Criminal Investigation, Support Services)</p> <p>N=682</p>	<p>Secondary Traumatic Stress Inventory</p> <p>(STSI; Ogińska-Bulik et al., 2018)</p>	<p><u>Role-related factors</u> Police division Exposure: years assisting trauma victims, weekly number of hours working with trauma victims</p> <p><u>Person-level factors</u> Gender, Age Personality traits: (Costa and McRae, 1989) Rumination: (Cann et al., 2011) Secondary trauma self-efficacy (STSE): Cieślak et al., 2013)</p>	<p>Associated with higher STS: Neuroticism ($r = .36, p < .001$), intrusive ruminations ($r = .67, p < .001$), deliberate ruminations ($r = .59, p < .001$), years assisting trauma victims ($r = 0.19, p < .001$)</p> <p>Associated with lower STS: STSE ($r = -.27, p < .001$), extraversion ($r = -.09, p < .05$), agreeableness ($r = -.16, p < .001$), conscientiousness ($r = -.09, p < .05$)</p> <p>Only Agreeableness ($\beta = -.10, p < .001$), neuroticism ($\beta = .09, p < .001$), intrusive ruminations ($\beta = .45, p < .001$), and deliberate ruminations ($\beta = .24, p < .001$) remained significantly related to STS after the other variables were controlled for</p>
<p>15. Perez et al. (2010)</p> <p>Cross-sectional</p> <p>U.S Internet child pornography investigators</p> <p>N=28</p>	<p>STSS</p>	<p><u>Role-related factors</u> Exposure: number of child pornography cases worked, duration working with disturbing media, time since first exposure Turnover intentions: (Abrams et al. 1998)</p> <p><u>Coping</u> Supportive relationships: Likert scale</p>	<p>Associated with higher STS: Time working with disturbing material ($r = .39, p < .05$), time since first exposure ($r = .40, p < .05$), turnover intentions ($r = .51, p < .01$)</p> <p>Associated with lower STS: Loved ones supportive of work ($r = -.50, p < .01$),</p>
<p>16. Seigfried-Spellar (2017)</p> <p>Comparative cross-sectional</p> <p>US police officers and/or digital forensic examiners</p>	<p>The PTSD Checklist–Civilian Version</p>	<p><u>Role-related factors</u> Role duties: DFE only, Investigator only or both duties</p>	<p>Associated with higher STS: Individuals performing dual duties ($X^2(1) = 3.79, p = .05$)</p>

(DFE) in Internet Crimes against Children (ICAC) ICAC taskforce N=129 (DFE only=20 Investigator only=71 Both duties=38)	(PCL-C; Weathers et al. 1991)		
17. Sheard et al. (2019) Cross-sectional U.K Police personnel across ten roles N=602	ProQOL STS subscale	<u>Role-related factors</u> Job role: (10 different job roles) 24/7: Frontline officers Communications officers: Answers calls to police Firearms: Operations requiring firearms Crime: Investigating serious crimes Resolution without deployment (RWD): Aim to resolve incidents via telephone Neighbourhood: Policing community areas Custody: Responsibility for individuals in custody Safeguarding: Protecting children and vulnerable adults Operations: High risk areas of protective services Other staff: e.g. Human resources Control: Shift work	Associated with higher STS: Effect of job role with RWD having significantly higher STS than firearms, communications and other staff (F (9, 466) = 3.485, p <0.001)
18. Tehrani (2016)* Cross-sectional U.K Internet Crimes against Children (ICAC) investigators N=126	ProQOL STS subscale	<u>Person-level factors</u> Personality Traits (Introversion and Neuroticism): (Eysenck et al., 1985)	Associated with higher STS: Female gender ($\beta = .19$, p <.05), neuroticism ($\beta = .40$, p <.001)
19. Tehrani (2018)* Cross-sectional U.K. Child Abuse Investigators (CAIs)	ProQOL STS subscale	<u>Role-related factors</u> Tenure: Years in post <u>Person-level factors</u> Gender, Number of ACEs Workability: Ad hoc	Associated with higher STS: Female gender (t = 2.90, p <.01) Associated with lower STS: Higher workability (r= -.39, p <.001)

N=2289			
<p>20. Turgoose et al. (2017)</p> <p>Cross-sectional</p> <p>U.K Specialist Sexual Offenses, Exploitation and Child Abuse (SOECA) police officers</p> <p>N=142</p>	STSS	<p>Person-level factors</p> <p>Empathy:</p> <p>Trait empathy (Spreng et al., 2009), situation-specific empathy (Video vignettes and Likert scale)</p>	<p>Associated with higher STS:</p> <p>Tenure in SOECA ($r = .40, p < .001$), working with adults compared to working with children ($t(104) = 3.3, p = .001$)</p>

*Concerns regarding independent sampling are discussed within quality appraisal

Secondary Traumatic Stress Inventory (STSI; Ogińska-Bulik et al., 2018) in the final study.

Quality appraisal

The AXIS tool appraises quality of reporting, study design, and risk of bias. Table 2. Provides an overview of AXIS items for each study.

The included studies demonstrated good quality of reporting. Clear aims (Item 1), appropriate study design (Item 2), well-defined target populations (Item 4), and suitable sampling frames (Item 5) were evident. Methods, including statistical procedures, were generally well-described (Items 10 and 11), but precision estimates were missing in most studies. Some minor issues were observed in describing basic data (Item 12). Results were generally presented for all described analyses (Item 16), and discussions and conclusions were justified by the results (Item 17). Limitations were generally explored and discussed (Item 18).

Patterns of concern in relation to quality of sampling, response rates, measurement, and reporting emerged when comparing AXIS results across studies.

Sampling and response rates. Three studies reported power calculations (Item 3), of which one did not reach the recommended sample size (Gray and Rydon-Grange, 2020). The remaining studies did not provide justification of sample size. Further

Table 2. Methodological quality (AXIS)

	AXIS items (Item number and area of appraisal)																			
Authors & Year <i>Co-rated studies in bold</i>	1 Study aims	2 Study design	3 Sample size justified	4, 5, 6 & 7 Sampling & non responders				8 & 9 Measure- ment		10 & 11 Reporting of methods		12 Reporting basic data	13 & 14 Non response bias		15 & 16 Reporting results		17 & 18 Discussion		19 Conflicts of interest	20 Ethics and consent
1. Acquadro Maran et al (2020)	√	√	X	√	√	X	X	√	√	√	√	√	?	X	X	√	√	√	X	√
2. Bourke et al (2014a)	√	√	X	√	√	X	X	√	√	√	√	√	?	X	X	√	√	√	X	√
3. Bourke et al (2014b)	√	√	X	√	√	X	X	√	√	√	√	X	?	X	X	√	√	X	X	√
4. Brady (2017)	√	√	X	√	√	X	√	√	√	√	√	√	?	X	√	√	√	√	X	X
5. Burruss et al (2018)	√	√	X	√	√	X	X	√	√	√	√	√	X	X	X	√	√	√	X	X
6. Craun and Bourke (2014)	√	√	X	√	√	X	X	√	X	√	√	X	?	X	X	√	√	√	X	√
7. Craun et al (2014)	√	√	X	√	√	X	X	√	√	√	√	X	X	X	?	X	√	√	X	√
8. Craun and Bourke (2015)	√	√	X	√	√	X	X	√	X	√	√	X	?	X	X	√	√	√	X	X
9. Cronje et al (2020)	√	√	X	√	√	X	X	√	√	?	√	X	X	X	X	X	√	√	X	√
10. Gray (2020)	√	√	√	√	√	X	X	√	√	√	√	√	?	X	√	√	√	√	X	√
11. Hurrell et al (2018)	√	√	√	√	√	X	X	√	√	√	√	√	?	X	X	√	√	√	X	√
12. Kunst et al (2017)	√	√	X	√	√	X	√	√	X	√	√	√	X	√	√	√	√	√	X	√

13. Losung et al (2021)	√	√	X	√	√	X	X	√	√	√	√	√	?	X	X	√	√	√	X	√
14. Ogińska-Bulik et al (2022)	√	√	X	√	√	X	X	√	?	√	√	√	X	X	X	√	√	√	X	√
15. Perez et al (2010)	√	√	X	√	√	X	X	√	X	√	√	√	?	X	√	√	√	√	X	√
16. Seigfried-Spellar (2017)	√	√	X	√	√	X	X	√	?	√	√	√	?	X	√	√	√	√	X	√
17. Sheard et al (2019)	√	√	X	√	√	X	X	√	√	√	√	√	?	X	X	√	√	√	X	√
18. Tehrani (2016)	√	√	X	√	√	√	X	√	√	√	√	√	X	X	X	√	√	X	X	√
19. Tehrani (2018)	√	√	X	√	√	√	√	√	√	√	√	√	X	√	X	√	√	√	X	√
20. Turgoose et al (2017)	√	√	√	√	√	X	X	√	√	√	√	√	?	X	√	√	√	X	X	√

Table key: √ = Yes response, X = No response, ? = insufficient information, Green = positive appraisal, Orange = negative appraisal
 Note: The appraisal of AXIS items depended on the context and the nature of the criteria being assessed. Certain AXIS items would receive a positive appraisal if answered as X/No. For instance, item 19 “Were there any funding sources or conflicts of interest that may affect the authors’ interpretation of the results?”. Other items, such as item 20 “Was ethical approval or consent of participants attained?”, received a negative appraisal if the answer was X/No. A full description of each Axis item question is available in Appendix 1.2.

sampling issues impacted on risk of bias appraisals, specifically the opt-in/voluntary sampling strategy for 18 studies, heightening the risk of non-response bias (Item 6). This is particularly relevant for policing samples given reported barriers to disclosing psychological distress at work (Newell et al., 2022). Six studies reported response rates, ranging from 40% - 93%. The remaining studies were unable to ascertain response rates (Items 13 and 14) with subsequent difficulties in addressing and categorising non-responders (Item 7).

The use of Independent samples was unclear for studies conducted by two research groups (Bourke and Craun, 2014a; Bourke and Craun 2014b; Craun and Bourke, 2014; 2015), and (Tehrani, 2016; 2018). The authors were contacted with a clarification request for the purpose of a previous review (Harper, 2018). While the Tehrani group confirmed a small overlap in participants between studies, the Bourke and Craun group could not confirm the use of independent samples (Harper, 2018). All papers from both groups were included for their unique contributions regarding factors of interest, however, caution was taken in interpreting the synthesised results due to potential conflation of samples.

Measurement. Identified independent and dependent variables were appropriate to the aims of the studies (Item 8) however some concerns in relation to variable measurement were raised (Item 9).

Reporting. Limitations regarding internal consistency of the data were identified for 14 studies (Item 15), insufficient information for missing data was a common concern and a number of minor issues in reporting were identified. Although no apparent

conflicts of interest were identified (Item 19) reporting could have been more explicit. Three studies did not report information regarding ethical approval or participant consent (Item 20).

Rates of STS

Nine studies reported STS prevalence rates. Seven utilised the STSS measure (Bride et al., 2004; Bride, 2007) and reported varying rates of between 26% (Turgoose et al., 2017) and 61% (Cronje and Vilakazi, 2020) within moderate to severe categories, with the majority reporting in the 30-50% range. Craun and colleagues (2014) observed stable STS levels over a three-year period.

Sheard and colleagues (2019) reported respondents meeting STS cut-off (as per the ProQOL; Stamm 2010) ranging from 0% (firearms officers) to 58.3% (Resolution without deployment officers [RWD]). Ogińska-Bulik and Bąk (2022) reported that 13.9% of respondents presented a “high risk” of STS while 86.1% presented a “low risk” as per the STSI (Ogińska-Bulik et al., 2018). Tehrani (2016) reported that 4% of males and 7% of female participants met clinical levels of STS as per the ProQOL (Stamm, 2010).

Factors associated with STS

For the purpose of the review factors associated with STS were grouped into role-related, organisational, person-level, and coping factors.

Role-related factors. Common factors included tenure, exposure to traumatic material, and role/investigation characteristics.

Tenure. Among the 10 studies examining associations between tenure and STS, two reported an increased risk of STS with time spent working with trauma victims (Losung and colleagues, 2021; Ogińska-Bulik and Bąk, 2022). Perez and colleagues (2010) reported a significant positive correlation between time since first exposure to disturbing media and STS.

Gray and Rydon-Frange (2020) reported a significant positive association between STS and length of service within current specialist role. However, when examined by total time in any specialist role the association was not significant. Similarly, Turgoose and colleagues (2017) reported a significant association between time spent in a specialist role and higher STS scores that was not significant when examined by overall tenure.

