Volume One: Research Component

TRAUMA IN THE CRIMINAL JUSTICE SYSTEM

by

Alicia King

A THESIS SUBMITTED TO THE UNIVERSITY OF BIRMINGHAM FOR THE DEGREE OF DOCTOR OF CLINICAL PSYCHOLOGY

Department of Clinical Psychology

School of Psychology

The University of Birmingham

May 2019

Thesis Overview

This thesis is submitted to the University of Birmingham for the degree of Doctor of Clinical Psychology in two volumes.

Volume I is comprised of three documents; a meta-analysis, a piece of original research, and a public dissemination document which summarises the meta-analysis and empirical research in language suitable for laypeople. The meta-analysis explored the prevalence of post-traumatic stress disorder (PTSD) in young people who have offended received a custodial sentence (hereafter referred to young people in custody). Variation was high between published research studies which makes it hard to draw firm conclusions, however, current PTSD was estimated at between 10% and 15% for males and between 21% and 37% for females. The research paper explored prison officers' experiences of vicarious trauma using qualitative methodology and found that participants' experiences linked to PTSD, secondary traumatic stress disorder, vicarious trauma and corrections fatigue.

Volume II includes five Clinical Practice Reports (CPR's) completed whilst working in mental health services in the NHS. CPR1 describes Cognitive-Behavioural and Psychodynamic formulations of a service-user with a learning disability experiencing generalised anxiety. CPR2 is a service evaluation on the impact of staff training in a community learning disability team. CPR3 describes a case study of Cognitive-Behavioural Therapy with an older adult experiencing low mood and suicidal ideation. CPR4 is a case study of Cognitive-Behavioural Therapy with an adolescent experiencing low mood, anxiety and suicidal ideation. Finally, CPR5 is the abstract of an oral presentation of a single case experimental design study of Dialectical

Behaviour Therapy for a service-user experiencing emotion dysregulation difficulties, engaging in parasuicide.

Acknowledgements

I would like to thank Dr Caroline Oliver, my Research Supervisor, for her encouragement, guidance and support throughout the research component of this thesis. Her knowledge of and contacts within the prison service were invaluable in getting the research underway. I would also like to extend a huge thank you to Dr Chris Jones, Research Tutor, for his endless meta-analytic knowledge, and for his support with CPR5. Thanks are also given to Dr Andy Fox as Research Tutor for his qualitative research wisdom and speedy email responses. I also thank him for his understanding and kindness when supporting me as my Appraisal Tutor through seemingly endless personal challenges. Dr Alex Capello is similarly thanked.

Gratitude is given to the Prison Officers' Association, particularly Joe Simpson, without whom the prison research would likely not have been possible. Without question, endless thanks go to the prison officers who gave their precious free time to this research and who shared with me some of their most challenging, darkest, and difficult moments as prison officers.

I would also like to thank the NHS staff, service-users and carers who contributed to each of the CPR's, for both working with me and allowing me to document their therapeutic experiences. Each of my placement supervisors are also thanked for their contributions towards my development as a Clinical Psychologist. My sisters and mum are thanked for twenty-seven years of support. Finally, I would like to acknowledge the unwavering support and love given to be my fellow trainees, not only through the inherent ups and downs of the course, but through the various and numerous personal challenges I have also faced. You know who you are.

Table of Contents

a) Volume One

i. Meta-analysis: The prevalence of post-traumatic stress disorder in young sentenced offenders: a meta-analysis 1

1.1 Abstract 2

1.2 Introduction 3

1.3 Method 6

1.4 Results 28

1.5 Discussion 51

1.6 References 56

ii. Empirical Research Paper: A qualitative study exploring prison officers' experiences of vicarious trauma 69

2.1 Abstract 70

2.2 Introduction 71

2.3 Method 76

2.4 Analysis 82

2.5 Discussion 111

2.6 References 119

iii. Public Dissemination Document: Trauma in young prisoners and prison officers 126

3.1 Introduction 127

3.2 Meta-analysis 127

3.3 Research Paper 130

3.4 References 134

b) Appendices for Volume One

i. Appendix A: Additional data from meta-analysis 136

ii. Appendix B: Ethical agreement from the University of Birmingham 137

iii. Appendix C: Ethical agreement from the National Offender Management Service 139

iv. Appendix D: Participant Information Sheet 141

v. Appendix E: Informed Consent Form 145

vi. Appendix F: Semi-structured interview schedule 148

vii. Appendix G: Debrief Sheet 149

viii. Appendix H: Example transcript for Interpretative Phenomenological Analysis (IPA) stage 1 151

ix. Appendix I: Example transcript for IPA stage 2 152

x. Appendix J: Example transcript for IPA coding 153

xi. Appendix K: Example transcript for IPA theme development 154

xii. Appendix L: Examples of grouping themes in superordinate themes 155

xiii. Appendix M: Table 7 Full IPA summary 156

xiv. Appendix N: Hierarchical coding template for Template Analysis 164

xv. Appendix O: Example transcript for Template Analysis 165

xvi. Appendix P: Model of Corrections Fatigue 166

c) Volume Two

i. Clinical Practice Report 1: Clinical Practice Report presenting the assessment and formulation of a case from a Cognitive-Behavioural

and Psychodynamic Perspective 1

1.1 Abstract 2

1.2 Introduction 3

1.3 Formulation 8

1.4 Reflections 22

1.5 References 24

ii. Clinical Practice Report 2: A Service Evaluation Exploring the Impact of Positive Behavioural Support Training on a Multi-Disciplinary Staff Team's Knowledge and Practice within a Community Learning Disability Service 26

2.1 Abstract 27

2.2 Introduction 28

2.3 Method 31

2.4 Results 34

2.5 Discussion 42

2.6 References 50

iii. Clinical Practice Report 3: A Case Study using CBT for Depression for an Older Adult with Dementia 53

3.1 Abstract 54

3.2 Introduction 55

3.3 Formulation 60

3.4 Intervention 66

3.5 Evaluation 75

3.6 Reflections 78

3.7 References 80

iv. Clinical Practice Report 4: A Case Study of a Cognitive-Behavioural Therapy-informed intervention for Anxiety and Depression 83

4.1 Abstract 84

4.2 Introduction 85

4.3 Formulation 93

4.4 Intervention 99

4.5 Evaluation 106

4.6 Reflections 109

4.7 References 111

v. Clinical Practice Report 5: Dialectical Behaviour Therapy for Emotion Dysregulation and Parasuicide: A Single Case Experimental Design 114

5.1 Abstract 115

d) Appendices for Volume Two

i) Appendix A: Questionnaire for Service Evaluation 117

ii) Appendix B: NRES guidance on differentiating research, audit and evaluation 120

List of Illustrations

a) Volume One - Literature Review

i. Figure 1: Flowchart of the application of the inclusion and exclusion criteria ... 7

ii. Figure 2: Forest plot depicting primary study level and overall prevalence estimates for studies reporting on males ... 32

iii. Figure 3: Forest plot depicting primary study level and overall prevalence estimates for studies reporting on females ... 32

iv. Figure 4: Forest plot depicting primary study level and overall prevalence estimates for studies reporting on mixed gender samples ... 33

v. Figure 5: Forest plot depicting “leave-one-out” analysis for males ... 34

vi. Figure 6: Forest plot depicting “leave-one-out” analysis for females ... 35

vii. Figure 7: Forest plot depicting “leave-one-out” analysis for mixed gender samples ... 36

viii. Figure 8: Forest plot depicting primary study level and overall prevalence estimates for mixed gender studies after influential studies were removed ... 37

ix. Figure 9: Funnel Plot of the standard errors for primary studies – males ... 41

x. Figure 10: Funnel Plot of the standard errors for primary studies – females ... 43

xi. Figure 11: Funnel Plot of the standard errors for primary studies – mixed gender ... 45

b) Volume One – Empirical Paper

i. Figure 1: Flow chart outlining the procedure for recruitment of participants ... 80

List of Tables

a) Volume One - Literature Review

i. Table 1: Search terms used in online database search 6

ii. Table 2: Study characteristics of primary studies 11

iii. Table 3: Quality criteria applied to the literature to assess risk of bias 15

iv. Table 4: Quality appraisal ratings for each risk of bias per study 17

v. Table 5: Effects in primary studies – males 29

vi. Table 6: Effects in primary studies – females 30

vii. Table 7: Effects in primary studies – mixed gender 31

viii. Table 8: Subgroup analysis for studies reporting on males with risk of bias as moderators 38

ix. Table 9: Subgroup analysis for studies reporting on females with risk of bias as moderators 40

x. Table 10: Subgroup analysis with risk of bias as moderators – mixed gender samples 40

xi. Table 11: Hypothesised moderating variables – males 48

xii. Table 12: Hypothesised moderating variables – females 50

b) Volume One - Empirical Paper

i. Table 1: Participant inclusion & exclusion criteria 81

ii. Table 2: Participant Information 81

iii. Table 3: Stages of IPA 83

iv. Table 4: Master themes, subthemes & contributing participants 84

v. Table 5: Stages of TA 106

vi. Table 6: Coding template for TA and contributing participants 107

CHAPTER ONE – META-ANALYSIS: The prevalence of post-traumatic stress disorder in young sentenced offenders: a meta-analysis

Supervised by:

Dr Caroline Oliver & Dr Chris Jones

1.1. Abstract

Background: People who have offended have higher rates of trauma exposure and mental health disorders than the general population. A recent meta-analysis found significantly higher rates of PTSD in adults who have offended than in the general population. This meta-analysis reports on the first numerical synthesis of PTSD prevalence in young people who have offended and received a custodial sentence.

Method: An online systematic literature search was performed in September 2018. The search yielded twenty-nine studies for inclusion. Methodological quality was assessed using existing criteria. The Random Effects Model was used to estimate prevalence of PTSD. Additional analyses were run to provide further statistical understanding of the data.

Results: Methodological quality varied; strengths across studies included minimal detection, statistical, and reporting bias. Studies were at high risk for selection and performance bias, and for poor generalisability. Heterogeneity across studies was high for both genders (I^2 >75%) which could not confidently be accounted for by hypothesised moderating variables or differences in methodological quality. The Random Effects Model estimated the prevalence of PTSD as 13% for males (95% CI = 10%, 15%), 29% for females (95% CI = 21%, 37%) and 17% for mixed gender samples (95% CI = 13%, 21%).

Discussion: Heterogeneity of prevalence estimates for PTSD was high which makes it difficult to draw firm conclusions. PTSD was estimated as higher for young females in custody than for males, in line with existing research. The literature would be strengthened by future studies with improved sampling methods and by conducting additional studies on the prevalence of PTSD in young females in custody.

1.2 Introduction

Prison populations have shown rapid growth over the last few decades across the world. More than ten million people are imprisoned today worldwide, with numbers showing a drastic increase in many countries including the United States of America (USA), which has the largest prison population, having risen from half a million in 1980 to 2.2 million today (World Prison Brief, 2018). England and Wales' prison population has also shown an increase from 40,000 in 1975 (Jacobson, Heard & Fair, 2017) to just over 82,000 at present (World Prison Brief, 2018).

Children and young people in custody represent a small minority of the total prison population. Young people in custody represent 0.2% of the total prison population in the USA and 0.8% in England & Wales (World Prison Brief, 2018). Although a minority, with a population of 898 in the secure estate for children and young people in England & Wales (Her Majesty's Prison & Probation Service, 2019), this population has the highest rate of reconviction across England & Wales, with 75% being reconvicted after release from custody (Justice Committee, 2017).

Prisoner mental health has been extensively researched and prevalence estimates of mental health disorders vary significantly across studies. A review by Fazel, Hayes, Bartellas, Clerici and Trestman (2016) found that the relative risk of suicide for people in prison was 3 to 6 times higher for males and 6 times higher for females, compared to individuals in the community. One in seven prisoners were reported to have a diagnosis of depression or psychosis, and elevated levels of comorbid substance misuse were also found (Fazel, Hayes, Bartellas, Clerici & Trestman, 2016).

Young people in custody are consistently found to have higher rates of mental health disorders than young people in the community, with an estimated 40 to 80% being diagnosed with at least one mental health disorder (Underwood & Washington, 2016). Young people in custody have increased rates of anxiety disorders, behavioural or conduct disorders and substance misuse disorders (Collins et al, 2010; Grisso, 2008; Teplin, 2002; Underwood & Washington, 2016).

Post-traumatic stress disorder (PTSD) is a mental health disorder that was previously categorised as an anxiety disorder within the Diagnostic Statistical Manual of Mental Disorders (4th edition; DSM-IV-TR, American Psychiatric Association [APA], 2000). Since the publication of the fifth edition, PTSD is now categorised as a trauma and/or stress-related disorder (5th edition; DSM-V; APA, 2013). Symptoms are classified across four clusters; re-experiencing, avoidance, negative cognitions and mood, and arousal, and must be present for at least one month for a diagnosis to be given (APA, 2013).

Histories of exposure to traumatic events, including sexual abuse, physical abuse, domestic violence, chronic victimisation, intergenerational violence, neglect and poverty, are high in both the adolescent and adult offender populations (Ardino, 2016). A direct link between exposure to abuse in childhood and the subsequent development of antisocial behaviour in adolescence was first documented by Widom in 1989 (Maxfield & Widom, 1996). This study found a significant correlation between exposure to abuse in childhood and arrests in adolescence. A subsequent study re-examined the same data and found that neglect was also a predictor of criminal behaviour (Widom & Maxfield, 2001). Since then, numerous studies have demonstrated that adolescent offenders have significant trauma histories (Burton,

Foy, Bwanausi, Johnson & Moore, 1994; Erwin, Newman, McMackin, Morrissey & Kaloupek, 2000; Women in Prison Project, 2006). Exposure to traumatic events is a prerequisite to the development of PTSD (APA, 2013) and it would therefore follow that offenders are likely to have higher rates of PTSD than community samples.

Indeed, several studies have been conducted on the prevalence of PTSD in young people who have offended and found increased rates of PTSD amongst young people involved in the Criminal Justice System than in the general population (Collins et al, 2010; Kerig & Ford, 2014). Within samples of young people in custody, females are consistently found to have been exposed to higher rates of traumatic events (Wood et al, 2002), and estimates of PTSD are also higher for females than for males (Hennessey, Ford, Mahoney, Ko & Siegfried, 2014); a finding consistent with rates in community samples.

A recent meta-analysis explored prevalence estimates of PTSD within the prison population and estimated that 6.2% of male prisoners and 21.1% of female prisoners worldwide will meet the criteria for PTSD (Baranyi, Cassidy, Fazel, Priebe & Mundt, 2018). The meta-analysis included sentenced, pre-trial, or remanded offenders but excluded studies that only reported on adolescent offenders. To our knowledge, there have been no other meta-analyses published on the prevalence of PTSD in young people in custody. The aim of this meta-analysis is therefore to provide a numerical synthesis and systematic review of the literature which reports on the prevalence of PTSD in young people who have offended and received a custodial sentence.

1.3 Method

1.3.1 Identifying primary studies.

1.3.1.1 Search of electronic databases. This meta-analysis was conducted according to the guidelines of the PRISMA group (Moher, Liberati, Tetzlaff & Altman, 2009). A systematic search of the literature was conducted in September 2018 using the following online databases; PsychInfo, Web of Science and CINAHL Plus. The reference lists of identified papers were also systemically searched for additional relevant papers. The search strategy is outlined in table 1.

Table 1: Search terms

Construct	Search Terms	Method of search	Limits
Post-traumatic stress disorder	"PTSD" "posttraumatic stress disorder" "post-traumatic stress disorder" "post traumatic stress disorder" "stress disorder" "mental disorders" "mental illness" "mental health" "mental health problem" "mental health difficult*" "mental disease*" "psychiatric illness" "psychiatric symptom*" "psychological disorder*" "psychiatric disorder" "psychiatric diagnos*"	Free search terms All search terms combined with OR	Peer reviewed articles
Prevalence	"prevalence" "prevalence rate*"		
Young offenders	"Juvenile delinquen*" "juvenile detention" "juvenile correction*" "juvenile justice" "juvenile offender*" "detained juvenile*" "sentenced juvenile*" "imprisoned juvenile*" "incarcerated juvenile*" "juvenile inmate*" "juvenile prisoner*" "adolescent offend*" "adolescent detention" "adolescent correction*" "adolescent delinquen*"		

Construct	Search Terms	Method of search	Limits
	“detained adolescent*”		
	“sentenced adolescent*”		
	“adolescent prisoner*”		
	“imprisoned adolescent*”		
	“incarcerated adolescent*”		
	“adolescent inmate*”		
	“male delinquen*”		
	“female delinquen*”		
	“young offend*”		
	“detained young offender*”		
	“sentenced young offender*”		
	“imprisoned young offender*”		
	“incarcerated young offender*”		
	“youth offend*”		
	“detained youth*”		
	“sentenced youth” “youth correction*” “youth detention*”		
	“youth justice” “incarcerated youth”		
	“imprisoned youth” “youth custody”		
	“detained teenager*”		
	“teenage delinquen*”		
	“teenage offend*”		
	“sentenced teenager*”		
	“imprisoned teenager*”		
	“incarcerated teenager*”		
	“teenage correction*”		
	teenage detention*”		

1.3.1.2 Inclusion criteria. Studies reporting on the prevalence rates of PTSD in young people in custody were identified. The following inclusion criteria were applied to the search;

1) full text of papers must be available in English,
2) studies must report prevalence for people who have offended and who have been sentenced after trial i.e. not remand or pre-trial offenders,
3) offenders must be aged between 10 and 21 years – this is in line with the Criminal Justice Act (1998) for England and Wales where juvenile and young

offenders can be held in young offender's institutes until they reach the age of 22.