Five studies did not find any significant association between STS and tenure (Acquadro et al., Bourke and Craun, 2014a; Cronje and Vilakazi, 2020; Hurrell et al., 2018; Tehrani, 2018).

Exposure. 11 studies investigated associations between STS and exposure to indirect traumatic material. Seven studies reported increased frequency of exposure as significantly associated with higher STS scores (Bourke and Craun, 2014a; Bourke and Craun, 2014b; Burruss et al., 2018; Craun and Bourke, 2014; 2015, Craun et al., 2014; Hurrell et al., 2018). Perez and colleagues (2010) reported mixed results with time working with, and time since first exposure to disturbing media as significantly and positively correlated with STS however, the number of disturbing media cases worked was not associated with STS. Brady (2017) found a significant

association between frequency of indirect exposure to child abuse material and higher levels of STS, while the frequency of direct exposure showed no such association. Two studies reported no significant association between STS and exposure (Cronje and Vilakazi, 2020; Ogińska-Bulik and Bąk; 2022).

Five studies reported significant positive associations between STS scores and difficulty with exposure to disturbing material (Bourke and Craun, 2014a; Bourke and Craun, 2014b; Craun and Bourke, 2014; 2015; Craun et al., 2014). Caution should be exercised when interpreting the weight of these combined results, considering the uncertainty surrounding independent sampling.

Type of policing role. Nine studies investigated role or investigation type. Three studies compared STS severity across different roles. Sheard and colleagues (2019) found that Resolution without Deployment (RWD) officers had significantly higher STS levels than firearms, communications, and other staff. Ogińska-Bulik and Bąk (2022) found no association between STS symptom severity and police division (Uniformed branch, Criminal Investigation, or Support Services). Craun and colleagues (2014) found that working as a sex offender investigation coordinator, compared to general duties, was not associated with higher STS.

Cronje and Vilakazi (2020) reported positive significant correlations between STS and investigating indecent assault and child molestation cases. Brady (2017) reported that working on cases involving young child victims was significantly associated with higher levels of STS. In contrast, Turgoose and colleagues (2017)

reported that participants working with adults experienced higher levels of STS than those working with children.

No significant associations were reported with STS for working full or part-time (Hurrell et al., 2018); working undercover (Brady, 2017); shift work (Sheard et al., 2019); or degree of role clarity or job autonomy (Acquadro Maran et al., 2020).

Organisational factors

Organisational factors relate to the culture and practices of an organisation. Included studies investigated co-worker, supervisor and organisational support, job demands, and geographical location.

Support at work. Of the nine studies examining support at work six reported significant associations between higher levels of co-worker support with lower levels of STS (Bourke and Craun, 2014a, Bourke and Craun, 2014b; Craun and Bourke, 2014; 2015; Craun et al., 2014; Kunst et al., 2017).

Results regarding supervisory support were mixed. Four studies reported significant associations between positive supervisory support and lower STS scores (Bourke and Craun, 2014a; Bourke and Craun, 2014b US sample only; Craun et al., 2014; Craun and Bourke, 2015). Three studies reported no significant association between supervisory support and STS (Acquadro Maran et al., 2020; Craun and Bourke, 2014; Kunst et al., 2017). Brady (2017) reported that lower organisational support was significantly associated with higher levels of STS.

Job demands. Six studies investigated job demand factors. Performing dual duties (Seigfried-Spellar, 2017), work-family conflicts (Aquadro Maran et al., 2020), and frequently feeling overwhelmed at work (Brady, 2017) were significantly associated with higher levels of STS.

Aquadro Maran and colleagues (2020) reported no association between STS and user demands, emotional dissonance, and cognitive load. Four studies investigated workload as a factor and found no association with STS (Aquadro Maran et al., 2020; Kunst et al., 2017; Ogińska-Bulik and Bąk, 2022; Perez et al., 2010).

Geography. Craun and colleagues (2014) found significantly lower mean STS scores in the UK compared to the US. Losung and colleagues (2021) reported no significant differences in STS levels between metropolitan and rural based participants.

Person level factors

Person level factors included gender, personal history of trauma, resilience, empathy, age, personality traits, attachment styles, cognitive factors, age and ethnicity.

Gender. Nine studies investigated gender. Five reported no significant gender differences for STS (Gray and Rydon-Grange, 2020; Hurrell et al, 2018; Losung et al., 2021; Ogińska-Bulik and Bąk, 2022; Turgoose et al., 2017). Three reported significantly lower levels of STS in males (Bourke and Craun, 2014a; Brady, 2017; Tehrani, 2016). Bourke and Craun (2014b) reported significantly lower levels of STS

in males within their US sample, and no significant gender differences within their UK sample.

Personal trauma history. Four studies investigated personal trauma history. Brady (2017) reported a significant association between personal trauma history and higher STS. Three studies reported no significant association (Hurrell et al., 2018; Kunst et al, 2017; Tehrani, 2018).

Resilience. Gray and Rydon-Grange (2020) reported significant negative associations between STS and the psychological resilience variables of coping self-efficacy, dispositional mindfulness and psychological flexibility. Similarly, Ogińska-Bulik and Bąk, (2022) reported that STS symptoms were significantly negatively correlated with secondary trauma self-efficacy, however, this did not remain significant when other variables were controlled for. Acquadro Maran and colleagues (2020) reported that STS was not associated with resilience or secondary trauma self-efficacy.

Age. Three studies reported that age was not significantly associated with STS (Hurrell et al., 2018; Ogińska-Bulik and Bąk, 2022; Turgoose et al., 2017). Kunst and colleagues (2017) reported a significant negative association between STS and age.

Empathy. Losung and colleagues (2021) reported significant negative associations between cognitive empathy factors of self-other awareness and emotional regulation and STS. Turgoose and colleagues (2017) reported no significant associations between STS and empathy.

Personality. Two studies investigated personality traits. Tehrani (2016) and Ogińska-Bulik and Bąk (2022) reported significant positive associations between neuroticism and higher levels of STS. Tehrani (2016) reported no association between extraversion and STS. Ogińska-Bulik and Bąk (2022) reported that symptoms of STS were negatively associated with extraversion, agreeableness and conscientiousness. However, after controlling for other variables only neuroticism and agreeableness remained significantly related to STS.

Attachment. One study investigated attachment and reported significant associations between increased anxious and avoidant attachment styles and higher levels of STS (Gray and Rydon-Grange, 2020).

Cognition. One study investigated cognitive factors and reported significant positive associations between intrusive and deliberate ruminations and STS (Ogińska-Bulik and Bąk, 2022).

Ethnicity. One study included ethnicity as a factor, which was not found to be significantly associated with STS (Turgoose et al., 2017).

Coping mechanisms

Coping mechanisms included social support (outside of work), coping behaviours, coping styles, and use of humour.

Social support. Six studies investigated social support. Five studies reported significant association between social support and lower levels of STS (Craun and Bourke, 2014; Craun et al., 2014; Brady, 2017; Perez et al., 2010; Seigfried-Spellar, 2017). Longitudinal data suggested immediate benefits of coping involving social support however the long-term impact was less clear (Craun et al., 2014). Acquadro Maran and colleagues (2020) reported that STS was not significantly associated with family support.

Coping behaviours. Five studies investigated coping behaviours. Craun and colleagues (2014) reported that a low level of weekly exercise was significantly associated with higher STS compared to moderate and high levels. Bourke and Craun (2014a; 2014b) both reported significant associations between increased tobacco use and higher STS, whereas Craun and Bourke (2014) did not find any significant association. Bourke and Craun (2014a) and Craun and Bourke (2014; 2015) reported that increased alcohol use was significantly associated with higher STS. Longitudinal data revealed that the use of alcohol and tobacco alone were not associated with STS, but individuals who reported increased consumption over the last year had large increases in STS scores (Craun et al., 2014).

Coping styles. Five studies investigated coping styles. Coping through denial was significantly associated with higher levels of STS in three studies (Bourke and Craun, 2014a; Bourke and Craun, 2014b; Craun et al., 2014), but not associated in another (Craun and Bourke, 2015). Hurrell and colleagues (2018) reported significant positive correlations between STS and both positive and negative coping strategies as measured by items from the Brief COPE inventory. Only negative coping

strategies remained significantly related to STS after controlling for other variables. Bourke and Craun (2014b) reported no association between STS and active coping, coping through planning, positive reinterpretations or behavioural disengagement.

Humour. Two studies investigated humour. Significant positive associations were reported between use of gallows humour (Craun and Bourke, 2014), humour used at the expense of the victim (Craun and Bourke, 2015) and STS. A significant negative association was reported between use of light-hearted humour and STS and no significant associations were found for humour at the expense of offender or involving sexual innuendo (Craun and Bourke, 2015). As previously discussed, both studies made use of ad hoc Likert scales. Hence, these results were considered preliminary for the purpose of the review.

Discussion

This systematic review aimed to investigate factors associated with STS in policing. From the 20 eligible studies, key role-related (tenure and exposure), organisational (co-worker/supervisory support), person-level (gender, personal history of trauma) and coping factors (social support) were identified. Quality appraisal identified a number of methodological limitations across the included studies.

Exposure in specialist roles. The relationship between tenure within specialist roles and frequency of exposure was particularly interesting. Results concerning tenure were mixed. Some results indicated a more complex picture than simply cumulative impact of time spent within policing, in that there is something specific about working

within different roles with particular exposure that carry more risk (Turgoose et al., 2017; Gray and Rydon-Grange, 2020; Sheard et al., 2019).

Perhaps more important than interpreting tenure on its own is 'dose' of indirect exposure to trauma. Some consensus emerged in relation to increased frequency of exposure and higher STS scores. Two studies reported similar patterns of results in which frequency of exposure was significantly associated with higher levels of STS but more role related factors (e.g., working cases as a sex offender investigation coordinator or the number of disturbing media cases worked or were not (Craun et al., 2014; Perez et al., 2010). Taken together, these results could potentially indicate that although by nature of working within a specialist role the likelihood of secondary exposure to trauma increases, the frequency of that exposure may be a more helpful way to identifying those at risk of developing STS.

Support. The results suggest a potentially protective role of social support, both within and outside the workplace, aligning with current evidence on the significance of social support in coping with the impacts of trauma (Calhoun et al., 2022). The results indicate that co-worker support and, to a lesser extent, supervisory support might mitigate the impact of STS. While the role of supervisors in enhancing staff well-being is widely acknowledged in policing (Hesketh and Tehrani, 2020), caution is needed in interpreting the relationships between support and STS due to the cross-sectional nature of the studies. For instance, Brady (2017) found that lower organizational support was significantly associated with higher levels of STS. Although this may indicate low levels of organisational support as a potential risk

factor, it is also possible that STS may lead individuals to withdraw from various forms of organisational support.

Person level factors. Included studies examined a wide range of person-level factors, leading to difficulties in cross-comparison and resulting in insufficient data to draw meaningful conclusions for all but two: gender and personal trauma history. Six studies found no association between STS and gender while four noted female officers reporting higher levels. Policing culture is important to consider when interpreting gender differences in reporting of STS, as demonstrated by Sharp and colleagues (2020) who identified masculine policing culture as a potential barrier to reporting psychological distress. In contrast to the wider literature where personal history of trauma has been identified as a potential risk factor for STS in caring professionals (Sprang et al., 2018), the results indicated no such association in policing. This could however potentially reflect perceived stigma and fears around disclosure of previous trauma experiences within a workplace setting.

Limitations

The cross-sectional nature of the included studies presents a major limitation, requiring caution in interpreting relationships between variables. For example, when discussing the potential impact of role, Sheard and colleagues (2019) reported higher levels of STS in RWD officers as compared to officers in other roles. The authors noted that officers were often assigned to this role due to restricted duties or psychological injury. Therefore it is unclear whether STS is attributed to this role or secondary exposure in another role.

A further limitation relates to sampling. Given the nature of recruitment there were a number of potentially risks of sampling bias e.g. nonresponse bias in a population where information on non-responders is difficult to ascertain.

The added heterogeneity in comparison of international studies is another limitation given potential impacts of organisational culture on results (e.g. Craun and Bourke, 2014). Although the majority of the included studies included relatively homogeneous samples from specialist roles, three consisted of 'general' policing or mixed samples.