Studies were excluded if they were reviews, meta-analyses, abstracts, or used qualitative methodology. Studies which reported joint/co-morbid prevalence rates without independent rates of PTSD were also excluded. Where there was more than one study reporting the same data, the first paper was included, and any subsequent papers were excluded from the analysis to prevent data repetition.

The search results are depicted in Figure 1. The online search yielded 174 articles and a further 58 articles were yielded from other sources, such as reference lists. This resulted in a total of 232 articles. After duplicates (n=60) were removed, 172 articles remained which were then screened by title and abstract using the inclusion and exclusion criteria. 102 articles remained after this initial screening and full texts were reviewed against the inclusion and exclusion criteria. Articles were excluded for the following reasons; participants were not sentenced (n=31), participants were not within the correct age range (n=6), full text was not available in English (n=5), did not report prevalence rates (n=24), only reported comorbid prevalence rates (n=2), were literature reviews (n=2) and reported data from previous studies (n=3). This resulted in 29 primary studies being reported in this meta-analysis.

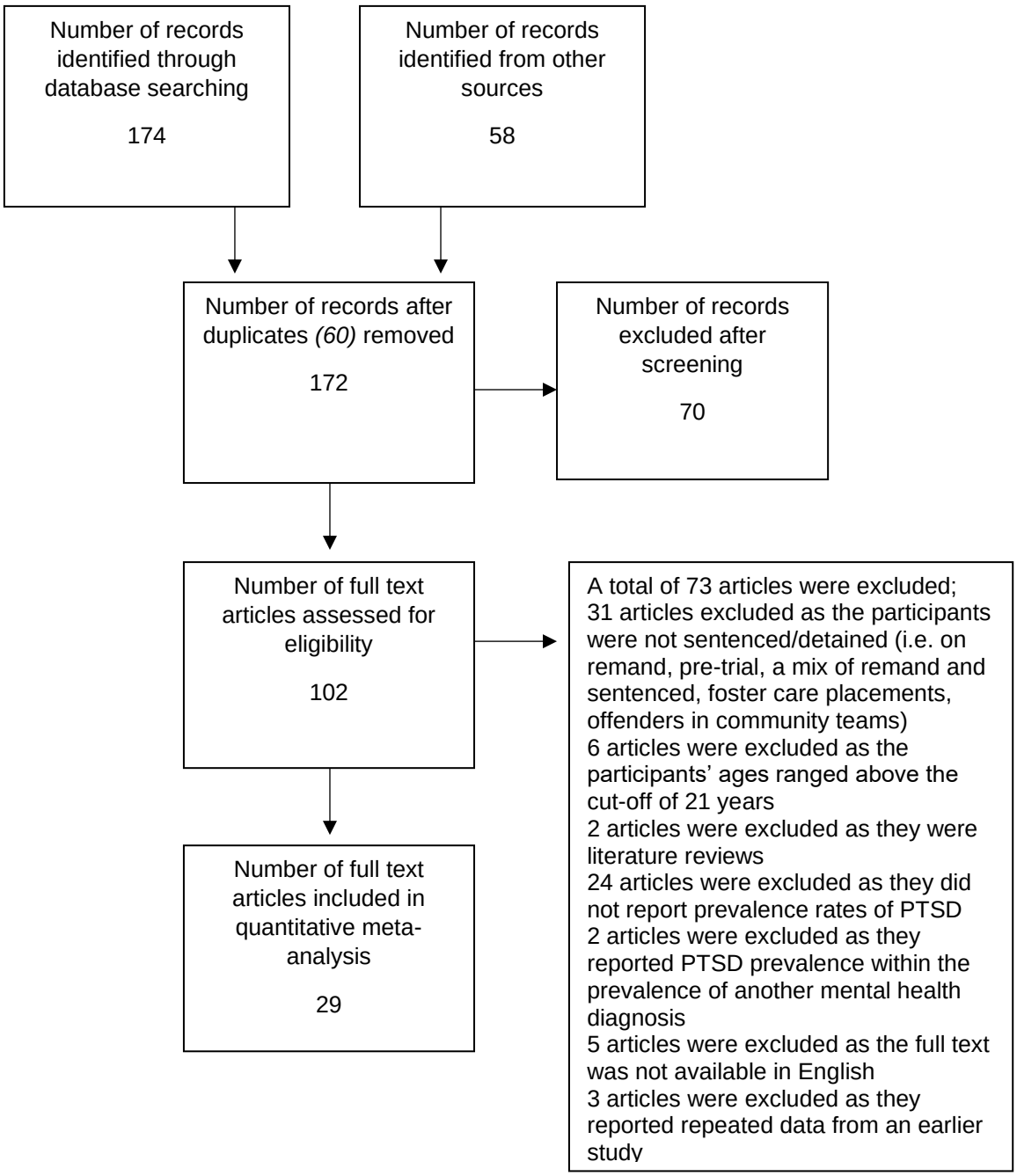


Figure 1: Flowchart of the application of the inclusion and exclusion criteria

1.3.2 Data extraction. The author independently extracted all the data from the primary studies. The following data were extracted; author, year of publication, sample size, gender of participants, age range, mean age, country of study, income of country, continent of study, first language of country, criminal justice setting (e.g.

juvenile detention centre, Young Offenders Institute), assessment tool, assessment format, diagnostic classification system (i.e. DSM or ICD), prevalence rate of PTSD (lifetime or current). Only two studies (Erwin et al, 2000; Atilola, Omigbodun & Bella-Awusah, 2014) reported estimates of lifetime prevalence of PTSD whereas all other studies only reported estimates of current prevalence of PTSD. Therefore, estimates of lifetime prevalence were excluded from the statistical analysis. All but two studies reported current PTSD as up to two months. Two studies (Duclos et al, 1998; Van Damme, Colins & Vanderplasschen, 2014) reported PTSD prevalence as inclusive of the last twelve months, and therefore for inclusion purposes, this meta-analysis classified 'current' PTSD as up to the last twelve months. Additionally, as the USA has the largest prisoner population in the world (Walmsley, 2016), studies were also classified according to US country versus non-US country. Studies were classified by income according to World Bank Group classifications (World Bank Group, 2017). Table 2 shows the study characteristics of all primary studies.

Table 2: Study characteristics of primary studies

First author	Year of publication	Country (continent) *Income*	Criminal justice setting	Gender	N	Age (years) *mean* & range	Assessment Tool & Diagnostic Classification	Total Prevalence	Male prevalence	Female prevalence
Ghazali	2018	Malaysia (Asia) *MIC*	Child welfare institutions after conviction for crimes	Mixed	M = 153 F = 169	*not reported* 12 to 17	Child Post-traumatic Stress Reaction Index	20.8	-	-
Kim	2017	South Korea (Asia) *HIC*	Juvenile detention centre	Male	173	*17.5* 15 to 19	MINI (DSM-IV)	-	2.9	-
Rijo	2016	Portugal (Europe) *HIC*	Juvenile detention centre	Male	122	*16.6* 14 to 20	MINI-KID (DSM-IV)	-	1.6	-
Aebi	2015	Austria (Europe) *HIC*	County jail	Male	260	*16.5* 14 to 20	MINI-KID (DSM-IV)	-	24.6	-
Ribas-Sinol	2015	Spain (Europe) *HIC*	Juvenile Justice Therapeutic Unit in a Juvenile Justice Educational Centre	Mixed	M = 128 F = 16	*17.19* 15 to 21	DSM-IV clinical interview with Psychiatry & Psychology	2.8	-	-
Atilola	2014	Nigeria (Africa) *(MIC)*	Borstal home (prison service)	Male	144	*18.5* 15 to 19	K-SADS-PL (DSM-III R & DSM-IV)	-	5.8	-
Van Damme	2014	Belgium (Europe) *HIC*	Youth Detention Centres	Male & female	M = 245 F = 195	*15.88* 12 to 17	DISC-IV (DSM-IV)	10.2	2	20.5
Kerig	2013	UA (North America) *HIC*	Juvenile detention centre	Male & female	M = 367 F = 168	*15.52* 11 to 17	PTSD-RI	-	16.4	25.5
Hartzke	2012	USA (North America) *HIC*	Texas Youth Commission	Male & female	M = 10,469 F = 1,134	*not reported* 10 to 21	Interview schedule (DSM-IV)	5.6	4.2	18.8
Zhou	2012	China (Asia) *MIC*	Juvenile detention centres	Male	320	*not reported* 15 to 17	K-SADS-PL (DSM-IV)	-	1.25	-
Gretton	2011	British Columbia *HIC* (North America)	Youth custody centres	Male & female	M = 140 F = 65	*M = 16.4 F = 16.1* 12 to 20	DISC-IV (DSM-IV)	-	1.7	13
Karnick	2009	USA (North America) *HIC*	Juvenile detention centres	Male & female	M = 650 F = 140	*16.8* 13 to 22	SCID (DSM-IV)	9.1	8	13

First author	Year of publication	Country (continent) *Income*	Criminal justice setting	Gender	N	Age (years) *mean* & range	Assessment Tool & Diagnostic Classification	Total Prevalence	Male prevalence	Female prevalence
Plattner	2009	Austria (Europe) *HIC*	County Jail	Male and female	M = 272 F = 56	*16.7* 14 to 21	MINI International Psychiatric Interview (DSM-IV)	29.3	24.6	51.8
Ariga	2008	Japan (Asia) *HIC*	Juvenile detention centre	Female	64	*17.2* 16 to 19	Traumatic Events Checklist of CAPS MINI-KID (DSM-IV)	-	-	33
Martin	2008	USA (North America) *HIC*	Juvenile detention centre	Male & female	M = 220 F = 143	*14.6* 10 to 16	Trauma Symptom Checklist for Children (not diagnostic)	24	10	9
Thompson	2007	USA (North America) *HIC*	Juvenile detention centre runaways	Mixed	M = 53 F = 68	*14.5* 12 to 17	Trauma Symptom Checklist for Children (not diagnostic)	23.1	-	-
Abrantes	2005	USA (North America) *HIC*	Juvenile detention centres	Male & female	M = 281 F = 34	*16.3* 13 to 18	PADDI (DSM-IV)		15	35
Harrington	2005	England (Europe) *HIC)*	Secure care units	Male	81	*14.8* 12 to 17	K-SADS-PL (DSM-IV)	-	25	-
Odgers	2005	USA (North America) *HIC*	Juvenile correctional facility	Female	125	*16.2* 13 to 19	Computerised Diagnostic Interview for Children and Adolescents (DSM-IV)	-	-	25
Robertson	2004	USA (North America) *HIC*	Juvenile detention centres and training schools	Male & female	M = 289 F = 161	*15.3* 12 to 18	Adolescent Psychopathology Scale (DSM-IV) & Juvenile Detention Interview	26.2	18	41
Bickel	2002	Australia (Oceania) *HIC*	Youth detention centre	Male & female	M = 43 F = 7	*15.7* 12 to 18	Adolescent Psychopathology Scale (DSM-IV)	36	32.5	57.1
Ruchkin	2002	Russia (Europe) *HIC*	Juvenile detention centre	Male	370	*14.9* 14 to 19	K-SADS-PL (DSM-IV)	-	24.8	-
Wasserman	2002	USA (North America) *HIC*	Training centre & reception centre	Male	292	*17* not reported	Voice DISC (DSM-IV)	-	4.8	-

First author	Year of publication	Country (continent) *Income*	Criminal justice setting	Gender	N	Age (years) *mean* & range	Assessment Tool & Diagnostic Classification	Total Prevalence	Male prevalence	Female prevalence
Wood	2002	USA (North America) *HIC*	Juvenile halls and probation camps	Male & female	M = 100 F = 100	*16* 12 to 17	Los Angeles Symptom Checklist (DSM-IV)	40	28	52
Erwin	2000	USA (North America) *HIC*	Juvenile detention centres	Male	51	*17.5* not reported	CAPS-CA (DSM-IV)	-	18	-
Duclos	1998	USA (North America) *HIC*	Juvenile detention centre	Male & female	M = 86 F = 64	*Not reported* 12 to 18	Composite International Diagnostic Interview (DSM-IV)	1.3	2.3	0
Ulzen	1998	USA (North America) *HIC*	Secure custody facilities	Male & female	M = 38 F = 11	*15.39* 13 to 17	DICA-R (DSM-IV)	24.5	15.8	36.4
Steiner	1997	USA (North America) *HIC*	Youth Authority School	Male	85	*16.6* 13 to 20	PTSD schedule of Revised Psychiatric Diagnostic Interview (DSM-III)	-	31.7	-
Burton	1994	USA (North America) *HIC*	Secure camp setting	Male	91	*16* 13 to 18	Symptom Checklist (DSM-III)	-	24	-

Note. HIC=high income country, MID=middle income country, DSM=Diagnostic Statistical Manual, DISC=Diagnostic Interview Schedule for Children, K-SADS-PL=Kiddie Schedule for Affective Disorders and Schizophrenia Present and Lifetime, CAPS-CA=Clinician Administered PTSD Scale for Children and Adolescents, MINI-KID=Mini International Neuropsychiatric Interview for Children and Adolescents, SCID-IV=Structured Clinical Interview for DSM-IV, PADDI =Practical Adolescent Dual Diagnostic Instrument, DICA-R=Diagnostic Interview for Children and Adolescents revised.

1.3.3 Meta-analytic methodology. It is anticipated that event rates will be reported as the number of participants with and without PTSD. If relative risk or risk difference estimates are calculated, event rates will be reported as the number of participants with and without PTSD in both a control and a risk group.

Event rates can also be calculated using regression-based methods such as logistic regression. However, regression-based event rates are often calculated from data that have been adjusted for the association with covariates. Such adjustments emphasise the idiosyncratic character of the reported regression coefficients and may result in variation with respect to the effects reported within the other primary studies. The contribution of standardised regression coefficients to overall heterogeneity will be examined empirically if the random effects model identifies problematic heterogeneity.

1.3.4 Risk of bias assessment. A set of quality criteria were developed to assess the presence of bias within the literature. The quality criteria were developed from existing frameworks including Downs and Black (1998), The Cochrane Collaboration Risk of Bias Tool (Higgins et al., 2011) and the Risk of Bias Assessment Tool for Nonrandomised Studies (RoBANS) (Kim et al., 2013). The criteria examined six domains of potential bias; selection bias, performance bias, detection bias, statistical bias, reporting bias and generalisability (see Table 3). For each domain, studies were assigned a rating of low, unclear, or high risk. A second reviewer cross-validated 10% of the studies in order to ensure that the risk of bias criteria were consistently applied. Any disagreements between reviewers were discussed and amendments made to ratings. After risk ratings were completed, a quality index score was computed for each study from 0-100%, where 100%

indicated studies with a low risk of bias and where 0% indicated studies with a high risk of bias.

Table 3: Quality criteria applied to the literature to assess risk of bias

Domain	Description	Risk of Bias
Selection bias	Selection bias in epidemiological studies occurs when there is a systematic difference between the characteristics of those selected for the study and those who are not. this could result from the method used to generate the allocation sequence in sufficient detail to allow an assessment of whether it should produce comparable groups.	High risk: The study has used opportunistic sampling to select participants. The characteristics of the study group are not representative of the target population. The thoroughness of the selection method i.e. outcome is secondary to the main outcome of the study. Unclear risk: The characteristics of the study group are not clearly defined. It is not clear how the researchers sampled the study group. Low risk: The characteristics of the study group are clearly described and without evidence of bias. Sampling method used is good e.g. random, stratified.
Performance bias	Differences in the level and/or type of motivation shown by participants.	High risk: Failure to report symptoms or inability to report symptoms e.g. shame, social desirability Under-reporting symptoms e.g. not available to introspective awareness Diagnosis may affect participants' legal status/custodial pathway. No attempts made to reassure anonymity or identify response bias e.g. social validity scale. Validity scales have been used but researchers have included participant responses that are invalid within the results. Unclear risk: High risk of social desirability and inadequate attempts to adjust for this, however attempts have been made to reassure anonymity. Low risk: Anonymity was maintained so as not to effect legal status. Low risk of social desirability or high risk of social desirability, but attempts made to control for this. Social validity scales used to attempt to identify bias.
Detection bias	The use of standardised assessment tools which accurately assess the presence of PTSD	High risk: Outcome measures used are non-standardised or do not report psychometric properties, or a global self-evaluation of PTSD is the only outcome measure. Measure assesses symptoms only and is not diagnostic. Diagnosis made through interview conducted by lay person. Unclear risk: Assessment measure is not widely recognised or peer reviewed and/or the psychometric properties are reported but poor. Diagnosis made through unstructured interview conducted by qualified mental health professional e.g. Psychiatrist or Psychologist.

Domain	Description	Risk of Bias
Statistical bias	Bias resulting from the statistical treatment of the data	Low risk: Standardised measures with good psychometric properties used to assess diagnosis. High risk: Raw event rate is not provided or calculated based on additional statistical analyses e.g. logistical regression. Unclear risk: Descriptive statistics are not clearly provided. Inadequate or unclear reporting of prevalence. Low risk: Adequate descriptive statistics are provided including raw event rate.
Reporting bias	Bias due to selective outcome reporting	High risk: Not reported full outcome measures that are stated in the method section which were used to asses PTSD. Reported only a subsample of results or only significant results. Unclear risk: Did not report the results of all measures used to assess PTSD. Low risk: Full sample size reported. Reported results of all measures used within the study
Generalisability bias	Is the sample size adequate? Do participants have idiosyncratic features?	High risk: Sample size < 100 & idiosyncratic features are present e.g. participants were preselected on trauma status or mental health difficulties. Unclear risk: Sample size is sufficient (>100) but there are some idiosyncratic features (for example, restrictions on type index offence, cultural groups). Low risk: Sample size is > 100 & no idiosyncratic features are present.