The included studies relied upon questionnaire data for the measurement of STS and the interpretation of these results requires consideration of identified barriers to reporting mental health difficulties within policing (Newell et al., 2022). Additionally, given the conceptual overlap between STS and PTSD, rates of STS may reflect PTSD symptomology resulting from primary trauma (Molnar et al., 2017).

Future research and clinical implications

Quality appraisal identified sampling and potential non-response bias as a methodological area of concern across the identified studies. Future research should make use of power calculations and aim to address and categories non-responders where possible, although this is a recognised area of methodological difficulty within policing research (Foley et al., 2022). Future research would also benefit from increased transparency of reporting and the use of validated measures to aid in cross study comparison.

Incorporating longitudinal designs in future research may help in the identification of STS risk and resilience factors and inform interventions. For example, Wild and colleagues (2018) conducted a prospective study with paramedics and identified rumination and resilience appraisals as predictors of PTSD. Based on these results training to support paramedics in developing protective cognitive strategies was developed. As previously discussed, the wide range of person-level factors investigated across studies resulted in insufficient data to draw meaningful conclusions for a number of potentially interesting modifiable factors, such as cognitive styles. Further research regarding potential modifiable risk and resilience factors specific to STS in policing is crucial for targeted intervention development. The College of Policing recommends that individuals presenting with STS should be offered trauma-focused therapy (Hesketh, and Tehrani, 2020). While some aspects of PTSD interventions can inform STS interventions, caution is required due to the lack of evidence supporting their efficacy for STS (Bercier and Maynard, 2015). Research within other professions can inform potential STS interventions within policing samples. For example, preliminary evidence suggests that self-guided compassion training may be beneficial for healthcare workers exhibiting STS (Rushforth, 2023). However, it would be premature to suggest the generalisability of effectiveness across professional populations.

The reviews preliminary findings highlight the role of support both outside of, and within work (co-worker and supervisory) as potential protective factors for STS. The now-concluded Blue Light Campaign (Mind, 2019) exemplified promoting a supportive organisational culture through addressing mental health stigma, raising awareness and providing training for supervisors and co-worker supporters.

Research by Sprang and colleagues (2023) emphasises the role of STS 'champions' in fostering positive change in workplace culture by openly sharing their experiences of psychological distress. Continued efforts to promote supportive organisational culture, in which co-worker and supervisor support are facilitated, are recommended (Hesketh, and Tehrani, 2020; Sharp et al., 2020). These efforts may also help reduce non-response bias or potential underreporting of STS within policing research by addressing barriers to disclosing STS, such as stigma.

Further research related to STS within specialist roles, other than those involving crimes against children, is warranted as preliminary evidence suggests these individuals may also be at risk of STS. Maximum tenure policies for specific specialist roles have been used as a means of managing level of exposure (Powell et al., 2014) however, the current review suggest that using a more meaningful measure of level of exposure may be beneficial.

Conclusion

This review highlighted tenure, level of exposure, different forms of support (co-worker, supervisory and social), gender, and personal history of trauma as factors commonly associated with STS in policing. The results suggest that further research is required to identify risk and resilience factors. Key clinical implications include addressing frequency of secondary exposure, enhancing a supportive organisational culture and decreasing barriers to help seeking and reporting STS.

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Chapter 2

How does the psychological impact of alleged sexual offences on complainants affect criminal investigations? Police perspectives

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A note on language

Throughout the interviews a number of descriptors were used to describe people who had experienced sexual abuse or assault and were engaging in police investigations as witnesses (survivor, victim, complainant or complainer). It is important to note that from a Police Scotland perspective complainer is considered the appropriate descriptor, given it is the legal term in Scots law for an alleged victim. Participants would use other descriptors at times, which was reflective of the language I used in my questioning as a researcher from my own discipline. Outside the data extracts I will use the descriptor survivor. The conclusions drawn in this report are those of the author and do not necessarily reflect the views of Police Scotland.

Plain language summary

Title: How does the psychological impact of alleged sexual offences on complainants affect criminal investigations? Police perspectives

Background

Sexual crimes like rape and childhood sexual abuse are traumatic events that can have negative impacts on survivors' mental health (Cloitre, 2020). Police investigations can be difficult for survivors of sexual crimes because of how the trauma they've been through can impact on their trust and how they think and feel. Some research suggests that police investigations can be re-traumatising for survivors, and that some of the impacts of trauma on how survivors behave or talk about these crimes can make police question them and the information they provide (Maddox and Barker, 2012). The police have a responsibility to investigate these crimes, but they also need support survivors so that they can engage in the investigation and provide the best possible evidence. To achieve this, police officers must understand how the survivor has been affected by the trauma they've experienced. There is not enough research and understanding about how the impact of trauma on survivors affects how police officers investigate sexual crimes.

Aims and Questions

This study aims to explore how police officers investigating sexual crimes view and understand the impact of trauma on the survivors they interview. It will also investigate how this understanding influences investigations and the way they work.

Methods

Participants: The study included police officers who had experience investigating sexual abuse and assault cases and interviewing survivors in these cases.

Recruitment: A senior member of Police Scotland identified 18 eligible participants who were contacted by email and invited to volunteer. Nine participants agreed to take part in the study.

Design of study: In one-to-one interviews participants were asked to talk about their experience of working with survivors while investigating sexual abuse and assault cases. The interviews were audio and video recorded. Thematic analysis was used to analyse the interviews once they had been typed up (Braun and Clarke, 2021). Thematic analysis is a way of picking out patterns or themes across interviews.

Main Findings and Conclusions: Participants spoke about how an understanding of the impact of trauma helped them support survivors and made them better investigators. They said that doing their job was hard at times, especially when they felt torn between supporting survivors and the investigation. They also spoke about how connecting with survivors and hearing about traumatic events was difficult for them personally. The findings suggest that an understanding of the impact of trauma helps police in supporting the recovery of survivors, and in their investigation of these crimes. However, there is a need to support police in these roles.

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Abstract

This study aimed to examine how police investigating sexual offences view and understand the impacts of trauma on the survivors they work with, and how this can affect investigations and their practice. Nine police professionals with experience of investigating sexual offences were interviewed and a thematic analysis approach was applied to the interview transcripts. Four themes developed in relation to the research aims; Our role in the investigation of sexual offences: *“the ultimate goal is to get out there and get the bad guy whilst making sure whoever has reported this crime is supported”*; Recognising the impact of trauma: *“It’s actually how your brain works, it’s not the persons fault”*; Attunement and relationships: *“that relationship is really important for going forward because...I’m relying on you for your help”*; and The costs of the role: *“it’s very difficult to be in a position to understanding fully from both perspectives”*. The findings suggest that an understanding the impact of trauma aids police in both supporting the recovery of survivors and in their investigation of offences. However, there is a need to support police in these roles so they can continue working in a safe an effective manner.

Introduction

Traumatic impact of sexual abuse and assault

Repeated interpersonal traumatic events, such as sexual abuse and assault (SAA), can profoundly affect survivors, leading to adverse psychological consequences, including Post-Traumatic Stress Disorder (PTSD) and Complex Post-Traumatic Stress Disorder (CPTSD) (Cloitre., 2020; O'Leary et al., 2010). Research by Rothbaum and colleagues (1992) demonstrated that 94% of women reporting rape met PTSD criteria in the immediate aftermath. A recent meta-analysis revealed that one month and a year following sexual assault, 74.58% and 41.49% of people, respectively, met diagnostic criteria for PTSD (Dworkin et al., 2023).

In addition to PTSD symptoms of re-experiencing, hyperarousal and avoidance of reminders, CPTSD can include negative impacts on survivors' sense of themselves and their worth including feelings of shame, on their mode of relating, particularly in terms of trust, and difficulties with emotion regulation (World Health Organization, 2020). CPTSD serves as a representation of the comprehensive evidence and understanding regarding how people typically adapt and respond to repeated interpersonal trauma. While we would not expect everyone who has experienced SAA to develop CPTSD, its components encompass various ways people may react and adapt to traumatic experiences. Thus, the framework of CPTSD can aid in anticipating and understanding a person's response to interpersonal trauma.

Survivors of SAA are faced with the difficult decision of whether or not to engage with police investigations. A number of barriers to legal disclosure of SAA have been identified (Herman, 2003; O'Donohue, 2019; Tener and Murphy, 2015) including

fears of not being believed, feelings of shame, and concerns about the negative impact of engaging with the legal system (Morrison, 2016). Post-traumatic symptoms themselves can act as further barriers to disclosure and engaging in investigations, for example avoidance of reminders sitting in contrast with multiple retellings required in investigations. According to UK-based research, about one-third of children (34%) who have experienced sexual abuse by an adult chose not to disclose (Redford et al., 2011). For those who do disclose an estimated two-thirds of childhood sexual abuse survivors delay reporting of abuse, and half of those who do report do not do so until adulthood (London et al., 2005).

Police investigations

For some people, engaging in the investigation plays an important role in their recovery, regardless of whether or not the case is prosecuted in court. However, aspects of police investigations have been shown to inhibit recovery and if a survivor does decide to engage with the legal process, they can expect potential exacerbation of distress and traumatic symptoms (Patterson et al., 2009).

Morrison (2016) found that expert mental health professionals believed that legal processes may cause harm to adult survivors of childhood sexual abuse, by increasing feelings of responsibility and shame, while reinforcing fears that they will not be believed.

3.6% of adults in Scotland have experienced at least one type of serious sexual assault since the age of 16 with no change in percentage point since 2008/09 (Scottish government, 2021b). Despite the identified barriers to reporting, other than small decreases in 2019-20 and 2020-21, the number of sexual offences recorded

by Police Scotland have increased yearly since 2008 (Scottish Government, 2021a). A number of factors have contributed to this including changes in societal attitudes, the uncovering of historic offences, and a wider definition of rape in the Sexual Offences Act (2009). However, high attrition rates compared to other offences remain a source of concern (Inspectorate of Prosecution in Scotland, 2017; Lovett and Kelly, 2009) and many survivors of SAA continue to report difficulties in engaging with legal process (Thomson, 2017). Scottish Government figures show that during 2020-21, there were 2,298 reported cases of rape and attempted rape, but only 152 prosecutions and 78 convictions (Scottish Government, 2021a).

Trauma and the investigation process

The negative mental health outcomes associated with SAA for survivors may have implications for the investigation of such offences. One of the complexities inherent to the investigation of SAA is the reliance on potentially vulnerable witnesses. Key evidence is often in the form of witness testimony and the credibility of the survivor, and the reliability of their trauma narrative, becomes central to police investigations (Haskall and Randall, 2019). However, the traumatic impact SAA can have on an individual emotionally, cognitively and interpersonally can make this full and active participation difficult.

Additionally, research suggests that the psychological consequences of trauma can impact on the perceived credibility and reliability of survivors. Herman (2003) argues that the psychological impact of childhood sexual abuse can sit in direct opposition with what is required of as a 'perfect witness'. Research has highlighted how common post traumatic reactions, such as fragmented memories and incoherencies

within trauma narratives, can influence perceptions of credibility and reliability (Herlihy et al., 2002; Herlihy and Turner, 2015) potentially causing survivors of SAA to be perceived by police as “mad” or “bad” victims (Maddox, Lee and Barker, 2012). Research suggests that an “appropriate” amount of negative emotion, such as sadness or anger, is expected of a credible witness (Ask and Landström, 2010; Bollingmo et al., 2008; Bosma et al., 2018; Ellison and Munro, 2009) suggesting that emotion dysregulation may influence perceptions of credibility when a survivors’ emotional response when discussing a sexual offence is incongruent with the expectations of police. Persistent feelings of shame and self-blame can be viewed as core components of disordered self-concept within CPTSD, however research suggests that survivors displaying shame are viewed as less reliable by police (Maddox, Lee and Barker, 2012). Moreover, factors such as feelings of responsibility and shame can impact on an individual’s faith and confidence in their own narrative (Morrison, 2016), but evidence suggests that testimonies provided with low confidence are rated as less credible (Jones and Strange, 2019). Some research indicates that factors inherent to effective communication and relating to others such as ‘likeability’, warmth, and eye contact can be important elements in perceptions of credibility of a source (Neal et al., 2012).

In order to facilitate the engagement and participation of survivors in the investigation process, and to facilitate the gathering of quality evidence, appropriate adjustments to address the specific needs of survivors is required (JUSTICE, 2019). Given the traumatic nature of SAA, it is important that such adjustments and support are informed by an understanding of trauma and its impacts (Rich, 2019). For example, in order to minimise the mimicking of traumatic experiences for survivors, Harper

(2018) highlighted the need to establish more opportunities to promote trauma-informed principles of choice, control and predictability across criminal justice settings. In recent years there has been a move towards integrating trauma-informed practice into criminal justice processes such as police investigations. Police involved in the investigation of offences such as SAA are in a unique position to speak to how the impact of trauma on survivors influences their practice and the investigation process.

Summary

Increased frequency and severity of traumatic experiences, such as SAA, heightens the risk of adverse psychological impacts of those experiences. The more severe the psychological impact, the more difficulties survivors may face in engaging with legal processes. If a person does decide to report SAA, the impact of traumatic events on them interpersonally, emotionally and cognitively, may make aspects of the investigation process more difficult to participate in. There is research to suggest that aspects of the investigation process are potentially re-traumatising and may inhibit recovery for survivors of SAA. Additionally, the psychological consequences of sexual offences can impact on perceived survivor credibility. All of these factors can impact on attrition. There is insufficient research and understanding on the topic of how trauma impacts the investigation of SAA from the perspective of those seeking to investigate these crimes.

This study aims to examine how police investigating sexual offences view and understand the impacts of trauma on the survivors they work with, and how this can affect investigations and their practice. The research questions are;

- What are Police professionals' perceptions and experiences of the psychological impact of trauma on survivors and their evidence?
- What are their experiences of how this influences their practice and investigations?

Methods

A qualitative approach was deemed most suitable in order to facilitate a more nuanced exploration and understanding of police professionals' experiences.

Reflexive Thematic Analysis (RTA) was chosen as an approach as it allows for the investigation of perspectives of individuals with expert knowledge and experience (key informants) in topic areas that are under-researched (Braun and Clarke, 2013).

RTA is flexible in its approach, allows for the development of salient themes and the provision of a rich and detailed account of the data (Braun and Clarke, 2021).

Participants and recruitment

A purposive, non-random sampling strategy was utilised to allow for the identification of key informants on the topic area. This sampling strategy is in line with Braun and Clarke's (2013) recommendations for smaller scale studies in which participant interviews are analysed. A proposed sample size of 10-20 participants was informed by the concept of information power (Malterud et al., 2016). Given participants were asked to reflect on a sensitive topic, uncertainty about potential dialogue depth prompted an initial proposal for a broad sample size. Decisions in relation to ceasing data collection were guided by evaluating interview dialogue strength in the context of information power (Malterud et al., 2016).

Inclusion criteria were developed with the aim of recruiting individuals with substantial knowledge and experience of investigating sexual offences. They were developed in collaboration with the research supervisor and an identified senior Police Scotland officer, with responsibility for the investigation of sexual offences.

Inclusion criteria

- Currently working in a role which involves operational and/or strategic experience in investigating sexual offences **and**
- have at least one year of recent experience of conducting routine interviews with survivors of sexual offences.

The nominated senior Police Scotland officer identified a pool of 18 individuals within the Scottish National Rape Taskforce who fit the inclusion criteria and had the capacity to take part in the research. All 18 individuals identified as female.

Participants were contacted via email, on behalf of the lead researcher, by the senior Police Scotland officer and invited to volunteer. The email included a brief overview of the study with a participant information pack attached. Nine individuals emailed the lead-researcher directly expressing an interest in the study and they were given the opportunity to ask questions to help them consider participation. All nine individuals who made contact volunteered to take part in the study. The nine interviews provided in-depth, rich accounts of the participants experiences which meaningfully addressed the research questions and thus, it was deemed appropriate to cease data collection.

All participants had current or recent experience as Sexual Offence Liaison Officers (SOLOs) which involves being a main point of contact for survivors of alleged sexual

offences and gathering evidence and information from survivors. Three were in current roles involving more strategic duties. Due to the specialist nature of the participants roles, to protect participants' anonymity demographic information is reported in aggregate and they were provided with pseudonyms. All participants identified as female. Their ages ranged from 26 to 43. They held 70 cumulative years' experience of investigating sexual offences, with their individual years of experience ranging between four and 13 years. The names of participants were not disclosed to Police Scotland.

Settings and Equipment

One-off individual interviews were conducted by the lead researcher via Microsoft teams and were audio and video recorded. Participants were given further opportunity to ask questions and raise any concerns with the researcher prior to signing a consent form. The interviews were semi-structured in nature and informed by a topic guide (Appendix 2.1) to help elicit participants' subjective experiences and perceptions on key topic areas. The duration of the interviews ranged between 35 and 66 minutes. Interviews were transcribed verbatim by the lead researcher prior to data analysis.

Ethics

Ethical approval was sought and received from the University of Glasgow, College of Medical, Veterinary and Life Sciences ethics board (study number: 200220152) and organisational approval was received from Police Scotland. The ethical principles outlined by the British Psychological Society Code of Human Research Ethics (2021) guided research practice throughout the study.

As the study involved discussion of working directly with survivors of sexual offences, to mitigate risk of identification participants were reminded prior to interviews not to discuss identifiable information and transcripts were anonymised.

During interviews participants were asked to reflect on and discuss experiences of working with survivors of sexual offences and the psychological impacts of those offences. Given that participants were asked to reflect on their own working experiences, it was not anticipated that this would result in significant emotional distress. The lead researcher checked in with participants at the end of the interviews regarding their wellbeing and all participants were provided with a Police Scotland approved debriefing sheet containing signposting information to relevant places of support, both within and outside of Police Scotland.

It was agreed with Police Scotland that any concerns regarding unsafe practice, should they be identified, were to be reported to the senior designated officer for onward transmission to the Police Scotland Professional Standards Department for assessment and investigation if required. This was outlined within the participant information sheet and consent form.

Data Analysis

Data analysis was guided by the six Reflexive Thematic Analysis phases identified by Braun and Clarke (2021). A critical realist epistemological stance was adopted by the researcher. This stance acknowledges individual meaning making and the impact of broader social context on the construction and interpretation of that meaning, whilst allowing for potential implications in relation to investigatory practice to be drawn from the data. A hybrid deductive-inductive approach to analysis was adopted (Fereday and Muir-Cochrane, 2006; Heathcote et al., 2021). Unlike Fereday and

Muir-Cochrane (2006), and Heathcote and colleagues (2021), a formalised 'code book' was not utilised, rather a more flexible approach was taken by the lead researcher in which deductive coding was guided by principles of trauma-informed Care, allowing for both semantic and latent coding to inform resultant themes (coding sample: Appendix 2.2). A section of one transcript was coded independently by the academic supervisor and then explored within a reflective discussion to help facilitate greater depth of reflection and highlight potential areas of researcher bias.

Reflexivity statement

The interview data were generated from conversations between the individual participants and myself. It was crucial to consider how our individual experiences, biases, and ways of thinking may have influenced these discussions and interpretation of meaning.

As a Trainee Clinical Psychologist working with people who have experienced sexual trauma I have heard survivors experiences of police investigations, both negative and positive. I entered into this research with my own views, based on my training and knowledge, of how the impact of trauma may be recognised and responded to within investigations. Additionally, my research supervisor on this project is the lead author on NHS Education for Scotland (2023) recently published Trauma Informed Justice: Knowledge and Skills framework for working with victims and witnesses. While acknowledging the importance of evidence-based knowledge in providing a framework to inform coding and theme development, it was important to remain aware of my own beliefs and expectations, and those of my supervisors, when considering the weight attributed to the data. This helped in ensuring experiences or

perceptions that fell outside our expectations were not discounted, and that those which confirmed our beliefs or expectations were not given undue weight.

I considered the current cultural landscape, including negative media coverage of sexual offence investigations and the potential impact on participants' comfort in exploring the topic areas. Additionally, I reflected on the role of mine and the participants' gender (all identified as female) in the construction and interpretation of meaning, particularly in relation to gendered discourses around sexual violence.

I made use of a reflective journal throughout the process (Appendix 2.3) and engaged in reflective supervisory conversations. These processes helped identify points of discomfort or potential bias for me as a researcher and how this was impacting my interactions with the data during coding and theme development.

Results

This study aimed to examine a) police professionals' perceptions and experiences of the psychological impact of trauma on survivors of SAA and their evidence and; b) their experiences of how this influences their practice and investigations. Participants were asked to reflect on their experiences of working with survivors during the investigation of sexual offences.

Four themes were developed in relation to the research questions (Figure 2.1). Theme One, "Our role in investigating sexual offences", captures how participants viewed their role as both supporting the recovery of survivors alongside serving investigation objectives. Theme Two, "Recognising the impact of trauma", reflects

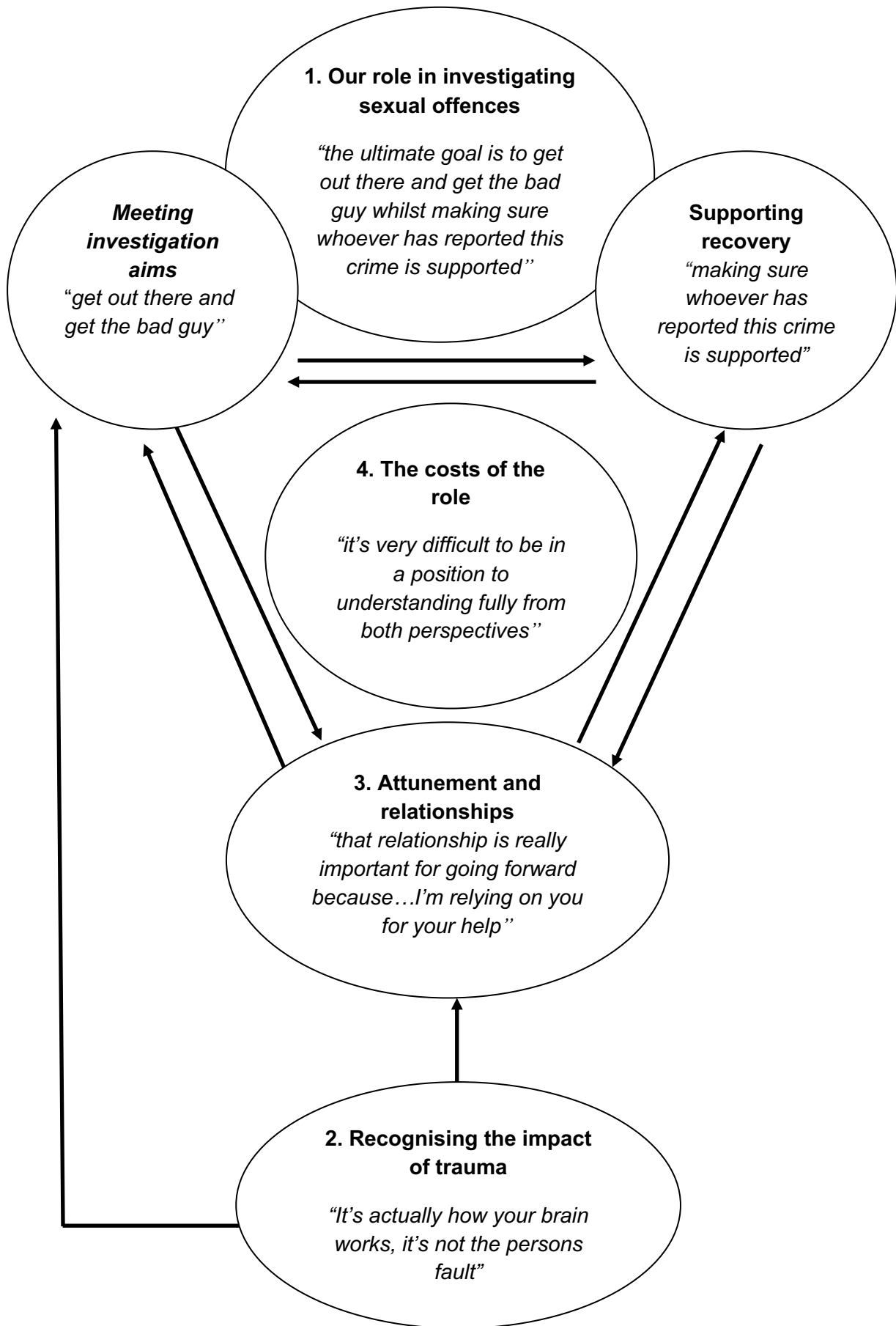


Figure 2.1. Thematic map

how participants' understanding of the impact of trauma has evolved, and the subsequent effects on their views and responses to survivors and the evidence they provide. Theme Three, "Attunement and relationships", reflects the importance placed by participants on their relationship with survivors for meeting both investigation aims and supporting their recovery, while capturing how their role as police could act as barrier and facilitator to these relationships. Theme Four, "The costs of the role", reflects the conflict experienced by participants when considering the potential personal impacts of working closely with survivors in their role as police. A narrative analytical approach was employed with the inclusion of excerpts from the transcripts to illustrate identified themes.