Table 4: Quality appraisal ratings for each risk of bias per study

First author	Gender of sample	Selection bias	Performance bias	Detection bias	Statistical bias	Reporting bias	Generalisability	Total percentage rating (%)
Aebi	M	High risk	High risk	Low risk	Low risk	Low risk	Low risk	67
Abrantes	M & F	High risk	High risk	Unclear risk	Low risk	Low risk	Low risk	58
Ariga	F	High risk	High risk	Low risk	Low risk	Low risk	High risk	50
Atilola	M	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	67
Bickel	M & F	High risk	Low risk	Low risk	Low risk	Low risk	High risk	67
Burton	M	High risk	High risk	Low risk	Low risk	Low risk	High risk	50
Duclos	M, F & MG	High risk	Unclear risk	Unclear risk	Low risk	Low risk	High risk	50
Erwin	M	High risk	High risk	Low risk	Low risk	Low risk	High risk	50
Ghazali	MG	High risk	High risk	High risk	Unclear risk	Low risk	Unclear risk	33
Gretton	M	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk*	67
Gretton	F	High risk	Unclear risk	Low risk	Low risk	Low risk	High risk*	58
Harrington	M	High risk	High risk	Low risk	Low risk	Unclear risk	High risk	42
Harzke	M, F & MG	High risk	High risk	Unclear risk	Low risk	Low risk	Low risk	42
Karnick	M, F & MG	High risk	Low risk	Low risk	Low risk	Low risk	Low risk	83
Kerig	M & F	Unclear risk	High risk	Low risk	Unclear risk	Low risk	Low risk	67
Kim	M	High risk	High risk	Low risk	Low risk	Low risk	Unclear risk	58
Martin	M, F & MG	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	67
Odgers	F	High risk	High risk	Low risk	Low risk	High risk	Unclear risk	42
Robertson	M, F & MG	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	100
Plattner	M & MG	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk*	67
Plattner	F	High risk	Unclear risk	Low risk	Low risk	Low risk	High risk*	58
Ribas-Sinol	MG	High risk	High risk	Unclear risk	Low risk	Low risk	High risk	42
Rijo	M	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	92
Ruchkin	M	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	67
Steiner	M	High risk	Low risk	Low risk	Low risk	Low risk	High risk	67
Thompson	MG	High risk	High risk	Low risk	High risk	Low risk	Unclear risk	36
Ulzen	M, F & MG	High risk	High risk	Low risk	Low risk	Low risk	High risk	50
Van Damme	M, F & MG	High risk	High risk	Low risk	Low risk	Low risk	Unclear risk	58
Wasserman	M	High risk	High risk	Low risk	Unclear risk	Low risk	Low risk	58
Wood	M, F & MG	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	83

First author	Gender of sample	Selection bias	Performance bias	Detection bias	Statistical bias	Reporting bias	Generalisability	Total percentage rating (%)
Zhou	M	High risk	High risk	Low risk	Low risk	Low risk	Unclear risk	58

Note: M = males, F = females, MG = mixed gender * = different risk rating for same study between genders

Table 4 shows the risk of bias ratings for each primary study. Where risk of bias rating is different for each primary study according to gender of the sample, the risk ratings have been reported twice for such studies e.g. Plattner et al (2009) and indicated with an Asterix. The findings are discussed below.

1.3.4.1 Selection bias. Overall, studies were largely at high risk of selection bias. Most of these studies used opportunistic sampling to recruit participants, which has inherent biases. Additionally, Thompson, Maccio, Desselle and Zittel-Plamara (2007) only selected youth from a detention centre if they had had a 'run away' episode. Three studies were at low risk of selection bias; Robertson Dill, Hussain & Undesser (2004) selected young people in custody from nine centres of varying ages, gender, security level and geographical region, Rijo et al (2016) used random sampling, and Wood, Foy, Layne, Pynoos & James (2002) used a combination of random and stratified sampling, and selected offenders from seven custodial settings. Studies which were rated as unclear risk (Kerig & Bennett, 2013 & Martin, Martin, Dell, Davis & Guerreri 2008) did not adequately describe how participants were selected.

1.3.4.2 Performance bias. Performance bias varied across studies, with fifteen being rated as high risk. Within those, studies which used self-report measures to diagnose PTSD did not use validity scales to reduce the potential for bias within responses. Martin et al (2008) used the Trauma Symptom Checklist for Children (TSCC) which includes two validity scales; however, the authors did not exclude invalid responses from their analysis, rendering the scales pointless. Additionally, studies rated as high risk did not account for how they assured participants that anonymity would be maintained, and Wasserman et al (2002)

shared the results with mental health staff. Five studies were rated as low risk. Of these, Steiner, Garcia and Matthews (1997), Bickel and Campbell (2002) and Robertson et al (2004) demonstrated good approaches to dealing with performance bias by using validity scales and excluding invalid responses and making attempts to assure participants their responses would remain anonymous. Rijo et al (2016) and Karnick et al (2009) were also rated as low risk; the latter reduced risk by informing participants that their sentences would not be affected by their participation and the former used an interview (SCID-IV) that allowed researchers to probe participants' responses for evidence of bias. Six studies were rated as unclear; such studies made attempts to reassure anonymity, but it was not clear how they did this, and they did not use validity scales in their assessments of PTSD.

1.3.4.3 Detection bias. Twenty-one studies were rated as at low risk for detection bias. These studies used assessment tools which are standardised, well-established, widely used and with good to excellent psychometric properties. These include the MINI-KID (Sheehan et al, 2010), K-SADS-PL (Kaufman et al, 2017), Adolescent Psychopathology Scale (Reynolds, 1998), CAPS-CA (Newman et al, 2004), DISC-IV (Shaffer, Fisher, Lucas, Dulcan & Schwab-Stone, 2000), SCID-IV (Kubler, 2014), DICA-R (Reich, Leacock & Shanfield, 1994), Voice DISC (Wasserman et al, 2002), UCLA-PTSD-RI (Steinberg, Brymer, Decker & Pynoos, 2014), TSCC (Briere, 1996), LASC (King, King, Lesking & Foy, 1995), and the PTSD module of the Psychiatric Diagnostic Interview - revised (Othmer et al 1981). Steiner et al (1997) and Karnick et al (2009) added to this and increased reliability by using two interviewers and checking for inter-rater reliability. Gretton & Clift (2011) also used file reviews to look for symptoms of PTSD. Harrington et al (2005) used both

the youth and practitioner versions of the K-SADS (Kaufman et al, 2017), to assess PTSD. Four studies (Abrantes, Hoffman & Anton, 2005; Duclos et al, 1998; Harzke et al, 2012; Ribas-Sinol et al, 2015) were rated as of unclear risk. Abrantes et al (2005) used the PADDI (Estroff & Hoffman, 2001) to diagnose PTSD which only has available psychometrics on internal consistency. Duclos et al (1998) used the AIVVP-CIDI (Cuttler, Robins & Helzer, 1989) to assess PTSD which has good psychometric properties and has been cross-culturally validated. However, lay interviewers conducted the assessment of participants and, although they were reported to receive training and show good inter-rater reliability, it is unclear whether prevalence estimates may have altered significantly if experienced mental health professionals had conducted the assessments. Harzke et al (2012) was also rated as of unclear risk due to using a guided interview schedule based on the DSM-IV by qualified mental health professionals, however, inter-rater reliability was not assessed, and some professionals used the ICD-9 to diagnose disorders in addition to the DMS-IV and it was not made clear whether this included PTSD. Ribas-Sinol et al (2015) used a lay interview conducted by Psychiatrists and Psychologists and it was unclear how inter-rater reliability was established. Ghazali, Chen and Aziz (2018) was rated as high risk as they used a non-diagnostic self-report measure (CPTS-RI; Pynoos et al, 1987) to assess PTSD which had poor to moderate psychometric properties.

1.3.4.4. Statistical bias. Overall, there was a low risk of statistical bias within the literature. Twenty-five studies were at low risk as the raw prevalence rates were clearly reported within the results. Three studies (Ghazali et al, 2018; Kerig & Bennett, 2013 & Wasserman et al, 2002) were rated as of unclear risk as the raw prevalence rates were not reported clearly which required additional calculations to

be made by the researcher. Thompson et al (2007) was rated as high risk as they calculated the prevalence of PTSD using T scores of >60 when a cut-off of >65 indicates clinical significance.

1.3.4.5 Reporting bias. All but two studies were rated as at low risk of reporting bias. Such studies reported on all data from all PTSD measures for the whole participant sample. Harrington et al (2005) was rated as unclear risk as it was unclear whether the prevalence rates reported were from the Youth K-SADS, the practitioner K-SADS or a combination of both sets of data. Odgers, Reppucci and Moretti (2005) was rated as at high risk as it did not include the results of the DICA-R within the results section but in the participant section due to PTSD not being the primary outcome of the study. This meant that assessment of PTSD was not adequately described.

1.3.4.6 Generalisability. Overall, generalisability varied across the studies, with seven being rated as low risk. These studies had sample sizes of greater than one hundred and participants showed no obvious idiosyncratic features. Of note is Harzke et al, (2012) who analysed a sample of 10,469 and who selected participants from all youth justice settings in Texas. Although this may present some cultural heterogeneity, the demographics of the sample demonstrated a high percentage of participants from racial-ethnic minority groups, which represent a high proportion of the American prisoner population. Abrantes et al (2005), Robertson et al (2004) and Wasserman et al (2002) each selected participants from several criminal justice settings which further increases the scope to generalise findings. Eleven studies were rated as high risk due to using sample sizes of less than one hundred and selecting participants with obvious idiosyncratic features. For example, Duclos et al

(1998) studied a sample of adolescents living in a Northern Plains Indian reservation, Bickel and Campbell (2002) had a high percentage of participants of Aboriginal origin (27%), Erwin et al (2000) only selected participants from high security establishments and Burton et al (1994) only selected participants who were gang members. For their female samples, Gretton and Clift (2011) and Plattner et al (2009) were also rated as high risk; Gretton and Clift (2011) sampled people from Canada who had offended where the incarceration rate is low and people tend to have committed serious and/or violent crimes, and Plattner et al (2009) only selected participants from one setting.

Thirteen studies were rated as unclear risk as they had adequate sample sizes (>100) however idiosyncratic features were present. Some studies demonstrated cross-cultural biases including sampling an African population from Nigeria (Atilola et al, 2014), Eastern Asian samples from South Korea (Kim et al, 2017), samples from a highly impoverished and war-torn area of Russia (Ruchkin, Schwab-Stone, Koposov, Vermeiren & Steiner, 2002), Eastern Asian samples from Malaysia (Ghazali et al, 2018), only sampling Latino and African-American participants (Wood et al, 2002), only including participants of Belgian or Moroccan origin (Van Damme et al, 2014), and using an Eastern Asian sample from Japan (Zhou et al, 2012). Gretton & Clift (2011) examined Canadian offenders where the rates of incarceration tend to be low and therefore offenders tend to commit serious and/or violent crimes. Rijo et al (2016) had an adequate sample size however excluded participants with a learning disability, developmental disorders or psychosis, all of which are high in the offending population and therefore their sample is unlikely to generalise to the young offending population. Other idiosyncratic features included sampling participants from only one

setting (Plattner et al, 2009) or only including ‘run-away’ offenders (Thompson et al, 2007).

1.3.4.7 Summary. Overall, most studies on young people in custody used good assessment measures and procedures to diagnose PTSD, although chosen measures varied across studies. Statistical and reporting bias were also low across most studies and highlighted a strength in the literature. Studies varied in their ability to generalise findings, with some studies selecting small samples from idiosyncratic or minority groups. Performance bias was high across studies due to a lack of control for response bias, for example, social desirability, which is likely to be high in individuals who are serving custodial sentences. This could have been controlled for by using validity scales, which a small number of studies included. The literature also demonstrated high selection bias due to using opportunistic sampling methods, where researchers sampled any willing participant from an appropriate criminal justice setting. Some studies employed stronger sampling methods including stratified and random sampling, which reduce the risk of bias within the sample. Robertson et al (2004) was the only study rated as low risk across all bias domains, for both male and female participants, and is an excellent example for future studies in this area of research.

Taken together, the results of the quality appraisal for studies reporting on the prevalence of PTSD in young people in custody highlight several areas of bias within the literature, and the findings of this meta-analysis should therefore be interpreted with caution.

1.3.5 Data analysis strategy. The event rates and relative risk estimates in primary studies were log transformed prior to the numerical synthesis however, unless otherwise indicated, the values presented in tables and figures have been back-transformed to their original format for clarity of presentation.

Event rates with a zero count can cause numerical problems when synthesising relative risk and event rates. Zero counts usually occur in small studies in which the sample size prevents accurate estimation of the true event rate (i.e., where the zero event rate reflects the lack of opportunity to observe PTSD rather than a true absence of PTSD). If a study had an event rate equal to zero then a small constant was added (i.e., 0.5) to the standard error of the event rate to avoid division by zero errors.

The DerSimonian and Laird method (DerSimonian & Laird, 1986) is the most commonly used procedure for calculating between studies variation of the primary effects for fitting the random effects model (REM). However, the DerSimonian and Laird method assumes that the random effect is normally distributed in the population and therefore the effects sizes reported in the primary studies should also approximate a normal distribution of effects. Log transformation of the event rates and relative risk estimates serve to normalise the distribution of effects and stabilise the variance of the estimates prior to synthesis using the DerSimonian and Laird method.

1.3.5.1 Handling problematic variance. Heterogeneity can result from methodological variation in the studies, measurement error or uncontrolled individual factors within the reviewed literature. Higgins I^2 is a commonly used measure of

heterogeneity, with greater values of I^2 indicating variation in effect that cannot be attributed to true variation in the distribution of effect in the population. As there is significant variation in the methodologies of the primary studies that were used to calculate the meta-analytic synthesis, problematic heterogeneity was defined as a Higgins I^2 value greater than 75% (Higgins, Thompson, Deeks & Altman, 2003).

Where problematic heterogeneity was observed, a 'leave-one-out analysis' was conducted to identify primary studies that exerted an influential effect on the meta-analytic synthesis. Such studies were reviewed to establish whether statistically significant bias was present. In addition, subgroup analyses and meta regression were used to try to identify source(s) of problematic heterogeneity. Associated adjusted estimates of the synthesis are reported.

1.3.5.2 The omnibus test. The REM is calculated under the assumption that an effect is weighted of the sample size from which it is taken from and penalises greater differences between the study effect and the omnibus effect for the literature as a whole. It therefore differs from the Fixed Effects Model, which considers all studies to be of equal methodological quality and only takes into consideration variation due to sample size. Therefore, the REM is a more appropriate method of analysis given that in psychological research there are usually clear differences in the quality of the studies.

1.3.5.3 The quality effects model. In the REM the precision of an effect is usually estimated as a function of the sample size from which the effect is derived. The quality effects model (Doi & Thalib, 2008) extends the REM by additionally including ratings of methodological quality in the estimation of precision. In this

review, the quality effects model was calculated using the total score from the risk of bias ratings described in table 1. The quality effects model can be interpreted as the meta-analytic synthesis that would have been obtained had all of the studies been of the same methodological quality as the best study in the review. Accordingly, the quality effects model provides a measure of attrition attributable to methodological variation.

1.3.5.4 Identifying publication bias and small study effects. Publication bias and small study effects will be identified through visual and statistical inspection of a funnel plot. A funnel plot is a scatterplot of the effects against a measure of study precision. It is used primarily as a visual aid for detecting systematic heterogeneity. In the absence of publication bias, it is assumed that studies with high precision will be plotted near the average (i.e., the meta analytic synthesis), and studies with low precision will be spread evenly on both sides of the average, creating a roughly funnel-shaped distribution where the distance from the average is inversely proportionate to the precision of the study. A symmetric inverted funnel shape arises from a 'well-behaved' data set, in which publication bias is unlikely, whereas deviation from this shape can indicate publication bias, especially if there is an absence of studies in the area associated with small samples sizes and non-significant effects.

1.3.5.5 Planned contrasts. Data were analysed in three separate meta-analyses split by gender; males, females and mixed gender samples. Where other a priori hypotheses have been posited, sub-group analyses were conducted for categorical moderators.

***1.3.5.6 Analysis of sub-groups*.** Summary effects and associated heterogeneity were calculated for categorical moderators, where relevant. The significance of such sub-groups has been evaluated by comparison of their 95% confidence intervals.

1.4 Results

1.4.1 Study level effects. The raw event rates derived from the primary studies are reported in Table 5 for males, Table 6 for females, and Table 7 for mixed gender samples. In total, there were 29 primary studies reporting a total of 18,243 participants across 5 continents; North America (15), Europe (8), Asia (4), Africa (1) and Oceania (1).

1.4.1.1 Males. There were 24 studies reporting a total of 15,064 participants. Studies were conducted across 5 continents; North America (14), Europe (6), Asia (2), Africa (1), and Oceania (1). Participants were selected from a range of custodial settings including detention centres, correction centres, secure camps, secure children's homes, secure care units, training schools, county jails, youth authority schools, juvenile halls, training centres and youth custody centres. Participants' ages ranged from 10 years to 21 years.

Table 5: Effects in primary studies - males

	PR	Lower 95% CI	Upper 95% CI	%W(random effects model)
Aebi	0.25	0.1912	0.3088	4
Abrantes	0.15	0.1108	0.1892	4.6
Atilola	0.06	0.0208	0.0992	4.6
Bickel	0.33	0.1928	0.4672	2
Burton	0.24	0.1616	0.3184	3.4
Duclos	0.02	0.0192	0.0592	4.6
Erwin	0.18	0.0820	0.2780	2.9
Gretton	0.02	0.0004	0.0396	5
Harrington	0.09	0.0312	0.1488	4
Harzke	0.04	0.0363	0.0437	5.1
Karnick	0.08	0.0604	0.0996	5
Kerig	0.16	0.1208	0.1992	4.6
Kim	0.03	0.0104	0.0496	5
Martin	0.2	0.1412	0.2588	4
Roberston	0.18	0.1408	0.2192	4.6
Plattner	0.25	0.1912	0.3088	4
Rijo	0.02	0.0004	0.0396	5
Ruchkin	0.24	0.2008	0.2792	4.6
Steiner	0.32	0.2220	0.4180	2.9
Ulzen	0.16	0.0424	0.2776	2.4
Van Damme	0.02	0.0004	0.0396	5
Wasserman	0.09	0.0508	0.1292	4.6
Wood	0.28	0.2016	0.3584	3.4
Zhou	0.01	0.0096	0.0296	5

Note. PR = raw proportion, CI = confidence interval

1.4.1.2 Females. The study level effects for PTSD in female adolescent offenders are reported in Table 6. There were 15 studies reporting on a total of 2,476 participants. Studies were conducted across 4 continents; 10 within North America, 2 within Europe, 1 within Asia and 1 within Oceania. Participants were selected from a range of custodial justice settings including detention centres, correction centres, secure camps, secure children's homes, secure care units, training schools, county jail, youth authority schools, juvenile halls, training centres and youth custody centres. Participants' ages ranged from 10 years to 21 years. All studies were

classified as high income countries, so a moderator analysis on this variable was not possible.

Table 6: Effects in primary studies - females

First author	PR	Lower 95% CI	Upper 95% CI	%W (random effects model)
Abrantes	0.35	0.1932	0.5068	6
Ariga	0.33	0.2124	0.4476	6.7
Bickel	0.57	0.1976	0.9424	2.8
Duclos	0.01	-0.0096	0.0296	7.8
Gretton	0.13	0.0320	0.2280	7
Harzke	0.19	0.1704	0.2096	7.8
Karnick	0.13	0.0712	0.1888	7.6
Kerig	0.26	0.2012	0.3188	7.6
Martin	0.30	0.2216	0.3784	7.3
Odgers	0.25	0.1716	0.3284	7.3
Robertson	0.41	0.3316	0.4884	7.3
Plattner	0.52	0.3828	0.6572	6.4
Ulzen	0.55	0.2560	0.8440	3.7
Van Damme	0.21	0.1512	0.2688	7.6
Wood	0.52	0.4220	0.6180	7

Note. PR = raw proportion, CI = confidence interval

1.4.1.3 Mixed gender samples. The study level effects for PTSD in studies reporting on samples of young people in custody of mixed gender are reported in Table 7. There were 12 studies reporting a total of 14,845 participants. Studies were conducted across 3 continents; 8 within North America, 3 within Europe and 1 within Asia. Participants were selected from a range of custodial justice settings including detention centres, correction centres, secure camps, secure children's homes, secure care units, training schools, county jail, youth authority schools, juvenile halls, training centres and youth custody centres. Participants' ages ranged from 10 years to 21 years.

Table 7: Primary study effects – mixed gender

	PR	Lower 95% CI	Upper 95% CI	%W (random effects model)
Duclos	0.01	-0.0096	0.0296	9.7
Ghazali	0.21	0.1512	0.2688	9
Harzke	0.06			0
Karnick	0.09	0.0704	0.1096	9.7
Martin	0.24	0.2008	0.2792	9.4
Plattner	0.29	0.2312	0.3488	9
Ribas-Sinol	0.03	0.0104	0.0496	9.7
Robertson	0.26	0.2208	0.2992	9.4
Thompson	0.23	0.1516	0.3084	8.4
Van Damme	0.1	0.0804	0.1196	9.7
Wood	0.4	0.3412	0.4588	9
Ulzen	0.24	0.1224	0.3576	7.2

Note. PR = raw proportion, CI = confidence interval

1.4.2 Random Effects Model

A random effects model (REM) estimate was calculated using the generic inverse variance method. The REM suggested an overall estimated prevalence rate of 13% for males ($z = 9.84$, $p < 0.0001$) and a 95% confidence interval of between 10% to 15% (see Figure 2). For females the REM suggested an overall estimated prevalence rate of 29% ($z = 7.24$, $p < 0.0001$) and a 95% confidence interval of between 21% to 37% (see Figure 3). Finally, for mixed gender samples, the REM suggested an overall estimated prevalence rate of 17% ($z = 7.80$, $p=0.0001$) and a 95% confidence interval of between 13% and 21% (see Figure 4).

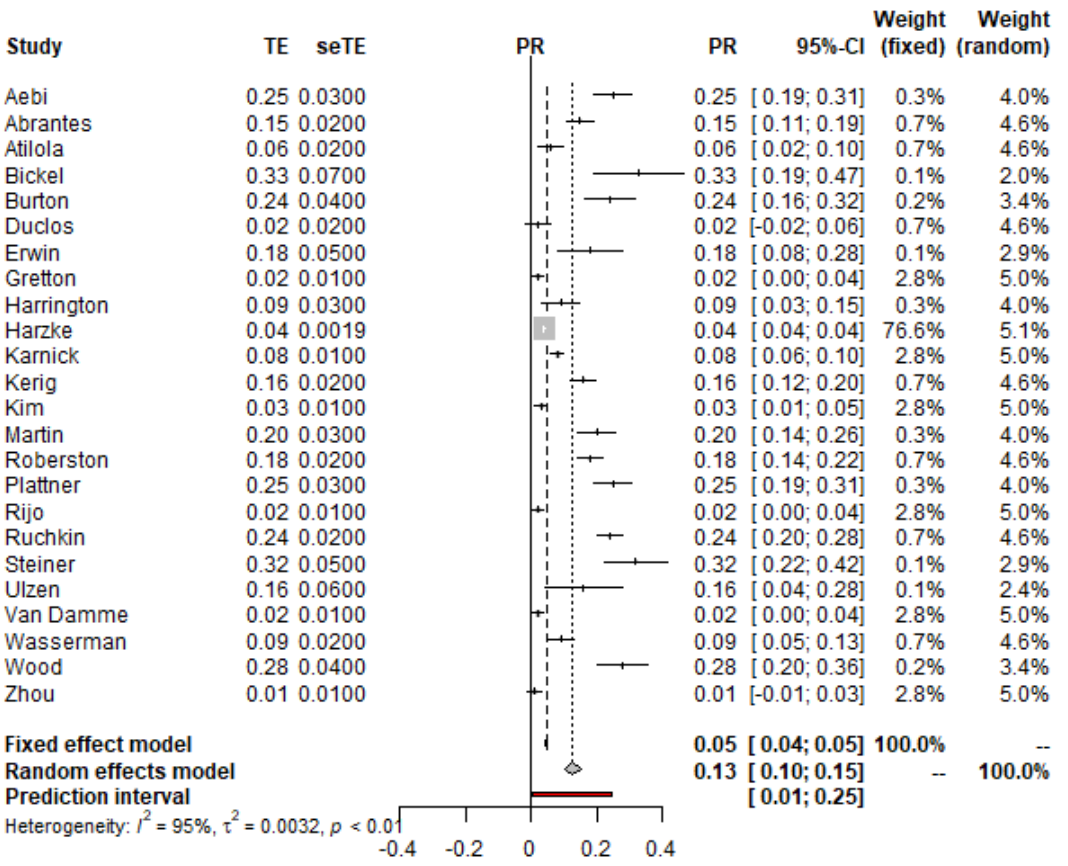


Figure 2: Forest plot depicting primary study level and overall prevalence estimates for studies reporting on males

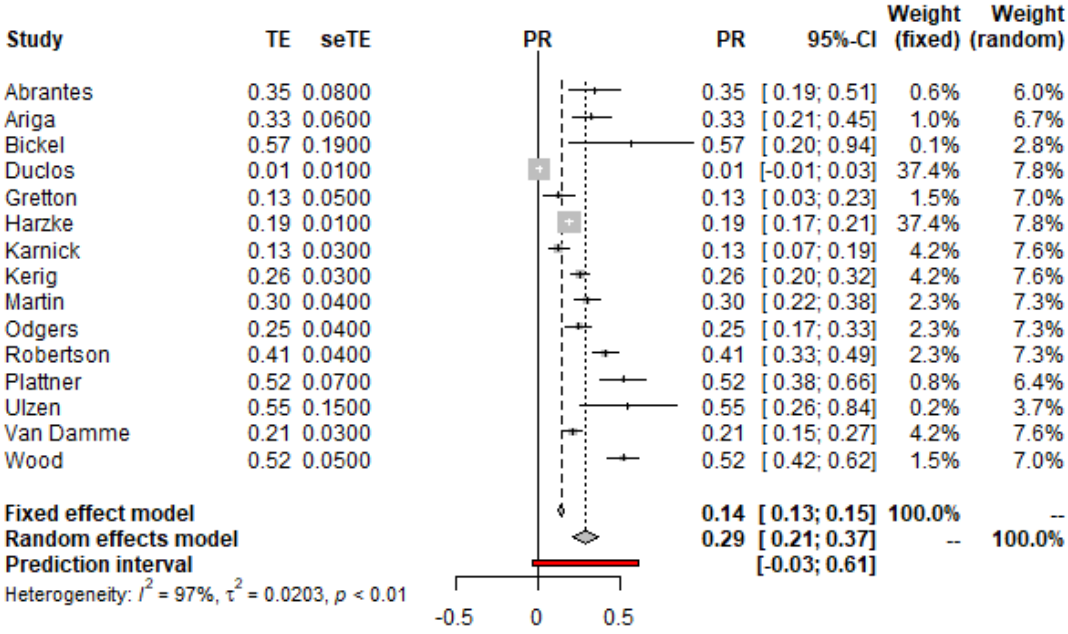


Figure 3: Forest plot depicting primary study level and overall prevalence estimates for studies reporting on females

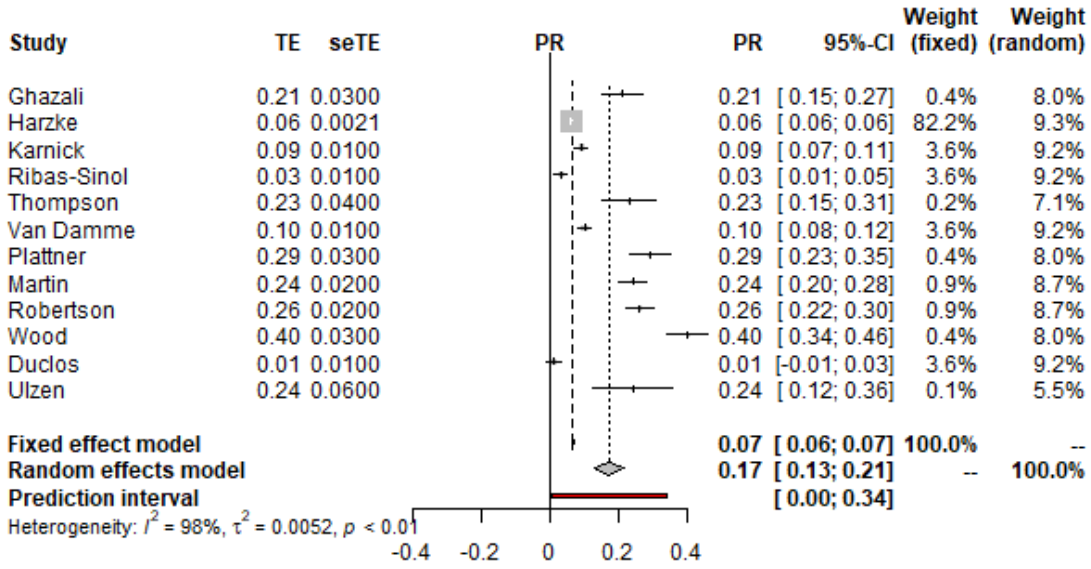


Figure 4: Forest plot depicting primary study level and overall prevalence estimates for mixed gender studies

1.4.3 Heterogeneity. A substantial level of heterogeneity in the event rates was observed for males (tau^2 = 0.0032, Higgin's I^2 = 95.4%; Q = 498.87, p < 0.0001), females (tau^2 = 0.0203, Higgin's I^2 = 96.5%; Q = 401.23, p < 0.0001), and mixed gender samples (tau^2 = 0.0052, Higgin's I^2 = 97.6%; Q = 467.46, p < 0.0001). This suggests that the estimates of all primary studies may be biased by the presence of uncontrolled or confounding factors.

1.4.4 Influential studies. The impact of disproportionately influential studies was assessed using a "leave-one-out" analysis, in which the REM was calculated with each of the primary studies removed in turn. This measure of influence is depicted in the forest plot of the "leave-one out" effect sizes shown in Figure 5 for males, 6 for females and 7 for mixed gender samples. If the 95% confidence interval for an omitted study does not include the prevalence estimate from the overall synthesis then it may be inferred that removal of that study results in a quantitatively different conclusion and, therefore, that the removed study is exerting excessive influence on the outcome.

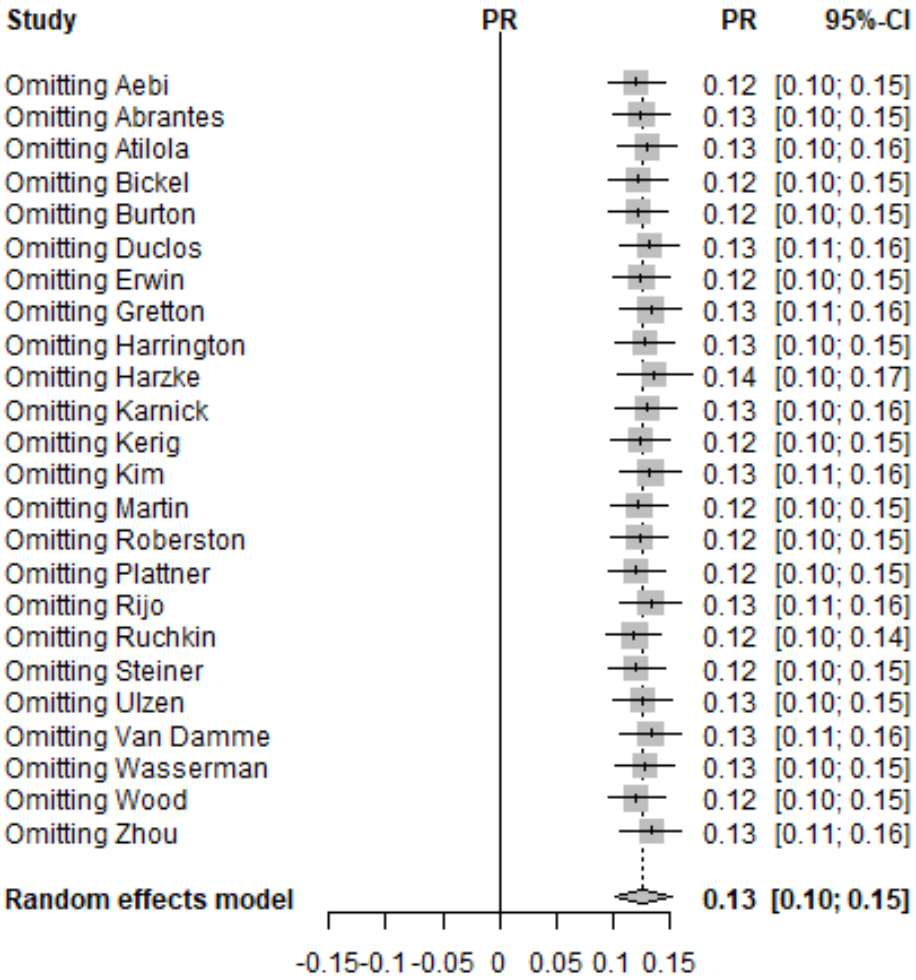


Figure 5: Forest plot depicting “leave-one-out” analysis for males

The results of the “leave-one-out” analysis for males demonstrated that omitting studies did not produce results that were inconsistent from the overall random effects model. Therefore, no primary studies were removed from the analysis.