1. Our role in investigating sexual offences

This theme captures the way in which participants viewed their role as police and investigators while working with survivors of sexual offences.

As demonstrated by Elizabeth, participants consistently identified dual responsibilities of effectively serving the investigation aims alongside supporting the recovery of survivors.

Elizabeth: "the ultimate goal is to get out there and get the bad guy whilst making sure whoever has reported this crime is supported"

Hazel spoke to the investigative responsibilities participants held, including a number of duties aimed at progressing the investigation.

Hazel: *“we are just looking for a full description of what’s happened we are trying to establish if the essential elements are present and obviously we are looking for any kind of forensics opportunities”*

As highlighted by Nicole, public protection was viewed as a key factor that guided their work and was held within investigation aims.

Nicole: *“also the general public somebody has committed a serious sexual offence statistically speaking they will commit it again”*

Participants’ role involved engaging the survivor, gathering evidence from them in the form of statements, and keeping them up to date as a main point of contact.

Stephanie: *“I would be taking a statement from them and then if it’s my case then carrying out the inquiry and sort of trying to keep them as up to date as you can throughout the inquiry”*

In addition to these investigative responsibilities participants highlighted their role in supporting the recovery of survivors and avoiding re-traumatisation through their interactions with them. There was an importance placed on adaptations that acknowledge the impact of trauma as Cora highlights in her description of actively avoiding re-traumatisation by minimising the number of trauma narrative retellings and providing opportunities for choice.

Cora: *“you are trying to achieve the best evidence from that person you are trying to support them...my role would be to get them justice to make them feel safe ehm and to hopefully minimise the amount of times they need to talk about*

that incident to prevent anything further happening to them and allowing them to have a choice”

On the surface supporting the recovery of survivors and meeting investigation aims were viewed as mutually beneficial. By supporting the wellbeing of survivors they are better equipped to contribute to the investigative process, leading to a more effective investigations and better outcomes for survivors and police in terms of achieving some form of justice. However, participants often reflected on conflicts between the two.

Participants consistently described a desire to prioritise the welfare of survivors, as demonstrated by Jessica, however this was usually qualified with a ‘but’, followed by acknowledgement of their duty to serve investigation aims, indicating the potential for these to be at odds.

Jessica: “everything is obviously absolutely led by victim welfare their...wellbeing is absolutely paramount to everything that supersedes everything but from a police point of view we would be looking to... establish all the circumstances and capture everything as quickly as possible.”

Nicole reflected further on the role of police in supporting survivors’ recovery from trauma. She explicitly speaks to how it isn’t always possible to meet the needs of survivors within investigations, and identifies supporting their recovery as a personal aim, again suggesting that this can at times clash or be at odds with investigation aims.

Nicole: *“my personal aim is to ensure that the victim has the ability to continue to live a full and prosperous life having suffered the trauma that they have been through, regardless of the outcome of the police investigation because sometimes...in order to achieve that aim they need to step away”*

2. Recognising the impact of trauma

The second theme captures participants' experiences of how misunderstanding the impact of trauma can lead to questioning the credibility of the survivor and their account, and how acquired knowledge and accrued experience has changed their views of survivors, their interpretations of the impact of trauma and, consequently, their practice.

Throughout the interviews participants reflected on their own interpretations of different traumatic impacts namely cognitive, emotional and behavioural impacts. Hazel emphasises how misinterpretations of how a survivor tells their narrative can create scepticism, and how such misinterpretations can be mitigated when the effects of trauma on a person and their evidence are understood.

Hazel: *“from a police perspective there is inconsistencies there so you would think to yourself, I'm saying old school, you would think to yourself wait a minute here but being a wee bit more trauma informed and how trauma you know effects the person and their thinking... you kinda expect differences because of the way you know the way things start to come back to people and you know how your memory works”*

Nicole also reflects on her experience of recognising the impact of trauma on the evidence a person provides. Furthermore, she highlights how having a framework for understanding these impacts, in which the survivor is viewed as credible, enables police to respond in ways which are validating and non-blaming, thus meeting the needs of survivors.

Nicole: "they realise "oh I don't know, oh I can't remember" and that's why they haven't mentioned it yet and that's fine absolutely, no problem...it can be like eh spaces as in they say, they're in the living room, then they're in the bedroom. Well tell me how you got to living the bedroom? "Oh I don't know" and that's totally normal, that's absolutely fine and because you know your memories being trauma are not always consistently recorded in your brain... sometimes the camera switches off"

Cora reflects on how new knowledge has improved her understanding of the impact of trauma on ability to recall information, and speak to experience in a linear, coherent manner. She considers how this improved understanding has changed her practice and how she views survivors.

Cora: "I genuinely think that if I had the knowledge that I do now I would understand complainers more...I look back and think I could have handled differently when you have that complainer who's rambling or when you have that complainer that doesn't remember and you're sitting thinking why? And then you think to yourself well they must not be telling the truth, how can they not remember?"

Violet speaks about recognising impacts on how a survivor presents emotionally. Her understanding of how the impacts of trauma can differ person to person aligns with the psychological perspective that both hyperarousal and hypo arousal are common reactions to traumatic events.

Violet: "I think a lot of people do that if they're talking about...traumatic incident[s] you disassociate yourself...from that event. They are able to tell you verbally, but don't show emotion and likewise...I've had victims who can't speak for being so full of emotion"

Ashley reflects on the potential consequences of misunderstanding the impact of trauma on how the survivor and the validity of their narrative are perceived. An understanding of hyper and hypo arousal means the impact of trauma on emotional presentation is no longer viewed with scepticism or doubt.

Ashley: "the public may think if a victim of a sexual crime isn't very emotional... they might question whether or not it has happened which is hugely unfair as we know from the kind of trauma-based training that it's not an indication at all"

Cora reflects on her understanding of how people behave during traumatic events, and how through training and education her interpretation has changed over time. Responses are more empathetic and understanding towards survivors, their credibility isn't called into question.

Cora: "as a detective constable coming into a rape unit and you heard freeze you were like "oh here we go"...but again from our point of view that's us getting better education now about understanding that kind of freeze response is that now I know is that dissociation whereas, you [would] think to yourself

“how could you freeze?”, so it’s now this is now its actually how your brain works it’s not the persons fault”

3. Attunement and relationships

An understanding of the impact of trauma was also reflected in how participants spoke about their relationships with survivors. The third theme captures participants’ experiences of building these relationships. Throughout the interviews participants emphasised the crucial role of the relationship, and their attunement to survivors, in meeting both investigation aims and survivors needs. Participants reflected on how their role as police and investigators acted as both a barrier and facilitator to building these relationships.

3.1 Meeting investigation needs. Participants consistently emphasised the role of their relationships with survivors in meeting investigation aims. Elizabeth highlights the central importance of the survivor in sexual offence investigations, and thus the crucial role played by these relationships.

Elizabeth: “you want them to be comfortable and confident and that relationship is really important for going forward because...I’m relying on you for your help”

Danielle reflected on how a supportive trusting relationship with police can aid in keeping survivors engaged by acting as a buffer to the difficult aspects of investigations.

Danielle: “to keep that person on board for them to engage with you obviously you need a level of trust for them, because yanno, it’s going to be hard”

Participants emphasised the importance of trusting relationships in gathering evidence as demonstrated by Violet who reflected on her experience of how her relationship with a survivor helped them in providing the information required for the investigation.

Violet: "it was about building that trust up to get to where she felt confident that she [could] actually tell me what had happened"

Jessica highlights how the quality of the relationship impacts on survivors' experiences of the investigation process and, by extension, the quality of the evidence they are able to provide.

Jessica: "if you don't have a victim that feels like they can trust you and feels comfortable enough to speak to you and that their needs are being met then you are not going to get the best out of them...especially when it's something that horrendous that they have been through and they are having to go through all that again, so I think... putting them at ease and building that rapport you're going to get the best evidence out of their statement"

3.2 Meeting survivors' needs. In supporting the recovery of survivors, participants consistently highlighted how they adapted their relationships with survivors based on their understanding the impact of trauma and re-traumatisation. Stephanie reflected on how the relationship is a key mechanism through which police adapt to the needs of survivors.

Stephanie: "I don't think it [the impact of trauma on survivors] impacts on the investigation I think it impacts on how you deal with that person as a whole, cus an investigation...is quite clinical like you get the statement you get other

statements you get the CCTV you get lab work so we know that process and we know that that's what we need to do to be able to get it further ehm I think it's probably more in relation to your relationship with that person"

Ashley reflected on the potentially re-traumatising nature of investigations and the key role of how police relate to survivors as potential mitigators to this risk.

Ashley: "they have been through a really traumatic experience and they are effectively having to relive that experience with you and answer quite detailed questions about it ...that can obviously be really difficult so I think your approach as a SOLO is hugely important to that process"

The majority of participants placed importance on understanding the relational impacts of sexual offences in order to actively avoid replicating the trauma experienced by survivors.

Hazel: "the main thing is being open and honest about what you you're capable of and what you can offer and what you are looking for...and if you say you're going to do something....do it that's vital ... because a lot of the time they yanno folks choice ... and ehm ... their trust and stuff like that is damaged"

Participants reflected on the complexity of responding to survivors during sexual offence investigations when potential relational impacts of trauma come into play. Participants described a number of difficult interpersonal situations which understandably, impacted on how they felt in relation to survivors and how they viewed them. The impact of trauma can create barriers to trust and connection which can lead to the person impacted by trauma to being viewed as challenging or

difficult. Responding to the impact of trauma involves withstanding those relational impacts, especially when they make it harder to connect and relate. This can be an incredibly difficult task, no matter your understanding of trauma or level of compassion.

Stephanie describes a situation where potential impacts of trauma on trust were experienced as a sense of “standoffishness” and rejection. As a consequence, the police faced difficulties in connecting with the survivor.

Stephanie: “so she said she didn’t want to speak to me so I left then when the other two officers went in she sat and she hid her head and didn’t speak ehm...so yeah that was a quite a—quite a challenging person to try and deal with...again building that rapport, trying to get her to speak to us trying to understand what had happened and if anything had happened? So confirming that there was actually a crime that had occurred, but she was eh she was very standoffish she was...yeah it was just difficult to even get to start to get a statement from her”

3.3 Attunement with survivors. As demonstrated by Violet and Nicole, attunement to the survivor was viewed as an important relational element with benefits for both understanding the survivor and their experience, and meeting the investigation aims. Violet described picking up unspoken cues informing a sense of the survivors’ needs in that moment. There is an implication that meeting these needs could support the survivor in sharing evidentially important details.

Violet: “I think just body language...would withdraw a bit I could tell there were things that were being omitted...yanno it was like...it would get to a point where

she would discuss an argument...she would kind of skip until the next day...so then it was like what happened between this point and this point? And it was very much like all like 'we went into the bedroom' and you just see the see the kind of withdrawal of kind of 'I'm not ready yet to say this out loud and I've not yet processed this myself'"

Nicole reflects on how having an intuitive sense of the impacts of sexual trauma on how a person relates can help in the uncovering of offences. Furthermore, she describes how some impacts of trauma have a felt presence which is difficult to conceptualise and describe.

Nicole: "there was something about the manner in which she presented and how she spoke about everything basically that you could tell something more serious had happened and it's something I had heard other people speak about and it's really strange, it's almost like a, not like an aura that people have about themselves but there's something especially just with women it present--and it's really indescribable that there is something that is taken away from them whether that be a self-confidence or a control...I dunno if its some kind of loss you know...It did turn out that woman had been repeatedly raped by her husband over a number of years"

3.4 The job as a barrier and facilitator to relationships and adaptations. The participants role within the relationship is to be an investigator and support survivors recovery at the same time. Participants viewed their role as police and investigators as both barriers and facilitators to the building of relationships with survivors and responding sensitively to the impacts of trauma.

Nicole reflected on her experience of how her job as police would dictate the pace of investigations, and how this clashed with how she would ideally like to respond to survivors, in taking things at their pace, when they felt ready and able.