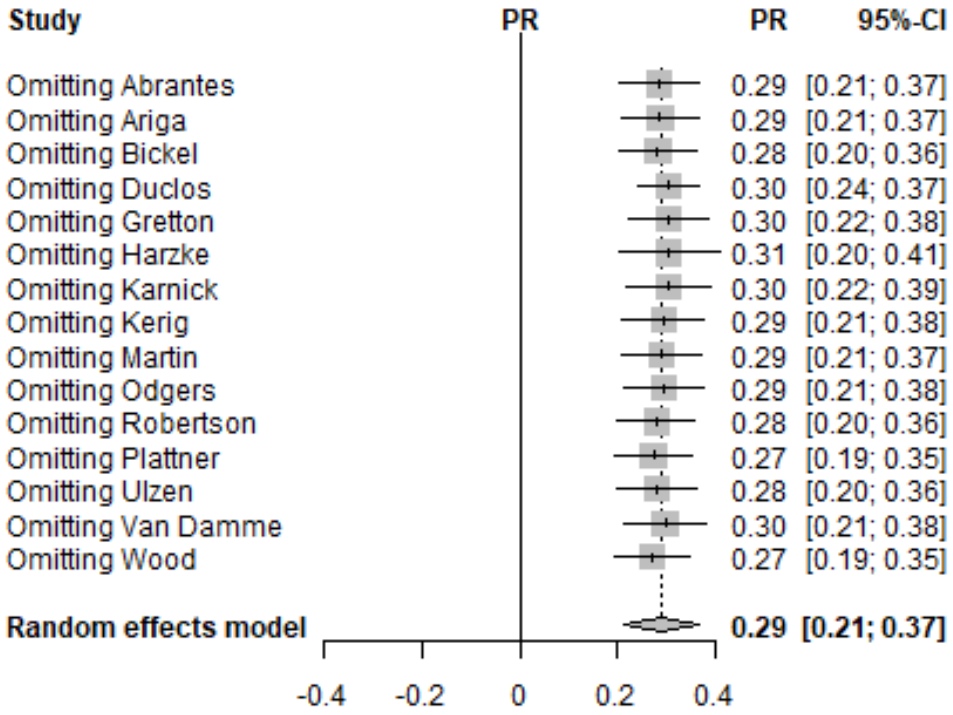


Figure 6: Forest plot depicting “leave-one-out” analysis for females

The results of the “leave-one-out” analysis depicted in Figure 6 showed that none of the primary studies on females had an influential effect, as each of their confidence intervals include the value of the synthesis of the complete data set (29%). Therefore, no studies were removed from the analysis.

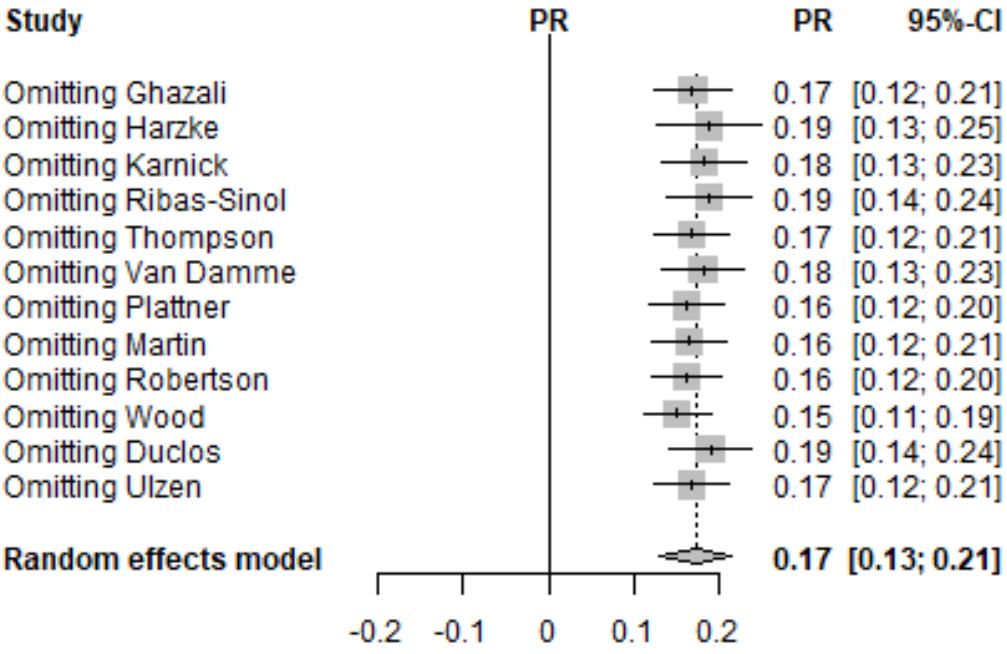


Figure 7: Forest plot depicting "leave-one-out" analysis for mixed gender samples

The results of the "leave-one-out" analysis for mixed gender samples demonstrated that omitting each of the studies in turn did not produce results that were inconsistent from the overall random effects model and therefore no overly influential studies were identified.

Additional tests of goodness of fit were applied to the studies reporting on mixed gender samples. These tests use various methods to measure the distance of each prevalence estimate from the meta-analytic line/synthesis (see Appendix A). Using these conditions, four studies were identified as influential (Duclos et al, 1998; Harzke et al, 2012; Ribas-Sinol et al, 2015 & Wood et al, 2002).

The random effects model was run again with the four influential studies removed. The adjusted random effects model indicated an overall estimated prevalence rate of PTSD for male and female young people in custody of 20% ($z = 6.70$, $p<0.0001$) and

a 95% confidence interval of between 14% to 26% (see figure 8). This estimate is 3% higher than the previous estimate, indicating that the removed studies were reducing the overall effect. Upon inspection of the four studies, Duclos et al (1998), Harzke et al (2012) and Ribas-Sinol et al (2015) had lower estimates (see Figure 4) whereas Wood et al (2002) had a higher estimate (40%, CI=34-46%).

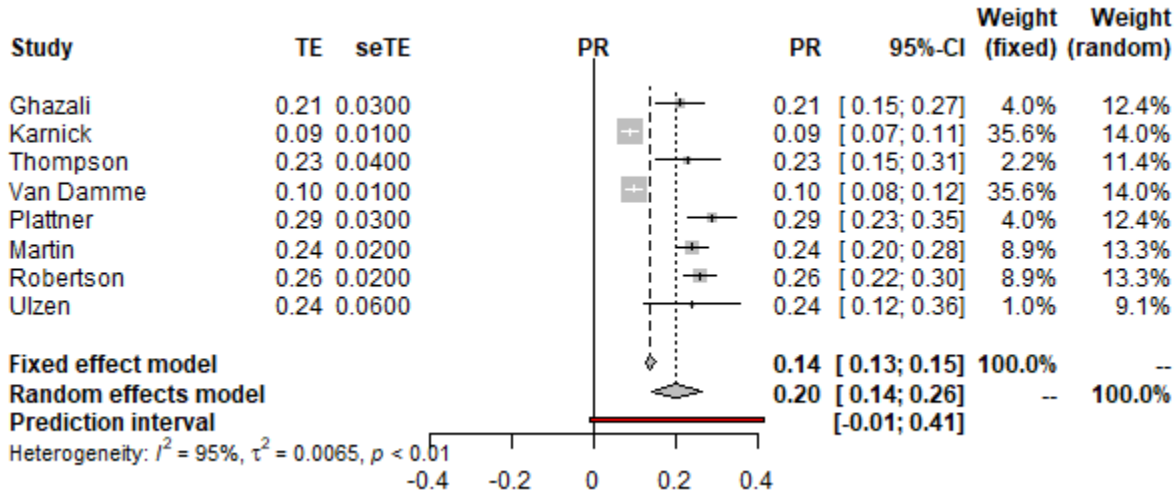


Figure 8: Forest plot depicting primary study level and overall prevalence estimates for mixed gender studies after influential studies were removed

1.4.5 Quality Effects Model. The quality effects model was calculated using the total score from the risk of bias ratings reported previously (see Table 4). The quality effects model is the meta-analytic synthesis when controlling for methodological biases, or the effect that would have been obtained had all primary studies been of the same methodological quality as the best study in the review. For males, the quality effects model reported a prevalence rate of 15% ($z = 10.8789$, $p < 0.0001$) and a 95% confidence interval of 12% to 17%. The quality effects model estimated a 2% higher prevalence of PTSD. It can therefore be concluded that when

the synthesis takes into consideration the methodological quality of the studies there is no substantial change in the synthesis of these studies.

For females, the quality effect model reported a synthesised estimated prevalence rate of 33% ($z = 7.6493$, $p < 0.0001$) and a 95% confidence interval of 24 to 41%. The quality effects model evidences an increase of 4% in comparison to the REM. Thus, when the synthesis includes an assessment of the methodological quality of primary studies there is no important change in the synthesis of these study.

For mixed gender samples, the quality effects model reported a prevalence rate of 20% ($z=6.3682$, $p<0.0001$) and a 95% CI of 14% to 27%. The quality effects model gave the same estimate for the prevalence of PTSD as did the REM and it can therefore be concluded that when the synthesis takes into consideration the methodological quality of the studies there is no substantial change in the synthesis of these studies.

1.4.6 Subgroup Analyses. The impact of methodological variation on prevalence estimates of PTSD was assessed using subgroup analyses for each bias rating (i.e. low, unclear or high) for each type of methodological bias (see Table 8).

Table 8: Subgroup analysis for studies reporting on males with risk of bias as moderators

	Low risk	Unclear risk	High risk	Q	P
Selection bias	16%	17%	12%	6.17	0.04543
Performance bias	16%	14%	11%	1.73	0.4220
Detection bias	14%	7%	n/a	3.87	0.0492
Statistical bias	13%	12%	n/a	0.00	0.9689
Reporting bias	13%	9%	n/a	1.36	0.2437
Generalisability bias	13%	10%	18%	2.43	0.2964

Two bias domains demonstrated statistically significant estimates of PTSD prevalence. Selection bias (p=0.04543) indicated that higher levels of bias was associated with a lower prevalence estimate. This is not what would be expected, as studies which employ less rigorous selection and sampling procedures (i.e. those rated high risk) would be predicted to have higher PTSD prevalence estimates, given that they include samples of pre-selected and bias participants. It may be that the prevalence estimates are being influenced largely by the small number of studies which showed a low risk (n=3) and unclear risk (n=2) of selection bias. Detection bias also showed significant results (p=0.0492), with studies of low risk estimating a higher prevalence of PTSD (14%) than studies of unclear risk (7%). This finding suggests that when good assessment tools and procedures are used to assess PTSD, prevalence of PTSD is higher, and that perhaps less rigorous and/or reliable methods of assessment miss the presence of the disorder.

For females (see Table 9), only selection bias showed statistically significant prevalence estimates (p=0.0043). Studies with a low risk of selection bias estimated prevalence to be higher than and quantitatively different (46%, CI=35-57%) to the synthesis estimate (29%, CI=21-31%), suggesting that the prevalence estimate of PTSD for well-sampled participants may be higher than the overall review estimate. However, there were only two studies rated as low risk. Heterogeneity reached acceptable levels for studies with low (I^2=66%) or unclear risk of selection bias (I^2=0%), however this is likely due to there only being two studies within each bias domain.

Table 9: Subgroup analysis for studies reporting on females with risk of bias as moderators

	Low risk	Unclear risk	High risk	Q	P
Selection bias	46%	27%	25%	10.91	0.0043
Performance bias	33%	29%	26%	0.35	0.8390
Detection bias	32%	17%	29%	3.03	0.0819
Statistical bias	29%	26%	n/a	0.40	0.5263
Reporting bias	29%	n/a	25%	0.56	0.4546
Generalisability bias	28%	32%	27%	0.26	0.8768

For mixed gender samples, no statistically significant results were found in the moderator analysis (see Table 10), indicating that the prevalence of PTSD did not vary significantly according to bias domain, and that the variation must be occurring due to some other factor or an effect within the prevalence of PTSD itself.

Table 10: Subgroup analysis with risk of bias as moderators – mixed gender samples

	Low risk	Unclear risk	High risk	Q	P
Selection bias	26%	24%	18%	4.65	0.0980
Performance bias	17%	29%	20%	4.09	0.1292
Detection bias	20%	n/a	22%	0.19	0.6657
Statistical bias	20%	21%	23%	0.35	0.8409
Reporting bias	20%	n/a	n/a	0.00	n/a
Generalisability bias	17%	19%	28%	3.70	0.1575

1.4.7 Publication bias. A funnel plot is a scatterplot of the effects against a measure of study precision. It is used primarily as a visual aid for detecting systematic heterogeneity. In the absence of publication bias, it is assumed that studies with high precision will be plotted near the average (i.e., the meta analytic synthesis), and studies with low precision will be spread evenly on both sides of the average, creating a roughly funnel-shaped distribution where the distance from the average is inversely proportionate to the precision of the study. An inverted funnel shape arises from a 'well-behaved' data set, in which publication bias is unlikely whereas deviation from this shape can indicate publication bias especially if there is

an absence of studies in the region associated with small samples sizes and non-significant effects.

As can be seen from Figure 9 below, the reported prevalence estimates for the primary studies on males do not conform to normal expectations as there are more studies than would be expected outside of the ninety five percent confidence interval (i.e. the funnel). There appears to be a substantial publication bias whereby studies with smaller sample sizes reporting lower prevalence estimates are not being published.

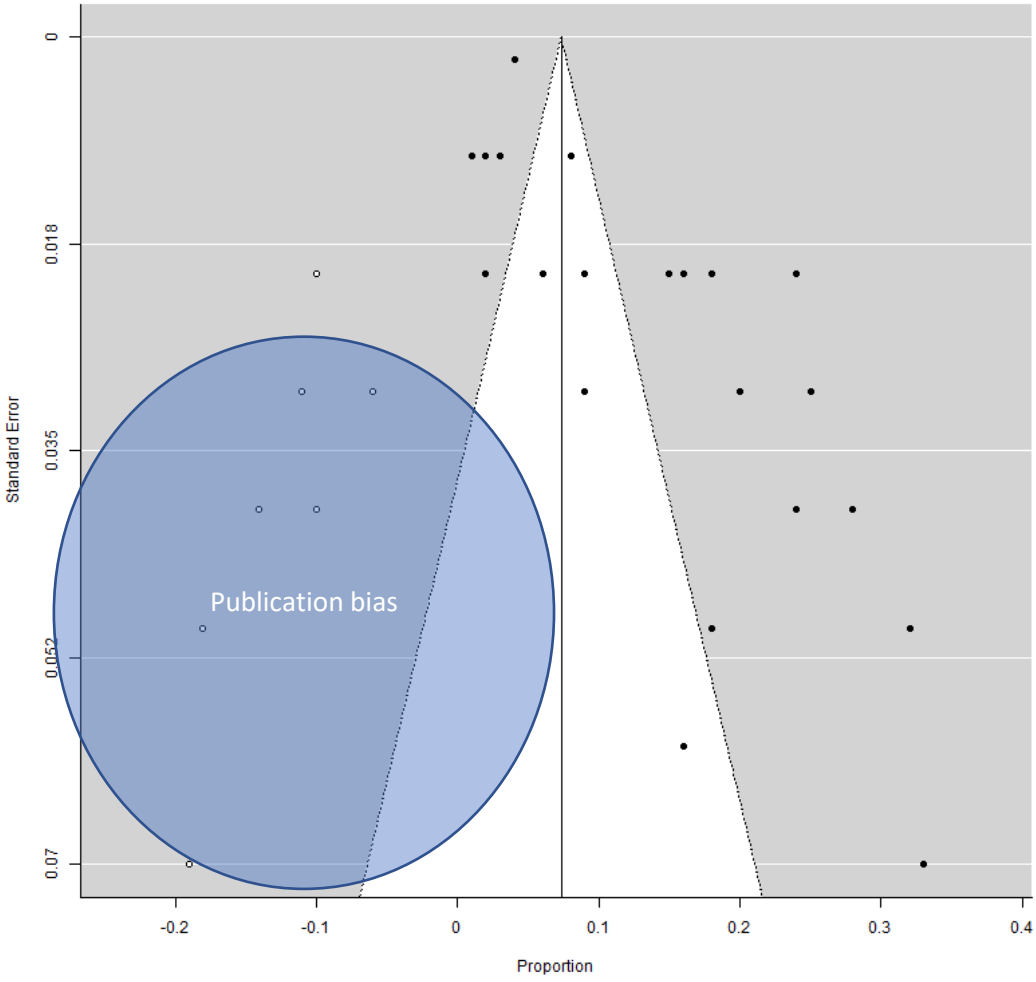


Figure 9: Funnel Plot of the standard errors for primary studies - males. Black markers indicate primary studies; white marker indicate effects that were imputed by the Trim and Fill analysis.

As the funnel plot suggested evidence of publication bias, a ‘trim and fill’ procedure was used to simulate the impact of small study effects. A ‘trim and fill’ procedure gives an estimate of the number of missing studies due to publication bias, adds the missing studies to the analysis, and then provides an adjusted prevalence estimate (Duval & Tweedie, 2000). The trim and fill method identified that there were likely 7 missing studies from the literature reviewed which are depicted in Figure 9 by the white dots. Prior to this, the estimated point prevalence was 13%. The adjusted estimated point prevalence was 7% with a confidence interval of 5% and 10%. The adjusted point estimate suggests a quantitatively different and lower effect than the unadjusted estimate. The funnel plot of the standard errors for primary studies for females is shown in Figure 10.

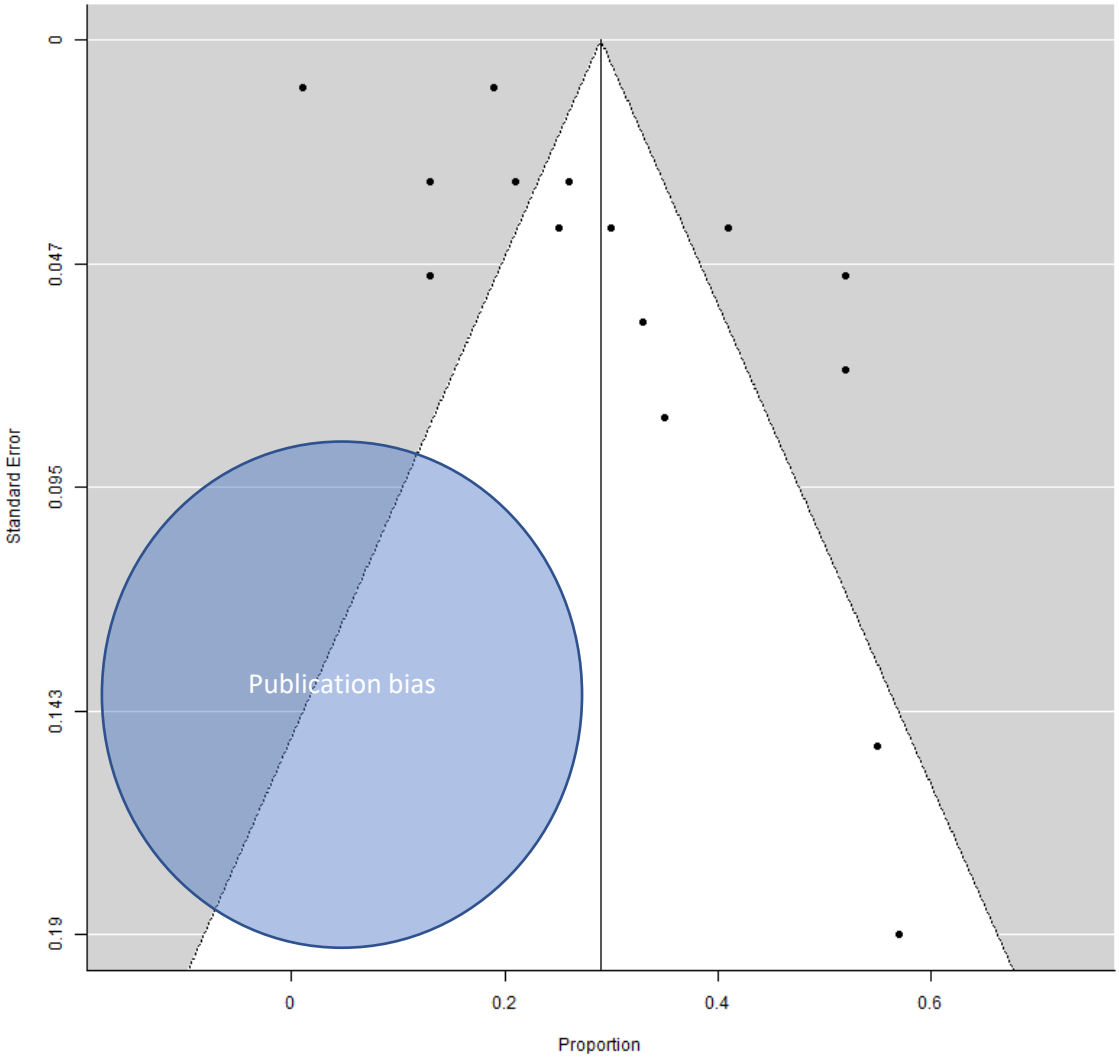


Figure 10: Funnel Plot of the standard errors for primary studies – females. Black markers indicate primary studies; white marker indicate effects that were imputed by the Trim and Fill analysis.

Figure 10 shows that the outcomes reported for the prevalence estimates for the primary studies on females do not conform to normal expectations as there is an abnormal distribution of studies around the meta-analytic effect. There appears to be a minor publication bias whereby studies with smaller sample sizes or studies reporting lower prevalence estimates are not being published. Therefore, it is likely

that the meta-analytic effect is being slightly over-reported in the primary studies available to review.

As above, the ‘trim and fill’ method was applied to the data, which identified that there is likely one study missing from the literature. Prior to this, the estimated point prevalence was 29% with a confidence interval of 21 and 27%. The adjusted estimated point prevalence was estimated at 28% with a confidence interval of 20% and 26%. The adjusted point estimate suggests a minimally (by 1%) lower effect than the original analysis.

As can be seen from Figure 11 below, the reported prevalence estimates for the primary studies on mixed gender samples do not conform to normal expectations as there are more studies than would be expected outside of the 95% confidence interval. There also appears to be a small publication bias where there is an absence of studies with small sample sizes reporting lower prevalence estimates.

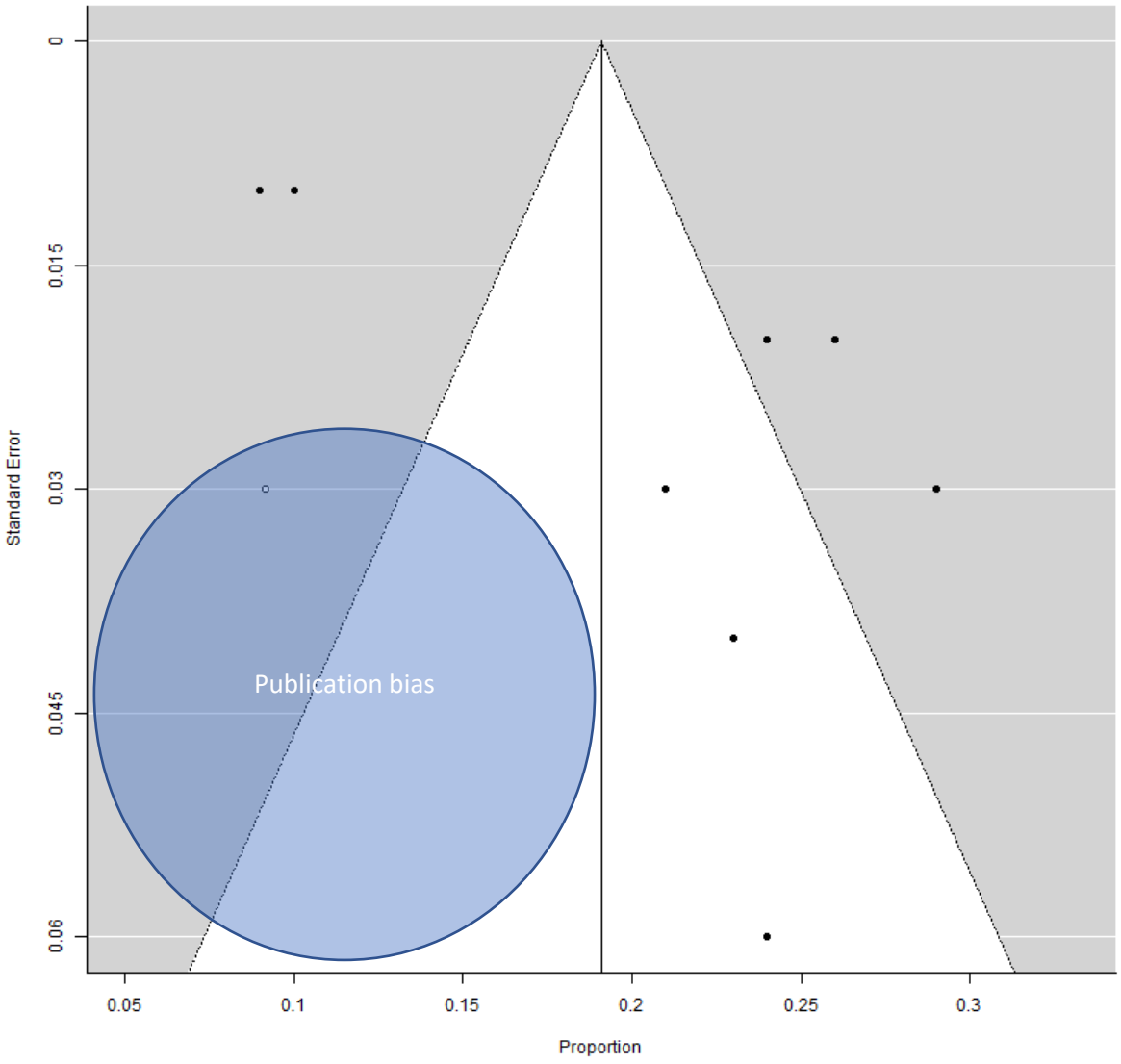


Figure 11: Funnel Plot of the standard errors for primary studies – mixed gender. Black markers indicate primary studies; white marker indicate effects that were imputed by the Trim and Fill analysis.

As above, the trim and fill method was used and identified that there is likely one study missing from the literature. Prior to this, the estimated point prevalence was 20% with a confidence interval of 14 and 26%. The adjusted estimated point prevalence was estimated at 19% with a confidence interval of 14% and 25%. The adjusted point estimate suggests a minimally (by 1%) lower effect than the original analysis.

1.4.8 Moderating variables.

1.4.8.1 Males. Further analyses were run to examine whether there were moderating variables effecting estimates of prevalence and/or heterogeneity levels. For males (Table 11), no statistically significant results were found when studies were analysed according to first language, USA/non-USA country and year of publication. With regards to continent as a moderator, studies conducted in Asia showed acceptable levels of heterogeneity (I^2=50%). Estimated prevalence rates were significantly different (p<0.0001) across groups, and lower for studies conducted in Asia (2%, CI=0-4%) than the overall REM estimate (13%, CI=10-15%). However, these results are likely due to only two studies being conducted in Asia. Europe and North America had greater numbers of studies (6 and 14, respectively) and their prevalence estimates were comparable to the overall synthesis estimate.

Studies which used assessment tools based on the DSM-III reached acceptable levels of heterogeneity (I^2=37%) and these studies estimated the prevalence of PTSD to be statistically and quantitatively higher (p<0.0001, 27%, CI=20-25%). than the overall meta-analytic effect (13%, CI=10-17%). This may be because the DSM-III was less sensitive than later revisions of the DSM and diagnosed PTSD in individuals who may not have met the criteria later. However, it is hard to make conclusions as only two studies used measures based on the DSM-III.

Heterogeneity fell to acceptable levels for studies that used self-report measures (I^2=62%) whereas those that used interviews to assess PTSD had unacceptable levels (I^2=95%). Studies using self-report measures gave statistically higher (p<0.0001) estimates of PTSD (21%, CI=17-25%) than the meta-analytic effect (13%, CI=10-

17%). Six studies used self-report measures (Bickel & Campbell, 2002; Burton et al, 1994; Kerig & Bennett, 2013; Martin et al, 2008; Robertson et al, 2004; & Wood et al, 2002). Although each study used well established measures with good psychometric properties, only two used validity scales. It may be that the higher prevalence estimates for studies using self-report measures could be due to participants over-reporting symptoms of PTSD in comparison to if they had been objectively assessed by an interviewer. This may be linked to personality level issues which are highly prevalent in the offender population (NOMS, 2015) or expectations about how their mental health may impact their custodial sentence. Therefore, it is likely that the prevalence estimates for studies using interviews may be more objectively valid.

Heterogeneity remained substantial for both HIC (I^2=96%) and MIC's (I^2=80%). For MIC's, the estimated effect (3%, CI=2-8%) was statistically significant (p=0.0002) and quantitatively different to the overall meta-analytic effect (13%, CI=10-15%). These studies were conducted in Nigeria and China, and it may be that cultural differences exist within these countries that influence the reporting of symptoms of mental health disorders and lead to participants under-reporting symptoms of PTSD. Additionally, access to mental health services may be poorer in MIC's than in HIC's and knowledge/awareness about mental health may also be poorer. As a result, individuals may be less likely to understand or acknowledge any symptoms they may be experiencing. However, these results need to be interpreted with caution as only two studies fell within the MIC category.

Table 11: Hypothesised moderating variables

						Q	P
Language	**English speaking country** 14% [11-18%] I^2=95% K=16	**Non-English speaking country** 10% [5-16%] I^2=97% K=8				1.42	0.2338
Continent	**Africa** 6% [2-10%] I^2=n/a K=1	**Asia** 2% [0-4%] I^2=50% K=2	**Europe** 14% [6-23%] I^2=97% K=6	**North America** 14% [10-17%] I^2=95% K=14	**Oceania** 33% [19-47%] I^2=n/a K=1	53.47	<0.001
Country	**USA** 14% [10-17%] I^2=95% K=14	**Non-USA** 12% [7-17%] I^2=96% K=10				0.52	0.4715
Diagnostic Classification	**DSM-IV** 11% [9-14%] I^2=95% K=21	**DSM-III** 27% [20-35%] I^2=37% K=2	**Not diagnostic** 20% [14-26%] I^2=n/a K=1			20.53	<0.0001
Assessment format	**Interview** 10% [7-12%] I^2=95% K=18	**Self-report** 21% [17-25%] I^2=62% K=6				22.49	<0.0001
Income of country	**High Income (HIC)** 14% [11-17%] I^2=96% K=22	**Middle Income (MIC)** 3% [2-8%] I^2=80% K=2	**Low Income (LIC)** K=0			13.63	0.0002
Year of publication	**Pre-2000** 18% [3-34%] I^2=94% K=4	**Post-2000** 12% [9-15%] I^2=96% K-20				0.61	0.4339

Note. K=number of studies, I^2 = Higgins I^2

1.4.8.2 Females. For primary studies for females (Table 12), only one moderator analysis found statistically different prevalence estimates between subgroups; assessment format (p=0.0409). For self-report measures, prevalence estimates were significantly higher (38%, CI=28-49%) than the estimated synthesis effect (29%, CI=21-31%). As discussed with regards to young male offender prevalence estimates of PTSD, this may be because participants are over-reporting their own symptoms, possibly because of difficulties relating to personality level difficulties which are extremely prevalent in the offending population (NOMS, 2015), which make them more bias to over-reporting, and possibly due to their expectation of how their mental health status may impact their custodial sentence/pathway.

Table 12: Hypothesised moderating variables - females

	Group 1	Group 2	Group 3	Group 4	Q	P
Language	**English speaking country** 28% [19-36%] I^2=97% K=12	**Non-English speaking country** 34% [17-52%] I^2=89% K=3			0.48	0.4900
Continent	**Asia** 33% [21-45%] I^2=n/a K=1	**Europe** 36% [6-66%] I^2=94% K=2	**North America** 26% [18-35%] I^2=97% K=11	**Oceania** 57% [20-94%] I^2=n/a K=1	3.02	0.3891
Country	**USA** 26% [18-35%] I^2=97% K=11	**Non-USA** 37% [21-54%] I^2=85% K=4				
Diagnostic Classification	**DSM-IV** 29% [21-37%] I^2=97% K=14	**Not diagnostic** 27% [20-35%] I^2=n/a K=1			0.04	0.8508
Assessment format	**Interview** 24% [15-32%] I^2=96% K=10	**Self-report** 38% [28-49%] I^2=84% K=5			4.18	0.0409
Year of publication	**Pre-2000** 26% [-21-79%] I^2=92% K=2	**Post-2000** 30% [24-36%] I^2=89% K=13			0.02	0.8906

1.4.8.3 Mixed gender. Further subgroup analyses for studies reporting on mixed gender samples have not been included in the main body of this review as the small number of studies (n=8) mean any such analyses would not provide a meaningful correction, however they are included in Appendix A.

1.5 Discussion

This meta-analysis explored the prevalence of PTSD amongst young people who have offended and received a custodial sentence worldwide. Within the studies included in this meta-analysis, few studies reported on the lifetime prevalence of PTSD and therefore this meta-analysis provides a pooled estimate of current (up to the last twelve months) PTSD prevalence. The prevalence of PTSD for young male offenders was estimated at 13% and for young female offenders at 29%. Studies reporting on mixed gender samples estimated current PTSD prevalence as 17%. The finding that young female offenders have higher rates of PTSD than young male offenders is in keeping with the literature in the general child and adolescent population (Alisic et al, 2014; McLaughlin et al, 2013).

However, the pooled estimates from this review are much higher than those found in the general child and adolescent population; a recent epidemiological study published in the Lancet (Lewis et al, 2019) estimated twelve month prevalence of PTSD as 4.4%. Further, girls were found to be at greater risk of developing PTSD than boys (OR 1:97). Prevalence estimates of PTSD in adult offenders were found to be much higher than in the general adult population in a recent meta-analysis, and females had higher prevalence rates than males (Baranyi et al, 2018); the results of this meta-analysis therefore support and add to this.

Estimates of PTSD prevalence were significantly higher in studies which used self-report measures to assess PTSD for both male and female offenders, however as discussed, this may be due to the over-reporting of symptoms, as few studies used validity scales to reduce reporting bias. Studies conducted in Asia had lower prevalence estimates for young male offenders, which may be linked to cultural differences in the communication of distress, but also may be due to the small number of studies conducted in Asia (n=2). For males, MIC's had significantly lower prevalence rates than HIC's, however this is not in keeping with the literature (Yatham, Sivathasan, Yoon, da Silva, & Ravindaran, 2018) and is likely influenced by there only being two studies conducted in MIC's. Finally, this review found that studies using tools informed by DSM-III criteria had significantly higher rates of PTSD for males than those using other classification systems. As discussed, this may be due to the DSM-III being more sensitive and over-diagnosing PTSD, and subsequent changes made to the DSM-IV making it more sensitive to diagnosis.

There are several limitations to this meta-analysis which must be highlighted. Firstly, levels of heterogeneity were high and did not reach acceptable levels. Sub-group analyses revealed some potential explanations for this, as described above, however these seem unlikely explanations due to the small number of studies within the subgroups for which heterogeneity reached acceptable levels. Given such results, it is likely that differences in the prevalence of PTSD exist within the study population which have not been accounted for by the moderator variables explored within this review.

In addition, this review may be limited by the exclusion of pre-trial and remand offenders. Although this was done purposefully to ensure a single population was

being studied and in keeping with the principle of *'innocent until proven guilty'*, it may weaken any conclusions drawn as some members of the pre-trial/remand population are likely to become sentenced offenders in the future, and therefore rates of PTSD may be different if such offenders were also included in the review.