Nicole: "you're doing everything you can as an organisation that police investigations are conducted efficiently quickly every area is covered and sometimes from the public point of view that might sound like a good thing at the same time you are basically...dragging is maybe not the right word but dragging the victim along with you in the process"

Similarly, Danielle explored the difficulty or tension that arises when the realities of her job (e.g. not being able to disclose certain information) don't align with the needs of survivors, barriers placed by investigations negatively impact on the trust built between police and survivor.

Danielle: "that can be a barrier at times to say well yanno 'I told you everything and now you're keeping this from me but...this is about me' it's hard but obviously we need to do it yanno it's... difficult."

Danielle also reflected on how the process of establishing whether a crime has occurred affected how attuned she could be to survivors in how she related and responded to them.

Danielle: "we need to try and narrow it down to specifics and get the essential elements of the crime. How would he know that you weren't consenting?...where's his guilty knowledge? that can be really difficult and triggering for the complainers"

Cora reflected on the complexity of responding to the impacts of trauma on survivors when building relationships given the inherent power imbalances between police and survivor.

Cora: "that's the way I see my role is about giving them that choice ehm because it's been a really difficult incident that they have been through particularly with rape when it's that kind of power imbalance so you are trying to keep that but it's difficult when we are the police"

Participants recognised how survivors' perceptions of police prior to entering into the investigation could act as a barrier to building trusting relationships, as demonstrated by Ashley and Cora.

Ashley: "different individuals have different experiences of the police so I guess it depends where you are starting from and if you are dealing with an individual who has a real distrust of the police it could generally take a lot more work or a lot longer to build that trust"

Cora: "you can definitely see it for repeat complainers who maybe don't feel they have been heard 10 15 years ago and they are really reluctant because of the interaction they had with the police at the time ...the barriers are up for us"

There were examples throughout when participants considered their job as police and as an investigator acted as a facilitator to their relationship. Jessica reflected on the desire for survivors to achieve some form of justice, and how police are in a position to work alongside them towards achieving that.

Jessica: *“we are there to establish the circumstances to take a complete overview of everything a completely unbiased approach but obviously if somebody has been through a traumatic ordeal and they are reporting it to the police the majority of people will want somebody to be charged with an offence...from their point of view I would normally say that that is a good outcome”*

Participants spoke of their awareness of the weight or power their identity as a member of the police had, and the potential for this to aid in building relationships with survivors. This is demonstrated by Danielle as she reflected on the restorative power of being able to provide survivors with the experience of being believed.

Danielle: *“she’s just like ‘he didn’t believe me’...and I’m like ‘I believe you’ and she literally just cuddled me and is like ‘thank you thank you so much’...it ended up good in the respect of she got it all out she knew she was believed”*

4. The costs of the role

This theme reflects the tension that participants described as arising while trying to serve both survivors and investigations effectively. Participants reflected on the conflict they experienced when considering the potential personal impacts of connecting with and attuning to survivors of trauma, given the importance of the relationships for both survivor and investigation.

Nicole reflects on the personal impacts of working closely with survivors and understanding their perspective.

Nicole: *“it’s very difficult to be in a position to understanding fully from both perspectives... I suppose SOLOs we are probably some of the only people who are able to do that because of the where we sit in the criminal justice system and on the victims kind of interaction we are the closest”*

Hazel explores a sense of dissonance or tension from understanding what survivors need, a desire to prioritise and meet these needs, and feeling constrained in doing so. This conflict is heightened by an understanding that meeting the needs of survivors can aid in investigation processes and ultimately in achieving justice.

Hazel: *“the constrictions of the amount a reports being made and as I said SOLOs could be one after the other after the other and you know you think to yourself are you able? Are you physically able to give the victims or complainers what they need the attention that they need to space that they need and the time that they need too”*

Participants acknowledged that exposure to traumatic material in the form of survivors first hand accounts was part of their role. Danielle reflected on the tension she experienced given the pressures to meet investigation aims while acknowledging the personal impact of taking a survivor through an account of sexual trauma.

Danielle: *“obviously like a from a senior investigating officer point of view it’s like ‘right we need all of this information and we need to do it quickly’ but as a SOLO yeah your part of the investigation team but...it’s a different role... you’re the one sitting in front of a person yanno asking the difficult question and hearing the difficult stuff”*

For some, emotional connection was viewed as an essential mechanism for building relationships with survivors. Nicole speaks to the tension she experiences in perceiving emotional connection as crucial for building trust and acknowledging the costs for her personally.

Nicole “I had such a connection with her and from a trauma perspective for me I still think about her most weeks and that has had a horrific impact on my mental health but she gave a really good statement and was able to engage in...[the] police investigation eh and without ehm tooting my own horn but that was part and parcel because she trusted me to see her through it”

Danielle explores the costs further, and the dilemma that factors that can help build relationships, a crucial aspect of working with survivors, can also make police vulnerable to the emotional impacts of hearing first-hand accounts of traumatic incidents, an essential aspect of the role.

Danielle: “I think that when things are relatable its it can be harder like personally to kinda deal with because you can kinda go to a place in your head that’s relatable to your childhood obviously not in respect to anything like that but I think it’s just it can make you a wee bit more emotionally involved yanno because you can relate to it”

These concerns were not universal, Jessica did not express apprehension about the impact on her well-being. Like other participants, she conveyed a deep sense of purpose and meaning attached to working with trauma, a desire to achieve justice for survivors of sexual offences, to protect vulnerable people. This strong sense of

purpose implies that vicarious post-traumatic growth may play a role in buffering the stretch or tension experienced in her role.

Jessica *“Obviously I think the things that you hear are awful experiences that people have gone through but I think it just makes you want to do your best for them and get the information and do the best job that you can for them and try and get them a good outcome from the investigation...I don't think it's had a detrimental effect on me personally I just I think it makes me want to do the best that I can for them”*

Discussion

The current study explored how investigating officers perceive the psychological impact of sexual offences on survivors, and on the evidence they provide, and how this influences police practice and the investigation of these crimes. Four themes developed in relation to the research aims; Our role in the investigation of sexual offences: *“the ultimate goal is to get out there and get the bad guy whilst making sure whoever has reported this crime is supported”*; Recognising the impact of trauma: *“It's actually how your brain works, it's not the persons fault”*; Attunement, and relationships: *“that relationship is really important for going forward because...I'm relying on you for your help”*; and The costs of the role: *“it's very difficult to be in a position to understanding fully from both perspectives”*.

Main findings

A key finding of this study is that participants perceived significant benefits for the investigation from understanding the impact of trauma on survivors and their evidence. Participants consistently illustrated how their role in the investigation of sexual offences involves both supporting the recovery of survivors, and meeting the

aims of the investigation, and how a new understanding of trauma positively influenced their ability to effectively serve both. The idea that working in a trauma-informed way benefits both survivors' experiences of investigations, and investigations themselves is reflected in NHS Education for Scotland (2023) recently published Trauma Informed Justice: Knowledge and Skills framework for working with victims and witnesses.

Participants reflected on how their understanding of the impact of trauma led to adapting their responses to survivors, which they viewed as helping support survivors recovery and actively avoiding re-traumatisation. Many survivors of sexual offences describe their involvement in investigations as re-traumatising (Campbell, 2001; Patterson, 2011), and these perceptions are mirrored by mental health professionals' concerns regarding the impact of criminal justice processes on the psychological wellbeing of survivors (Morrison, 2016). The importance participants placed on building trust, offering control and consistency, addressing power imbalances, and minimising retellings of trauma narratives when possible reflect an effort to address these concerns, and work towards providing positive police interactions that aid in survivors recovery from trauma (Kunst et al., 2015; Patterson et al., 2011).

Participants also described how they viewed their adaptations to survivors as positively influencing the investigative process. By providing support and building rapport, they perceived survivors as feeling more comfortable and able to share their experiences and provide crucial evidentiary details. Similar approaches to investigative interviewing techniques have been investigated in social work, where focusing on creating a positive experience, building rapport, and providing emotional

support has been found to result in more detailed accounts of abuse from children (Hershkowitz and Lamb, 2020; Carr, 2022).

Participants reflected that a lack of understanding of the impact of trauma, for example its effect on memory and dissociation, can lead to unwarranted scepticism of the survivor's narrative and credibility. This reflects findings elsewhere that trauma symptoms can negatively affect perceptions of witness credibility and the evidence they provide (Ask and Landström, 2010; Herlihy et al., 2002; Herlihy and Turner, 2015; Maddox et al., 2012;) and align with a reported paradigm shift in understanding the impact of traumatic events on survivors' behaviour and memory (Haskell and Randall, 2019). Participants attributed these shifts in practice and understanding to acquired knowledge and experience, supporting the consensus that specialist training has an important and positive role understanding the impact of sexual offenses on survivors (Darwinkel et al., 2013; Franklin et al., 2020 Powell and Tidmarsh, 2013; Smith et al., 2016).

A range of factors contributed to the personal costs or tension experienced by participants in their role. Participants reflected conflict and tension in trying to prioritise the well-being of survivors while fulfilling their investigative duties, aligning with literature highlighting police constraints in their relations with survivors due to the demands of the criminal justice system (Spencer et al., 2018) and the potential overshadowing of survivors' needs by investigation aims (Martin, 2005). Participants also reflected on the tension caused by their role as police and investigators acting as a barrier in their relationships with survivors and limiting their responses to them. This is reflective of the conflict explored by McMillan (2015), where investigation constraints hindered police officers' ability to provide intended respect, compassion,

and fairness to survivors. The study findings support and expand on research by White and McMillan (2021), suggesting that police officers' increased sensitivity and concern for improving survivors' experiences stem from their close and continuous contact with them. The results of the current study suggest that the consequential effects of understanding trauma on how police relate to and perceive survivors may also play a role.

Participants also reflected on the costs or difficulties in forming empathically attuned relationships both in terms of the relational impacts of complex trauma, which can ultimately hinder building trusting relationships (Cloitre, 2020; Pearlman and Courtois, 2005) and the impact on their own personal wellbeing. Participants expressed a sense of internal conflict when they considered the potential negative consequences of empathically attuning to survivors and their traumatic experiences on their own psychological wellbeing. These findings align with wider literature citing exposure to secondary trauma as a potential risk factor for negative wellbeing impacts for police working with trauma survivors (Greinacher et al., 2019). At the same time, participants routinely shared a strong sense of purpose and meaning attached to their police work with survivors. Finding meaning or satisfaction in working with trauma survivors is viewed as a potential protective factor that can mitigate the impact of such work on the individual, as noted in the wider literature (Figely, 2002; Brady, 2016), and can be viewed as an element of vicarious post traumatic growth (Tsimokou et al., 2023).

Limitations

This study sample consisted of specialist officers working in the investigation of sexual offences. It should be acknowledged that other police professionals, such as uniformed officers, also work with survivors during the investigation of sexual offences and their views and experiences are not represented by this study.

Additionally, it became clear throughout the interviews that participants had an interest in trauma-informed ways of working and held positive views relating to this approach. It should be considered that other police officers with less knowledge or interest in trauma-informed approaches may have generated different results. The sample was entirely female, therefore not representative of the population in its entirety. Recent Police Scotland workforce figures reported that 33% of police officers, 62% of police staff, and 32% of special constables identified as female (Police Scotland, 2023). Given the gendered nature of sexual offences, this is particularly important. Additionally, recent research within a Scottish policing sample suggests that female officers displayed more trauma-informed attitudes than males and may be more susceptible to trauma-awareness sessions (Brodie and colleagues, 2023). The following implications for practice should be reviewed with consideration of these sampling issues.

Future research and implications for practice

The results indicate that participants found having a framework for understanding survivors behaviour, emotions and thinking within the context of trauma was helpful in effective investigation of sexual offences and in guiding their responses to survivors. This supports continued efforts towards establishing a trauma-informed workforce within policing that recognises and responds/adapts to the potential

impacts of working in this way on staff (NHS Education for Scotland, 2023). In addition to understanding the impact of trauma, results indicate that responding and adapting to the impact of trauma also involves withstanding the relational barriers that can make it difficult to establish rapport and connect with survivors. Recognition of the impact of trauma on relationship building is a key step in enabling professionals to be aware of and effectively respond to dynamics that can play out within investigator – survivor relationships (Clark et al., 2015). Taking a trauma-informed approach would suggest that those working directly with survivors of sexual offences should be supported to actively reflect on and respond to these relational impacts.

This study reaffirms the importance of recognising the impact of trauma on survivors throughout the investigation process. However, conflicts between investigation requirements and survivors' needs are part of the realities of working within the criminal justice system (McMillan, 2015; Spencer et al., 2018). Therefore, it is important to implement measures that can mitigate the negative psychological impacts of these conflicts on both survivors and the police working with them. This is of crucial importance given evidence that suggests experiencing dissonance of discrepancy between felt emotion and emotions displayed as part of the role, are associated with increased levels of secondary traumatic stress in police (Acquadro Maran et al. 2020). Further research on identifying specific aspects of investigations that cause tension for police due the barriers placed on responding to survivors is warranted, as is research on factors that may help mitigate the negative impacts of these situations.

Some participants reflected on what helped with this tension e.g. when they had more time to build relationships with survivors or were able to be more flexible in their approaches to how they responded to survivors. Participants reflected on how they did not view such measures as compromising the integrity of the investigation and on how this doesn't always have to be a win-lose situation. For instance, initial compromises on the investigation side can result in greater gains for both the investigation and supporting the survivor. Slowing down the process to support survivor well-being can lead to increased survivor trust, willingness, and ability to stay engaged and discuss detailed information, ultimately benefiting the investigation.

Future research could gain valuable insights by exploring the perspective of male officers on the topic, investigating those without specialism in sexual offences such as uniformed first responders, and examining the impact of trauma-informed approaches on survivors experiences of sexual offence investigations.

Conclusion

This study offers valuable insight into the complexities associated with recognising and responding to the impact of trauma on survivors within the context of conducting sexual offence investigations. Results suggest that understanding the impact of trauma aids police in both supporting survivor recovery and conducting investigations. When participants adapted their practices based on this knowledge, they felt more connected and attuned to survivors, leading to more effective survivor engagement. However, this work can have negative consequences for the psychological well-being of police. Therefore, supporting police in these roles is

crucial to ensure they can continue working in ways that effectively support survivors and investigation aims while maintaining their well-being.

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Appendices

Appendix 1.1 Systematic Review Search terms

Database: Medline

Searched via Ebscohost

Date of search: 15/04/2023

Number of articles returned: 174

#	Search string
1	(MM "Compassion Fatigue") (<i>as a major concept</i>)
2	AB ((vicarious adj2 trauma*) OR (indirect adj2 trauma*) OR (indirect adj2 stress) OR (second* adj2 trauma*) OR (second* adj2 stress) OR "compassion Fatigue" OR "Burnout") OR TI ((vicarious adj2 trauma*) OR (indirect adj2 trauma*) OR (indirect adj2 stress) OR (second* adj2 trauma*) OR (second* adj2 stress) OR "compassion Fatigue" OR "Burnout")
3	1 OR 2
4	(MM "Police")
5	AB ("law enforcement" OR police* OR "police personnel" OR "task force" OR (forensic adj2 investigator) OR (digital adj2 investigator) OR (child adj3 investigator) OR (Liaison adj2 Officer)) OR TI ("law enforcement" OR police* OR "police personnel" OR "task force" OR (forensic adj2 investigator) OR (digital adj2 investigator) OR (child adj3 investigator) OR (Liaison adj2 Officer))
6	4 OR 5
7	3 AND 6

Database: Psychinfo

Searched via Ebscohost

Date of search: 15/04/2023

Number of articles returned: 354

#	Search string
1	Compassion fatigue
2	(vicarious adj2 trauma*) OR (indirect adj2 trauma*) OR (indirect adj2 stress) OR (second* adj2 trauma*) OR (second* adj2 stress) OR "compassion Fatigue" OR "Burnout" (ABSTRACT OR TITLE)
3	1 OR 2
4	Police personnel
5	"law enforcement" OR police* OR "police personnel" OR "task force" OR (forensic adj2 investigator) OR (digital adj2 investigator) OR (child adj2 investigator) OR (Liaison adj2 Officer) (ABSTRACT OR TITLE)
6	4 OR 5
7	3 AND 6

Database: Embase

Searched via Ovid

Date of search: 15/04/2023

Number of articles returned: 275

#	Search string
1	exp vicarious trauma/
2	((vicarious adj2 trauma*) or (indirect adj2 trauma*) or (indirect adj2 stress) or (second* adj2 trauma*) or (second* adj2 stress) or "compassion Fatigue" or "Burnout").ab. or ((vicarious adj2 trauma*) or (indirect adj2 trauma*) or (indirect adj2 stress) or (second* adj2 trauma*) or (second* adj2 stress) or "compassion Fatigue" or "Burnout").ti.
3	1 OR 2
4	exp police/
5	("law enforcement" or police* or "police personnel" or "task force" or (forensic adj2 investigator) or (digital adj2 investigator) or (child adj3 investigator) or (Liaison adj2 Officer)).ab. or ("law enforcement" or police* or "police personnel" or "task force" or (forensic adj2 investigator) or (digital adj2 investigator) or (child adj3 investigator) or (Liaison adj2 Officer)).ti.
6	4 OR 5
7	3 AND 6

Database: ASSIA (Applied Social Sciences Index and Abstracts)

Searched via Proquest

Date of search: 16/04//2023

Number of articles returned: 137

#	Search string
1	(MAINSUBJECT.EXACT("Vicarious trauma") OR (abstract((vicarious NEAR/2 trauma*) OR (indirect NEAR/2 trauma*) OR (indirect NEAR/2 stress) OR (second* NEAR/2 trauma*) OR (second* NEAR/2 stress) OR "compassion fatigue" OR "Burnout") OR publication((vicarious NEAR/2 trauma*) OR (indirect NEAR/2 trauma*) OR (indirect NEAR/2 stress) OR (second* NEAR/2 trauma*) OR (second* NEAR/2 stress) OR "compassion fatigue" OR "Burnout")))) AND (MAINSUBJECT.EXACT("Police") OR (abstract("law enforcement" OR police* OR "police personnel" OR "task force" OR (forensic NEAR/2 investigator) OR (digital NEAR/2 investigator) OR (child NEAR/2 investigator) OR (Liaison NEAR/2 Officer)) OR title("law enforcement" OR police* OR "police personnel" OR "task force" OR (forensic NEAR/2 investigator) OR (digital NEAR/2 investigator) OR (child NEAR/2 investigator) OR (Liaison NEAR/2 Officer))))

Database: Web of science core collection

Date of search: 16/04/2023

Number of articles returned: 337

#	Search string
1	(TI=((vicarious n/2 trauma*) OR (indirect n/2 trauma*) OR (indirect n/2 stress) OR (second* n/2 trauma*) OR (second* n/2 stress) OR "compassion fatigue" OR "Burnout")) OR AB=((vicarious n/2 trauma*) OR (indirect n/2 trauma*) OR (indirect n/2 stress) OR (second* n/2 trauma*) OR (second* n/2 stress) OR "compassion fatigue" OR "Burnout")
2	(TI=("law enforcement" OR police* OR "police personnel" OR "task force" OR (forensic n/2 investigator) OR (digital n/2 investigator) OR (child n/2 investigator) OR (Liaison n/2 Officer))) OR AB=("law enforcement" OR police* OR "police personnel" OR "task force" OR (forensic n/2 investigator) OR (digital n/2 investigator) OR (child n/2 investigator) OR (Liaison n/2 Officer))
3	1 AND 2

Database: LEXIS Library

Date of search: 16/04/2023

Number of articles returned: 167

#	Search string
1	(vicarious W/2 trauma!) OR (indirect W/2 trauma!) OR (indirect W/2 stress) OR (second! W/2 trauma!) OR (second! W/2 stress) OR "compassion Fatigue" OR "Burnout" AND "law enforcement" OR police! OR "police personnel" OR "task force" OR (forensic W/2 investigator) OR (digital W/2 investigator) OR (child W/3 investigator) OR (Liaison W/2 Officer)

Database: Criminal justice database

Searched via ProQuest

Date of search: 16/04/2023

Number of articles returned: 111

#	Search string
1	(abstract((vicarious NEAR/2 trauma*) OR (indirect NEAR/2 trauma*) OR (indirect NEAR/2 stress) OR (second* NEAR/2 trauma*) OR (second* NEAR/2 stress) OR "compassion Fatigue" OR "Burnout")) OR publication((vicarious NEAR/2 trauma*) OR (indirect NEAR/2 trauma*) OR (indirect NEAR/2 stress) OR (second* NEAR/2 trauma*) OR (second* NEAR/2 stress) OR "compassion Fatigue" OR "Burnout")) AND ((abstract("law enforcement" OR police* OR "police personnel" OR "task force" OR (forensic NEAR/2 investigator) OR (digital NEAR/2 investigator) OR (child NEAR/2 investigator) OR (Liaison NEAR/2 Officer)) OR publication("law enforcement" OR police* OR "police personnel" OR "task force" OR (forensic NEAR/2 investigator) OR (digital NEAR/2 investigator) OR (child NEAR/2 investigator) OR (Liaison NEAR/2 Officer))) OR MAINSUBJECT.EXACT("Police"))

Appendix 1.2. The Appraisal Quality appraisal tool for Cross-Sectional studies (AXIS; Downes et al., 2016)

<i>Questions</i>		Yes	No	Don't know/comment
<i>Introduction</i>				
1	Were the aims/objectives of the study clear?			
<i>Methods</i>				
2	Was the study design appropriate for the stated aim(s)?			
3	Was the sample size justified?			
4	Was the target/reference population clearly defined? (Is it clear who the research was about?)			
5	Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?			
6	Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?			
7	Were measures undertaken to address and categorise non-responders?			
8	Were the risk factor and outcome variables measured appropriate to the aims of the study?			

9	Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialled, piloted or published previously?			
10	Is it clear what was used to determined statistical significance and/or precision estimates? (e.g. p-values, confidence intervals)			
11	Were the methods (including statistical methods) sufficiently described to enable them to be repeated?			
Results				
12	Were the basic data adequately described?			
13	Does the response rate raise concerns about non-response bias?			
14	If appropriate, was information about non-responders described?			
15	Were the results internally consistent?			
16	Were the results presented for all the analyses described in the methods?			
Discussion				
17	Were the authors' discussions and conclusions justified by the results?			
18	Were the limitations of the study discussed?			
Other				
19	Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?			
20	Was ethical approval or consent of participants attained?			

Appendix 1.3: Prisma 2020 reporting checklist for systematic reviews

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	11
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	11
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	12-15
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	15
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	16-17
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	15
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	7 & 102
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	17
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	19
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	NA
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	NA
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	28
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	NA
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	NA
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	NA
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	20

Section and Topic	Item #	Checklist item	Location where item is reported
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	19
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	NA
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	NA
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	28-29
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	NA
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	18
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	NA
Study characteristics	17	Cite each included study and present its characteristics.	19 -28
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	28-29
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	20-28
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	NA
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	NA
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	42
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	NA
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	42
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	NA
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	40-41
	23b	Discuss any limitations of the evidence included in the review.	42
	23c	Discuss any limitations of the review processes used.	42
	23d	Discuss implications of the results for practice, policy, and future research.	42

Section and Topic	Item #	Checklist item	Location where item is reported
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	15
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	15
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	NA
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	NA
Competing interests	26	Declare any competing interests of review authors.	NA
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	NA

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71

Appendix 2.1 Topic guide

Topic Guide

Arrival:

Upon arrival time will be spent on general discussion with the aim of putting the participant at ease. E.g. Did you have an ok time accessing the video link? How has your day been so far? Discussing the weather etc.

Introducing the research:

I am interested in the impact of sexual offences on complainants, and how this may or may not affect investigations. Today I'm hoping to explore your experiences, during investigations, of working with complainants who may have experienced repeated sexual abuse. When answering questions, I would like you to think about specific experiences and examples.

I am only focusing on adult complainants, but that includes historical cases when the offence happened in childhood.

I want to acknowledge that at the investigation stage offences are unproven. I won't be asking you to make any statements about whether or not you believe an offence occurred. I'd also like to remind you that your answers will be anonymised.

It would be helpful if you could provide as much information as possible without worrying too much about whether your answers are right or wrong. There are no right or wrong answers.

Do you have any questions or is there anything you would like me to clarify?

Take time to ensure all paperwork is completed and correct. Ensure confidentiality is discussed and understood and remind participants of the option to opt out of the interview at any time

Main Interview

Q: When you are investigating a sexual offence, what is your role with the complainant? What are you trying to achieve?

Q: How does the impact of their experiences affect complainants during the investigation process?

Q: And how do you respond to that to reach your aims?

Ending the interview

Q: Is there anything we haven't discussed that you want me to know about your experiences of working with complainants?