A further limitation is the chosen age range of ten to twenty-one years. Significant biological, neurological, social and psychological changes occur during this time and it may therefore be unhelpful to attempt to estimate PTSD across such a wide age range. Instead, future reviews may wish to divide 'young people in custody' into age categories so that prevalence rates of PTSD for pre-teen, adolescent and young people in custody are explored separately.

This meta-analysis has several implications. Few studies that met the criteria for inclusion in this review reported on the lifetime prevalence of PTSD in young people in custody. Further rigorous research is therefore needed to fill this gap. There are a greater number of studies exploring the prevalence of PTSD in young male offenders than females. Further research exploring PTSD in young female offenders is needed. Additionally, any future studies of this nature would be methodologically strengthened by including both professional interviews and self-report measures in their diagnosis of PTSD. Studies would also benefit from using randomised or stratified sampling methods, to reduce the prevalent risk of selection bias within this literature.

Young people who have received a custodial sentence for an offence seem to be at a greater risk of developing PTSD than those in the general population. This highlights the need for trauma-informed approaches within prison systems throughout the world and the inclusion of trauma-based interventions being

implemented within rehabilitation programmes. This appears to be particularly important for young female offenders and indicates that female youth justice settings need to be especially focussed on trauma-informed rehabilitation, given that the experience of sentencing and the prison environment itself can be experienced as re-traumatising (Miller & Najavits, 2012; Owen, Wells, Pollock, Muscat & Torres, 2008).

Higher rates of trauma amongst young people receiving custodial sentences for offending also have potential implications for rehabilitation programmes and treatments offered throughout the justice system outside of custodial establishments. In many countries, young sentenced offenders encounter police, probation and other community youth services prior to receiving custodial sentences. It is likely that the assessment and treatment of PTSD could occur prior to young people coming into custody which would potentially reduce the economic cost and burden associated with not just PTSD but other comorbid mental health problems (Royal College of Psychiatrists & British Psychological Society, 2005). Assessment and treatment in community settings is likely to be of lower cost than if conducted within custodial settings and may reduce the risk of young people offending and receiving custodial sentences, as symptoms of PTSD and/or trauma have been linked to violent offending (Ardino, 2012; Howard, Karatzias, Power & Mahoney, 2017; Welfare & Hollin, 2012).

This also has implications for staff working within child and adolescent prison settings; working with victims of trauma who have high rates of PTSD puts staff at an increased risk of experiencing compassion fatigue, secondary traumatic stress disorder and vicarious trauma (Depass, 2005; Figley, 1995; Iliffe & Steed, 2000; Munger, Savage & Panosky, 2015; Trippany, White Kress & Wilcoxon, 2004).

Training, supervision, and professional support need to be available for such staff groups to ensure their wellbeing is maintained to enable them to carry out their work duties effectively.

In conclusion, studies exploring the prevalence rates of PTSD in young people in custody showed great variation which could not be explained by the factors examined in this meta-analysis; this made it difficult to draw firm conclusions. Despite this, PTSD appears to be more prevalent in young people in custody than in young people in the community. The criminal justice system and pathways for young people would benefit from trauma-informed working to meet this need. Staff working in such systems also require additional trauma-informed support to minimise the impact of vicarious trauma experiences. Future research should focus on exploring prevalence of PTSD in female young persons in custody, the lifetime prevalence of PTSD of young people in custody, and on reducing selection and performance bias, which were significant in much of the existing literature.

1.6 References

Abrantes, A.M., Hoffmann, N.G., & Anton, R. (2005). Prevalence of co-occurring disorders among juveniles committed to detention centers. *International Journal of Offender Therapy and Comparative Criminology, 49,* (2), 179-193.

Aebi, M., Linhart, S., Thun-Hohenstein, L., Bessler, C., Steinhausen, H.C., & Plattner, B. (2015). Detained male adolescent offender's emotional, physical and sexual maltreatment profiles and their associations to psychiatric disorders and criminal behaviours. *Journal of Abnormal Child Psychology, 43,* (1), 999-1009.

Alisic, E., Zalta, A.K., van Wesel F., Larsen, S.E., Hafstad, G.S., Hassanpour, K., Smid, G.E. (2014). Rates of post-traumatic stress disorder in trauma-exposed children and adolescents: meta-analysis. *British Journal of Psychiatry, 204,* (1), 335-40.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., Text Revision). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Ardino, V. (2012). Offending behaviour: the role of trauma and PTSD. *European Journal of Psychotraumatology, 3,* (1), 18968 – 18972.

Ariga, M., Uehara, T., Takeuchi, K., Ishige, Y., Nakano, R., & Mikuni, M. (2008). Trauma exposure and post traumatic stress disorder in delinquent female adolescents. *Journal of Child Psychology and Psychiatry, 49,* (1), 79-87.

Atilola, O., Omigbodun, O., & Bella-Awusah, T. (2014). Post-traumatic stress symptoms among juvenile offenders in Nigeria: implications for holistic service provisioning in juvenile justice administration. *Journal of healthcare for the poor and undeserved, 25,* (3), 991-1004.

Baranyi, G., Cassidy, M., Fazel, S., Priebe, S., & Mundt, A.P. (2018). Prevalence of posttraumatic stress disorder in prisoners. *Epidemiological Reviews, 40,* (1), 1-12.

Bickel, R., & Campbell, A. (2002). Mental health of adolescents in custody: the use of the 'Adolescent Psychopathology Scale' in a Tasmanian context. *Australian and New Zealand Journal of Psychiatry, 36,* (1), 603-609.

Briere, J. (1996). Trauma Symptom Checklist for Children (TSCC), Professional Manual. Florida: Psychological Assessment Resources.

Burton, D., Foy, D., Bwanausi, C., Johson, J., & Moore, L. (1994). The relationship between traumatic exposure, family dysfunction and post-traumatic stress symptoms in male juvenile offenders. *Journal of Traumatic Stress, 7,* (1), 83-93.

Criminal Justice Act (1988). Part IV: Young offenders. Retrieved from: https://www.legislation.gov.uk/ukpga/1988/33/part/IX

Collins, O., Vermerien, R., Vreugdenhil, C., van den Brink, W., Doreleijers, T., & Broekaert, E. (2010). Psychiatric disorders in detained male adolescents: a systematic literature review. *The Canadian Journal of Psychiatry, 55,* (4), 255-263.

Cottler, L., Robins, L., & Helzer, J. (1989). The reliability of the CIDI-SAM: a comprehensive substance abuse interview. *British Journal of Addiction 84,* (1), 801-814.

Depass, C.M. (2005). Vicarious Trauma in Correctional Mental Health Staff. *A dissertation submitted in partial satisfaction for the degree Doctor of Psychology Carlos Albizu University.*

DerSimonian, R., & Laird, N. (1986). Meta-analysis in clinical trials. *Controlled Clinical Trials, 7,* (3), 177-188.

Doi, S.A., & Thalib, L. (2008). A quality-effects model for meta-analysis. *Epidemiology, 19,* (1), 94-100.

Downs, S.H., & Black, N. (1998). The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions. *Journal of Epidemiological Community Health, 52,* (1), 377-384.

Duclos, C.W., Beals, J., Novins, D.K., Martin, C., Jewett, C.S., Manson, S.M. (1998). Prevalence of common psychiatric disorders among American Indian adolescent detainees. *The Journal of the American Academy of Child and Adolescent Psychiatry, 37,* (8), 866-873.

Duval, S., & Tweedie, R (2000). A nonparametric “Trim and Fill” method of accounting for publication bias in meta-analysis. *Journal of the American Statistical Association, 95,* (1), 89-98.

Erwin, B.A., Newman, E., McMackin, R.A., Morrissey, C., & Kaloupek, D.G. (2000). PTSD, malevolent environment and criminality among criminally involved male adolescents. *Criminal Justice and Behaviour, 27,* (2), 196-215.

Estroff, T. W., & Hoffmann, N. G. (2001). *PADDI: Practical Adolescent Dual Diagnosis Interview*. Smithfield, RI: Evince Clinical Assessments.

Fazel, S., Hayes, A.J., Bartellas, K., Clerici M., & Trestman, R. (2016). The mental health of prisoners: a review of prevalence, adverse outcomes and interventions. *Lancet Psychiatry, 3,* (9), 871-881.

Ghazali, S.R., Chen, Y.Y., & Aziz, A.A. (2018). Childhood maltreatment and symptoms of PTSD and depression among adolescent delinquents in Malaysia. *Journal of Child and Adolescent Trauma, 11,* (1), 151-158.

Gretton, H.M., & Clift, R.J.W. (2011). The mental health needs of incarcerated youth in British Columbia, Canada. *International Journal of Law and Psychiatry, 34,* (1), 109-115.

Grisso, T. (2008). Adolescent offenders with mental disorders. *Future Child, 18,* (1), 143–164.

Harrington, R.C., Kroll, L., Rothwell, J., McCarthy, K., Bradley, D., & Bailey, S. (2005). Psychosocial needs of boys in secure care for serious or persistent offending. *Journal of Child Psychology and Psychiatry, 46,* (8), 859-866.

Harzke, A.J., Baillargeon, J., Baillargeon, G., Henry, J., Olvera, R.L., Torrealday, O., Penn, J.V., & Parihk, R. (2012). Prevalence of psychiatric disorders in the Texas juvenile correctional system. *Journal of Correctional Healthcare, 18,* (2), 143-157.

Hennessey, M., Ford, J.D., Mahoney, K., Ko, S.J., & Siegfried, C.B. (2004). *Trauma among girls in the juvenile justice system.* Los Angeles, CA and Durham, NC: National Child Traumatic Stress Network.

Her Majesty's Prison and Probation Service. (2019). Youth custody report. Retrieved from: https://www.gov.uk/government/statistics/youth-custody-data

Higgins, J.P.T., Thompson, S.G., Deeks, J.J., & Altman, D.G. (2003). Measuring inconsistency in meta-analyses. *The British Medical Journal, 327,* (1), 557-560.

Higgins, J.P.T., Moher, D., Schulz, K.F., & Sterne, J.A.C. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised controlled trials. *British Medical Journal, 343,* (1), 1-9.

Howard, R., Karatzias, T., Power, K., & Mahoney, A. (2017). Posttraumatic stress disorder (PTSD) symptoms mediate the relationship between substance misuse and violent offending among female prisoners. *Social Psychiatry and Psychiatric Epidemiology, 52,* (1), 21-25.

Iliffe, G., & Steed, L.G. (2000). Exploring the counsellors experience of working with perpetrators and survivors of domestic violence. *Journal of Interpersonal Violence 15* (4), 393–412.

Jacobson, J., Heard, C., & Fair, H. (2017). Prison: evidence of its use and over-use across the world. *Institute for Criminal Research.* UK: London.

Justice Committee. (2017). *The treatment of young adults in the criminal justice system.* UK: London.

Karnick, N.S., Soller, M., Redlich, A., Silverman, S., Kraemer, H.C., Haapenen, R., & Steiner, H. (2009). Prevalence of and gender differences in psychiatric disorders among juvenile delinquents incarcerated for nine months. *Psychiatric Services, 60,* (60), 838-841.

Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., & Ryan, N. (1997). Schedule for Affective Disorders and Schizophrenia for School-Age Children–Present and Lifetime Version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*, 980-988.

Kerig, P., & Bennett, D.C. (2013). Beyond fear, helplessness and horror: peritraumatic reactions associated with posttraumatic stress symptoms among traumatized delinquent youth. *Psychological Trauma: Theory, Research, Practice and Policy, 5,* (5), 431-438.

Kim, S.Y., Park, J.E., Lee, Y.J., Seo, H.J., Sheen, S.S., Hahn, S., Jang, B.H., & Son, H.J. (2013). Testing a tool for assessing the risk of bias for non-randomised studies showed moderate reliability and promising validity. *Journal of Clinical Epidemiology, 66,* (4), 408-414.

Kim, J.I., Kim, B., Kim, B.N., Hong, S., Lee, D.W., Chung, J.Y., Choi, J.Y., Oh, Y.R., & Youn, M. (2017). Prevalence of psychiatric disorders, co-morbidity patterns, and repeat offending among male juvenile detainees in South Korea: a cross-sectional study. *Child and Adolescent Psychiatry and Mental Health, 11,* (6), 1-9.

King, L., King, D., Lesking, G., & Foy, D. (1995). The Los Angeles Symptom Checklist: A self-report measure of posttraumatic stress disorder. *Assessment, 2,* (1), 1-17.

Kübler, U. (2013). Structured Clinical Interview for DSM-IV (SCID). In: Gellman M.D., & Turner J.R. (eds). Encyclopaedia of Behavioural Medicine. Springer, New York, NY.

Lewis, S.J., Arseneault, L., Caspi, A., Fisher, H.L., Matthews, T., Moffitt, T.E., Odgers, C.L., Stahl, D., Ying Teng, J., & Danese, A. (2019). The epidemiology of trauma and post-traumatic stress disorder in a representative cohort of young people in England and Wales. *The Lancet, 6,* (1), 247-256.

Martin, D., Martin, M., Dell, R., Davis, C., & Guerrieri, K. (2008). Profile of incarcerated juveniles: comparison of male and female offenders. *Adolescence, 4,* (171), 607-622.

Maxfield, G.M., & Widom, C. (1996). The cycle of violence revisited 6 years later. *Archives of Paediatric and Adolescent Medicine, 150,* (4), 390–395.

McLaughlin, K.A., Koenen, K.C., Hill, E.D., Petukhova, M., Sampson, N.A., Zaslavsky, A.M., Kessler, R.C. (2013). Trauma exposure and posttraumatic stress disorder in a national sample of adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 52,* (8), 815-830.

Miller, N.A., & Najavits, L.M. (2012). Creating trauma-informed correctional care: a balance of goals and the environment. *European Journal of Psychotraumatology, 3,* (1), 1-8.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. (2009). Preferred reporting items for systematic reviews and meta-analyses. British Medical Journal, 339, b2535.

Munger, T., Savage, T., & Panosky, D.M. (2015). When caring for perpetrators becomes a sentence: recognising vicarious trauma. *Journal of Correctional Health Care, 21,* (4), 365-374.

National Offender Management Service. (2015). Working with offenders with Personality Disorder. A practitioner's guide. England, UK: NHS England.

Newman, E., Weathers, F.W., Nader, K., Kaloupek, D.G., Pynoos, R.S., & Blake, D.D. (2004). *Clinician-Administered PTSD Scale for Children and Adolescents (CAPS-CA)*. Los Angeles: Western Psychological Services.

Odgers, C.L., Reppucci, N.D., & Moretti, M.M. (2005). Nipping psychopathy in the bud: an examination of the convergent, predictive and theoretical utility of the PCL-YV among adolescent girls. *Behavioural Sciences and the Law, 23,* (1), 743-763.

Othmer, E., Denick, E.C., Powell, B,J., Read, M.R., & Othmer, S.C. (1981). *Psychiatric Diagnostic Interview-Revised (PDI-R).* Los Angeles: Western Psychological Services.

Owen, B., Wells, J., Pollock, J., Muscat, B., & Torres, S. (2008). Part I of III: Improving security in women's facilities. In. *Gendered violence and safety: a contextual approach to improving security in women's facilities*. Columbus, Ohio: Bibliogov.

Plattner, B., Steiner, H., The, S.S.L., Kraemer, H.C., Bauer, S.M., Kindler, J., Friedrich M.H., Kasper, S., & Feucht, M. (2009). Sex-specific predictors of

criminal recidivism in a representative sample of incarcerated youth. *Comprehensive Psychiatry, 50,* (1), 400-407.

Pynoos, R.S., Frederick, C., Nader, K., Arroyo, W., Steinberg, A., Eth, S. (1987). Life threat and posttraumatic stress in school-age children. *Archives of General Psychiatry, 44,* (1) 1057–1063.

Reich, W., Leacock, N., & Shanfield, C. (1994). Diagnostic Interview for Children and Adolescents-Revised (DICA-R). St. Louis, MO: Washington University.

Reynolds, W.M. (1983). *Adolescent psychopathology scale.* Minneapolis, MN: Psychological Assessment Resources.

Ribas-Sinol, M., Del Prado-Sanchez, N., Claramunt-Mendoza, J., Civit, Ramirez, M., Canalias-Perez, O., & Ochoa, S. (2015). Troubled adolescents: substance abuse and mental disorder in young offenders. *Actas Espanolas, de Pisquiatria, 43,* (6), 197-204.

Rijo, D., Brazao, N., Barraso, R., Ribeiro da Silva, D., Vagos, P., Vieira, A., Lavado, A., & Macedo, A.M. (2016). Mental health problems in male young offenders in custodial versus community based-programs: implications for juvenile justice interventions. *Child and Adolescent Psychiatry and Mental Health, 10,* (40), 2-12.

Robertson, A.A., Dill, P.L., Husain, J., & Undesser, C. (2004). Prevalence of mental illness and substance abuse disorders among incarcerated juvenile offenders in Mississippi. *Child Psychiatry and Human Development, 35,* (1), 55-74.

Rosenthal, R. (1979). The file drawer problem and tolerance for null results. *Psychological Bulletin, 86,* (3) 638-664.

Royal College of Psychiatrists and the British Psychological Society. (2005). *Post-traumatic stress disorder: the management of PTSD in children and adults in primary and secondary care.* Gaskell and the British Psychological Society, London: UK.

Ruchkin, V.V., Schwab-stone, M., Koposov, R., Vermeiren, R., & Steiner, S. (2002). Violence exposure, posttraumatic stress and personality in juvenile delinquents. *Journal of the American Academy of Child and Adolescent Psychiatry, 43,* (3), 322-329.