Additional questions:*

Current job title

Years spent working on sexual offences

Age

Gender

*Interviewees will be reassured about maintaining anonymity in study write up

After the interview

Thank interviewee for taking part. Remind of confidentiality in data processing and anonymity in write up. Provide opportunity for interviewee to ask questions, time to answer queries and signposting if necessary.

1 **Appendix 2.2 Coding sample for Reflexive Thematic Analysis**

2

3 It's different when we get date time locus suspect and that kind of details cus then we are duty bound to investigate
4 and I understand that but if somebody is just phoning up for a little bit of advice we should be able to signpost rather
5 than again that that power imbalance again with saying "you will tell us what happened"

6 JM: and what do you think the impact of that is?

7 002: I don't think it's good for their recovery at all and I don't want it to be that their memory of so you have the memory
8 of the incident but if we don't treat them correctly that's not going to help them in recover in any way and you can
9 definitely see it for repeat complainers who maybe don't feel they have been heard 10 15 years ago and they are
10 really reluctant because of the interaction they had with the police at the time so I think you've got to look at it from
11 that point of view of we didn't do our job well enough so that person is going to be a little bit the barriers are up for us
12 and having to break them down so that person understand that we have changed from 15 20 years ago.

13 JM: And you had mentioned that best evidence, and I just wonder do you think that the impact of trauma has an impact on
14 collecting best evidence?

15 002: I would say so because as a police officer I think ehm we remember a lot more and its because of our training ehm
16 but like for me I tell you people name and date of birth sorry I could recognise a face but couldn't tell you their name of
17 date of birth and there is all small thing your remember but I think now it's more about realising that that complainer during
18 that traumatic event their brains working all over the place so when we are asking what colour was the car what were you
19 wearing how many drinking did you have ehm it must be so difficult for them

20

Line number: Coding

3: investigation aims take precedence

4 - 5: power imbalance between police and survivors

7-8: Pushing victims to engage with police is not good for their recovery

7-8: Risk of causing additional harm to survivors

8: Police role in recovery

9-10: Previous negative experiences with police can act as barriers to reporting and engaging

9: Previous police practices could leave victims feeling unheard

12: Police practices have changed for the better

15 – 16: using own experience to evaluate survivors isn't reliable

17-19: Trauma impacts on how memories are stored

Appendix 2.3. Reflective journal sample

Reflection following interview 9

I felt quite emotional after this interview. I think it was hearing about how impactful it can be for survivors to hear and feel believed by police, and the genuine desire expressed by the interviewee to make this process easier for victims. It reflects experiences I have had in therapy sessions where clients have spoken about not being believed, about never telling anyone because they think it's their fault or people won't believe them. I found myself feeling really grateful that people like the participants I have been interviewing are involved in the investigation of sexual offences, and sad at the same time that this might not be the norm, and not every survivor who reports will feel heard, will feel believed.

Reflective entry following discussion in supervision

This interview felt a bit more difficult. It just felt more process heavy and I found it more challenging to get more experiential detail than previous interviews. Discussion in supervision was helpful to think through why this might have felt a bit more difficult, we are talking about investigations and it might be easy to slip into talking about process, which is more surface level than peoples own experiences. Thinking about what a helpful approach to help in these instances might be e.g. after the interview has warmed up a bit its ok to go back and ask questions that have already been asked, explicitly stating at the beginning of interviews that the aim is to discuss their own personal experiences, not a study about the investigation process itself.

Reflection while coding

There is something about the messiness or reality of working with victims within the context of police investigations. Something about the investigation versus the victim, the victim as a priority until they can't be anymore. It's almost like participants are speaking about survivors having control over their own narrative up until the point that the investigation needs become greater, when they have a duty to investigate because there is a perpetrator out there. Almost a feeling like the power and control is taken by the investigation, and where does that leave the survivor and the police who want to help them?

Appendix 2.4 Major research project proposal

Final Approved MRP Proposal can be accessed at the following link:

<https://osf.io/bqns9>

Appendix 2.5 Participant information sheet

Participant consent form can be accessed at the following link:

<https://osf.io/8jk6r>

Appendix 2.6. Participant consent form

Participant consent form can be accessed at the following link:

<https://osf.io/m6bzw>

Appendix 2.7 Police Scotland Research Request form

Police Scotland Research Request Form

Police Scotland's Research and Insight Team is responsible for the coordination and facilitation of academic research involving access to Police Scotland. The team provides a single point of entry for research requests, in addition to promoting more effective knowledge sharing and a culture of evidence-led policing across the Organisation.

Police Scotland's standard process when considering a new research request is to first approach the relevant Business Area or Local Division within Police Scotland in order to seek their willingness and capacity to support, in addition to appointing a dedicated Single Point of Contact (SPOC) with whom you can liaise throughout the duration of your project. Please note that it is not the role of the Research and Insight Team to approve or reject research requests, the decision to support will ultimately lie with the Business Area.

Please find below details of our interim request process, which should be updated and returned to:

AcademicResearch@scotland.pnn.police.uk

1. Project title
How does the psychological impact of alleged sexual offences on complainers affect criminal investigations? Police perspectives
2. Research team members
Jenny McKeever – Doctorate in Clinical Psychology research student
Dr Caroline Bruce - Head of Programme, Transforming Psychological Trauma, Psychology Directorate, NHS Education for Scotland
Dr Naomi White - Lecturer (M-Th), University of Glasgow Doctorate in Clinical Psychology Programme
3. Details of the research proposal (aims, objectives, questions) for our consideration and agreement.

Depending on the nature and level of the project, we understand that a full research proposal may not always be available/appropriate. In such cases, we are simply looking to understand the aim(s) and objectives of your research and the research questions you are seeking to answer. This may also include details of any funding attached to the research. This information will help the relevant Business Area or Local Division within Police Scotland to consider your request.

This research project will investigate, from the perspective of Police Scotland detectives investigating allegations of sexual abuse and assault, whether and how the psychological impact of interpersonal trauma on victims, and the evidence they provide, influences the investigation of sexual offences. The research questions are:

- What are Police Scotland detectives' perceptions and experiences of the impact of alleged offences on complainers and their evidence throughout the investigation process?
- What are their experiences of how this influences their practice and investigations?

4. Methodology

The research design and methodology may already form part of your research proposal, or it can be presented as a simple statement or series of bullet points. Please include here any ethical considerations that pertain to your research and how these have been dealt with (e.g. has approval been given by an appropriate ethics committee?).

The research design, methodology and ethical considerations are outlined within the research proposal. Ethical approval will be sought from the University of Glasgow College of Medical, Veterinary & Life Sciences Ethics Committee in October/November 2022.

5. Requirements of Police Scotland (officers/staff engagement, data requests)

e.g.. Details of how many officers or staff you wish to interview, and from which Division(s) or Business Area(s). Requests for data should include information about how data will be accessed, processed, securely stored and/or deleted. We are more than happy to discuss possibilities with you.

Police Scotland detectives with experience of investigating sexual abuse and assault cases will be recruited as participants. The sample will consist of individuals with strategic experience of directing the investigation of sexual abuse and assault cases and/or significant operational experience of interviewing victims of sexual abuse and assault cases. Due to their expert knowledge and experience in the area of investigating sexual offences the sample will provide key informant perspective on the topic area.

The sample size will consist of between 10 – 20 individuals. Participants will be invited to take part in one off interviews over secure video link which are expected to be approximately 60 minutes in length. An interview guide will be utilised in one-to-one semi structured interviews. Prior to the interviews, participants will be informed, in writing, of the areas of interview focus. Participants will be asked to reflect on their experiences of investigating sexual abuse and assault cases, how the impact of alleged offences on the complainer can affect them as witnesses, and any subsequent influence on the investigation of these offences. Interviews will be video and audio-recorded and transcribed verbatim by the lead researcher. A range of demographic information will be collected including age, gender, ethnicity and years of experience. Data will be stored securely and in accordance with the British Psychological Society (BPS) Code of Human Research Ethics, (2014), and the General Data Protection Regulation (2018).

6. The value of the research to Police Scotland, including alignment to any strategic objectives or policing priorities.

Police Scotland are passionate about working with academia so that we move towards a culture of co-production, and in order to ensure research better meets policing gaps and

*priorities. Our current priorities for policing and our strategic outcomes are detailed in our **Joint Strategy for Policing (2020)**, and further broken down into 14 key themes on page 12 of our **Annual Police Plan (2021-2022)**. Please note that if your research does not necessarily align to a current priority area, we will still do our utmost to support your request.*

The research project will align with current priorities for policing outlined in the Annual Police Plan (2022 – 2023). It aligns with policing priorities of protecting vulnerable individuals, addressing rape and child exploitation and abuse.

7. Anticipated timescale(s) for completion

We understand that research timescales are often subject to change, so we would appreciate even an approximate completion date.

- October – December 2022: University of Glasgow Ethics application
- January – February 2023: Recruitment
- March - April 2023: Interviews
- April–June 2023: Transcription of interviews and analyses
- June – July 2023: Write-up
- July 2022: Submission of research project to University of Glasgow
- September 2022: Viva

Please note that in signing this document you are confirming your commitment to the following:

8. An agreement to provide an Executive Summary/Highlight Report upon completion of the research, for internal distribution within Police Scotland (this may include innovative formats such as research presentations, infographics, blogs, or practical training inputs).
9. To provide 'milestone' updates to the Police Scotland appointed SPOC at agreed points throughout the project, as well as ad-hoc updates on any new research findings that are time-critical (e.g. data insights that would be of immediate value to the force)
10. That Police Scotland are given a minimum of twenty-one days notice about any journal/media articles that are due to be published which review/evaluate the findings of the research, and that Police Scotland are given an advanced copy of the text of said articles
11. To make Police Scotland aware of any events/conferences etc. you plan to present the research findings to, so that we have to opportunity to support/collaborate

Please also note that the Business Area's response could include suggested changes or amendments, such as further aligning the research with their own knowledge gaps or local priorities.

Principal Investigator name: Jenny McKeever

Date: 04/12/2022

Please do not hesitate to get in touch with us if you have any questions or need further information; and we will make every effort to get back to you as soon as possible.

Kind regards,

Research and Insight Team

Police Scotland / Poileas Alba

Email / Post-d na Sgioba: AcademicResearch@scotland.pnn.police.uk

Website / Làrach-lìn: www.scotland.police.uk

Twitter: [@policescotland](https://twitter.com/policescotland)

Facebook: www.facebook.com/policescotland

Appendix 2.8 Ethics board approval letter

Dr Caroline Bruce

MVLS College Ethics Committee

How does the psychological impact of alleged sexual offences on complainants affect criminal investigations? Police perspectives

200220152

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. We are happy therefore to approve the project, subject to the following conditions

- Project end date as stipulated in original application.
- Proof of Police Scotland Approval should be submitted to MVLS ethics for our records and is needed before the study starts.
- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research: (http://www.gla.ac.uk/media/media_227599_en.pdf)
- The research should be carried out only on the sites, and/or groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- For projects requiring the use of an online questionnaire, the University has an Online Surveys account for research. To request access, see the University's application procedure at <https://www.gla.ac.uk/research/strategy/ourpolicies/useofonlinesurveystoolforresearch/>.
- You should submit a short end of study report within 3 months of completion.

Yours sincerely

Dr Terry Quinn

Terry Quinn

FWSO, FESO, MD, FRCP, BSc (hons), MBChB (hons)
Reader / Honorary Consultant

College of Medicine, Veterinary & Life Sciences

School of Cardiovascular and Metabolic Health

The University of Glasgow, charity number SC004401

Appendix 2.9 COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
<i>Personal characteristics</i>			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	67
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	1
Occupation	3	What was their occupation at the time of the study?	70
Gender	4	Was the researcher male or female?	71
Experience and training	5	What experience or training did the researcher have?	1 & 70
<i>Relationship with participants</i>			
Relationship established	6	Was a relationship established prior to study commencement?	67
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	113-114 & 119
Interviewer characteristics	8	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	69
Domain 2: Study design			
<i>Theoretical framework</i>			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	69
<i>Participant selection</i>			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	66-67
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	66-67
Sample size	12	How many participants were in the study?	67
Non-participation	13	How many people refused to participate or dropped out? Reasons?	67
<i>Setting</i>			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	67
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	67
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	67
<i>Data collection</i>			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	68

Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	NA
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	67
Field notes	20	Were field notes made during and/or after the interview or focus group?	NA
Duration	21	What was the duration of the inter views or focus group?	68
Data saturation	22	Was data saturation discussed?	NA
Transcripts returned	23	Were transcripts returned to participants for comment and/or	NA