Shaffer, D., Fisher, P., Lucas, C. P., Dulcan, M. K., & Schwab-Stone, M. E. (2000). NIMH Diagnostic Interview Schedule for Children Version IV (NIMH DISC-IV): Description, differences from previous versions, and reliability of some common diagnoses. *Journal of the American Academy of Child & Adolescent Psychiatry*, *39*, (1), 28-38.

Sheehan, D., Shytle, D., Milo, K., Janavs, J., & Lecrubier, Y. (2009). *MINI International Neuropsychiatric Interview for Children and Adolescents: English Version 6.0*. Tampa: University of South Florida.

Steinberg, A.M., Brymer M.J., Decker, K.B., & Pynoos, R.S. (2004). The University of California at Los-Angeles post-traumatic stress disorder reaction index. *Current Psychiatry Reports, 6,* (2), 96-100.

Steiner, H., Garcia, I.G., & Matthews, Z. (1997). Posttraumatic stress disorder in incarcerated juvenile delinquents. *Journal of the American Academy of Child and Adolescent Psychiatry, 36,* (3), 357-365.

Teplin, L., Abram, K., McClelland, G., Mericle, A., Dulcan, M., & Washburn, D. (2006). *Psychiatric Disorders of Youth in Detention.* Office of Juvenile Justice and Delinquency Prevention: Washington, DC: USA.

Thompson, S.J., Maccio, E.M., Desselle, S.K., & Zittell-Palamara, K. (2007). Predictors of post-traumatic stress symptoms among run-away youth utilizing two service sectors. *Journal of Traumatic Stress, 20,* (4), 553-563.

Trippany, R.L., White Kress, V.E., Wilcoxon, S.A. (2004). Preventing vicarious trauma: what counsellors should know when working with trauma survivors. *Journal of Counselling and Development, 82,* (1), 31-37.

Ulzen, T.P.M., & Hamilton, H. (1998). The nature and characteristics of psychiatric comorbidity in incarcerated adolescents. *The Canadian Journal of Psychiatry, 43,* (1), 57-63.

Underwood, L.E., & Washington, A. (2016). Mental Illness and Juvenile Offenders. *International Journal of Environmental Research and Public Health, 13,* (1), 228-242.

Van Damme, L., Collins, O.F., Vanderplasschen, W. (2014). Gender differences in psychiatric disorders and clusters of self-esteem among detained adolescents. *Psychiatry Research, 220,* (1), 991-997.

Walmsley, R. (2016). *World Prison Population List.* 11th ed, London, UK: Institute for Criminal Policy Research.

Wasserman, G.A., McReynolds, L.S., Lucas, C.P., Fisher, P., & Santos, L. (2002). The Voice DISC-IV with incarcerated male youths: prevalence of disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 41,* (3), 314-321.

Welfare, H., & Hollin, C.R. (2012). Involvement in extreme violence and violence-related trauma: a review with relevance to young people in custody. *Legal and Criminological Psychology, 17,* (1), 89-104.

Widom, C. S., & Maxfield, M. G. (2001). An update on the ‘‘cycle of violence’’. (NCJ 184894). Washington, DC: National Institute of Justice, 200 pp.

Women in Prison Project. (2006). Fact sheet: Why focus on women in prison. Correctional Association of New York. Retrieved from: www.correctionalassiciation.org

World Bank Group. (2017). Web page, retrieved from: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519

World Prison Brief. (2018). Web page, retrieved from: http://www.prisonstudies.org/highest-to-lowest/prison-population-total?field_region_taxonomy_tid=All

Wood, J., Foy, D.W., Layne, C., Pynoos, R., & James, C.B. (2002). An examination of the relationships between violence exposure, posttraumatic stress symptomology, and delinquent activity: an ‘ecopathological’ model of

delinquent behaviours among incarcerated adolescents. *Journal of Aggression, Maltreatment and Trauma, 6,* (1), 122-147.

Yatham, S., Sivathasan, S., Yoon, R., da Silva, T.L., & Ravindaran, A.V. (2018). Depression, anxiety and post-traumatic stress disorder among youth in low and middle income countries: a review of prevalence and treatment interventions. *Asian Journal of Psychiatry, 38,* (1), 78-91.

Zhou, J., Cai, W., Chen, C., Wang, H., Zhang, S., Luo, Y., Qiu, C., & Wang, X. (2012). Prevalence of mental disorders in the male juvenile detention centres of Hunan and Sichuan. *Journal of Central South University, 37,* (3), 217-221.

CHAPTER TWO – EMPIRICAL RESEARCH PAPER: A qualitative study exploring prison officers' experiences of vicarious trauma

Supervised by:

Dr Caroline Oliver

2.1 Abstract

Background: Prison officers are at risk of being directly exposed to several potentially traumatic events including violence, suicide and self-harm. Officers are also at risk of being exposed to secondary trauma when they hear about the victimisation of prisoners and colleagues. Vicarious trauma is a phenomenon that occurs when working empathically with victims of trauma and involves the gradual alteration of an individual's belief system. Research shows that mental health and forensic professionals experience vicarious trauma; however, research on prison officers is sparse. This research aimed to explore prison officers' experiences of vicarious trauma.

Methods*:* Prison officers took part in semi-structured interviews (n=5) or responded to a written questionnaire version of the interview (n=3). Data were analysed using Interpretative Phenomenological Analysis (IPA) and Template Analysis (TA).

Results: The IPA of verbal interviews identified five master themes; *experiences of direct and indirect trauma, ways of coping, normalisation of trauma, empathic connections with prisoners* and *a broken system.* Master themes consisted of fifteen subthemes, which formed the coding template for the TA. TA did not produce additional themes and data mapped onto all master themes identified from the IPA.

Discussion*:* Results are discussed in relation to existing theoretical frameworks, and recommendations are made for future research and changes to current practice.

2.2 Introduction

Working within a prison environment is challenging. The prison population can be dangerous, violent and intimidating. Prisoners often have high levels of emotional disturbance as a result of adverse life experiences, traumas and victimisation. Prison officers have the role of ensuring the security, safety and wellbeing of both prisoners and staff. Recent statistics indicate there were 262 inmate-to-inmate assaults per 1,000 prisoners, and 106 inmate-to-staff assaults per 1,000 prisoners across prisons in England and Wales between April 2017 and March 2018 (Ministry of Justice; MOJ, 2018). These figures have risen steadily over the last decade and highlight the challenges prison officers face, which may involve intervening in inmate-to-inmate assaults or being the victims of assaults themselves.

Prison officers are also exposed to high rates of suicide and self-harm. 46% of female and 21% of male prisoners have attempted suicide, compared with only 6% of the general population (MOJ, 2013). A more recent report by the MOJ revealed that between September 2017 and September 2018 there were 78 reported suicides in prison establishments across England and Wales (MOJ, 2018). Between April 2017 and March 2018 there were a reported 549 self-harm incidents per 1,000 prisoners with 6.6% of these incidents requiring hospital assessment and/or treatment (MOJ, 2018). The reported figures highlight that prison officers are not only at an increased risk of witnessing or hearing about violence towards others, but also acts of suicide and self-harm.

Exposure to trauma is higher in the prison population than in the general population (Tye & Mullen, 2006) and, although inmates are perpetrators of crime, they are also often victims of crime and trauma themselves, both prior to being

imprisoned and during their sentences (Ardino, 2012; Fazel, Hayes, Bartellas, Clerici & Trestman, 2016). Indeed, experiencing trauma has been found to be a risk factor for offending (Carlson & Shafer, 2010; Honorato, Caltabiano & Clough, 2016).

The International Classification of Diseases (ICD-10) identifies trauma as 'a stressful situation or event (of either brief or long duration) of exceptionally threatening or catastrophic nature, which is likely to cause pervasive distress in almost anyone' (ICD-10, 2015). The American Psychiatric Association (APA) has expanded their definition of trauma in the Diagnostic Statistical Manual of Mental Disorders (DSM-V) to include not only direct trauma exposure but also indirect exposure, including exposure as part of an individual's professional responsibilities (APA, 2013; Pai, Suris & North, 2017).

Post-Traumatic Stress Disorder (PTSD) is a mental health disorder which can develop following trauma (World Health Organisation, 1992). PTSD is characterised by a reliving of the traumatic event, for example through flashbacks, avoidance of stimuli that remind individuals of the trauma, inability to recall parts of the traumatic event and/or symptoms of increased psychological sensitivity, e.g. anger outbursts, difficulties concentrating or sleeping (ICD-10). Recent meta-analyses found prevalence rates of PTSD in both adults and young people in prison to be significantly higher than in the general population, with prevalence rates of 21% for female prisoners and 6% for male prisoners (Baranyi, Cassidy, Fazel, Priebe & Mundte, 2018), and 29% for young female people prison and 13% for males (King, Oliver & Jones, 2019). Other mental health disorders that can develop following trauma, including psychotic illnesses and major depression, are also found to be consistently higher in the prison population than in the general population (Fazel,

Hayes, Bartellas, Clerici & Trestman, 2016; Sirdifield, Gojkovic, Brooker & Ferriter, 2009). Therefore, those charged with the task of managing prisoners on a day-to-day basis are likely to be exposed to multiple traumas through their close contact with them.

2.2.1 Vicarious trauma. Working with victims of trauma can have a significant impact on professionals. One way professionals may be impacted is through vicarious trauma (VT; McCann & Pearlman, 1990). VT relates to how an individual's belief system may change after working empathically with victims of trauma. It has been explained using the Constructivist Self-Development Theory (CSDT; McCann & Pearlman, 1990). CSDT posits that individuals 'construct their personal realities through the development of complex cognitive structures which are used to interpret events' (McCann & Pearlman, 1990). Individuals therefore develop beliefs about the world which they use to make sense of their experiences; in turn our experiences also change our beliefs.

Seven psychological schemas are posited to change after experiencing VT; esteem, safety, trust, power, independence, intimacy and frame of reference (Baird & Kracen, 2006). In addition, changes to an individual's memory system have also been described. CSDT suggests that VT develops when individuals work empathically with victims of trauma and experience long-term exposure to stories of victimisation, changing the individual's belief, thought and memory systems. This can have a negative impact on a person's interaction with the world and other people. There are several phenomena which are closely linked to VT but which remain conceptually distinct, despite some of the research exploring these phenomena synonomously.

Brief descriptions of these are provided below, however please refer to the original papers for more extensive accounts.

2.2.2 Burnout. First defined by both Freudenberger (1974) and Maslach (1976), burnout refers to the psychological strain of working with human populations, not just with those who have been traumatised (McCann & Pearlman, 1990). It is characterised by depersonalisation, emotional exhaustion and a lack of personal accomplishment (Maslach, Jackson & Leiter, 1986). Burnout is thought to be caused by several factors including: a values conflict between the individual and the organisation; excessive responsibilities; a lack of sense of community within the workplace; perceived lack of control over the quality of service provided; little job reward; and a lack of respect within the workplace (Maslach & Leiter, 1997) as cited in (Salston & Figley, 2003). Burnout has been widely researched and consistently linked to poor mental health, poor physical health, increased staff sickness, increased staff absences, increased staff turnover and poorer delivery of care (Andrews & Wan, 2009; Bakker, Demerouti & Sanz-Vergel, 2014; Bell, Kulkarni & Dalton, 2003; McCraty, Atkinson, Lipsenthall & Arguelles, 2009; Royal College of Nursing, 2013).

2.2.3 Compassion Fatigue & Secondary Traumatic Stress Disorder. The terms Compassion Fatigue and Secondary Traumatic Stress Disorder (STSD) are used synonymously throughout the literature and occur when staff work specifically with victims of trauma. Through empathic listening and caregiving, individuals hearing trauma stories (secondary trauma) can experience symptoms which mirror those of PTSD (Figley, 1995).

2.2.4 Professionals and VT. VT is therefore a distinct concept relating to the long-term and gradual cognitive shift which occurs when working with trauma victims (Baird & Kracen, 2006). Research has shown that VT is experienced by forensic mental health professionals, therapists working with people have committed sexual offences, counsellors, social workers, psychologists and nurses (Bell, Kulkarni & Dalton, 2003; Depass, 2005; Iliffe & Steed, 2000; Malkina-Pykh, 2017; Munger, Savage & Panosky, 2015; Trippany, White Kress & Wilcoxon, 2004). Research on VT in prison officers is sparse, however, they are exposed to high numbers of trauma victims, which may include colleagues, so this potentially puts them at risk of experiencing VT.

Thomas (2012) explored STSD and VT in prison officers within the US correctional system. Participants completed questionnaires measuring symptoms of VT and STSD, and were asked to report on organisational, operational and personal factors. On average, participants identified experiencing moderate distress relating to ten symptoms of VT and five symptoms of STSD. Several risk factors for STSD and VT were identified; higher levels of direct inmate contact, lower levels of emotional support and lower levels of job satisfaction.

McManus (2010) explored VT in prison officers working in a Therapeutic Community (TC) prison in the UK. Working in a TC involves holding a therapeutic role and differs to a general prison officer role, as staff work with prisoners during therapeutic interventions (this *can* also happen in mainstream prisons too, but only occasionally do officers help facilitate programmes). Officers were interviewed and data were analysed using Interpretative Phenomenological Analysis (IPA). Several themes linked to VT and STDS were highlighted; the impact of the role on the self, changed

perceptions of risk, negative impact on mood and health, and intrusions from things heard in therapy sessions. Taken together, Thomas (2012) and McManus (2010) indicate that prison officers may experience VT. However, participants in those studies were either working in the USA or held a unique therapeutic role, and therefore their experiences of VT may be different to prison officers working in mainstream prisons across England and Wales.

2.2.6 Rationale. This research aims to add to the limited existing literature on how prison officers in England and Wales experience VT. Although this paper focuses on the negative impact of working in prisons, research on the positive impact of prison work has been explored elsewhere in the literature (Saylor & Wright, 2008). It is hoped that learning about experiences of VT will help make recommendations on how prison officers can be supported to reduce the impact of VT. Additionally, helping prison officers to access appropriate support may improve the care and security they provide for offenders, and in the long-term may improve rehabilitation and reduce re-offending.

2.3 Method

2.3.1 Design. This study aimed to explore the idiographic experiences of prison officers and therefore, a qualitative design was chosen. Two distinct methodologies were employed; telephone interviews and a written version of the interview schedule to which participants could respond in writing. This gave participants choice and promoted participation. Data from telephone interviews were analysed using IPA (Smith, Flowers & Larkin, 2009). IPA is concerned with how individuals make sense of own personal experiences rather than with objective statements about experiences; in this way IPA takes a phenomenological and idiographic stance

(Smith & Osborn, 2008). The phenomenology of individuals' experiences is explored through active interpretation and sense-making on the part of both the participant and researcher, i.e. the participant attempts to make sense of their own reality and the researcher then, in turn, attempts to make sense of that sense-making; the double hermeneutic (Smith & Osborn, 2008).

Template analysis (TA; Brooks & King, 2014) was used to analyse written data. TA is a form of qualitative thematic analysis which is suitable for analysing textual data including answers to open-ended question responses on questionnaires (Brooks & King, 2014). TA can be applied to qualitative research from a range of epistemological stances, and therefore it is appropriate to use in conjunction with IPA. In TA, a preliminary set of the data is explored, and themes and codes are developed. Initial themes and codes then form a coding template, which is then applied to the remaining data. The template is organised hierarchically and allows a description of the whole data set (Brooks & King, 2014).

2.3.2 Validity. The validity of qualitative research can be assessed using Yardley's essential quality criterion *'rigour'* (Yardley, 2000). Attempts to achieve rigour and increase the validity of the data was done through triangulation of the data analysis. This was achieved by the researcher receiving supervision on the analysis and discussing hypothesised codes and themes with the research supervisor.

2.3.3 Reflexivity statement. Due to the double hermeneutic outlined above, IPA is influenced by the researcher's own values, ideas and past experiences (Pietkiewicz & Smith, 2012; Yardley, 2000). It is important to acknowledge these and their potential impact on the analysis through a reflexive statement written in the first-person.

I am a twenty-seven year old white British female and am currently on a Clinical Psychology Doctoral training programme. I first became interested in Psychology through the use of offender profiling in solving serious and violent crime. I have always been struck by the link between early adverse life experiences, trauma and the development of offending behaviour. I have worked with female adults in prison and in secure inpatient services, and with countless women in the community who have been victimised. These experiences make me likely to view people who have offended, particularly women, as victims as well as perpetrators.

Having read about VT, I have reflected on how my beliefs have changed through my own therapeutic work. I have been exposed to the suffering of many patients and heard about severe trauma and abuse. I have no doubt been impacted by this when entering therapeutic relationships with my patients and my interest in VT has in turn no doubt been influenced by my own vicarious experiences.

My work in the prison service also highlighted a lack of supervision for prison officers. This shocked me when I reflected on the complex prisoners they work with and the challenging situations they face. Therefore, I am also likely to hold bias regarding perceived support for officers.

Finally, having worked with prison officers, my perception of their personality and behaviours is likely to be influenced by the officers I worked with. This may lead me to make assumptions about participants' narratives and the meanings of them.

2.3.4 Sampling Strategy. Ethical approval was granted by the Research Ethics Committee at the University of Birmingham (reference number: ERN-17-1606; Appendix B) and the National Offender Management Service (NOMS) National

Research Committee for England & Wales (reference number: 2018-066; Appendix C). Participants were recruited through the Prison Officers' Association (POA), the professional trade union for prison, correctional and secure psychiatric workers in the UK. See Figure 1 for an outline of the recruitment procedure.

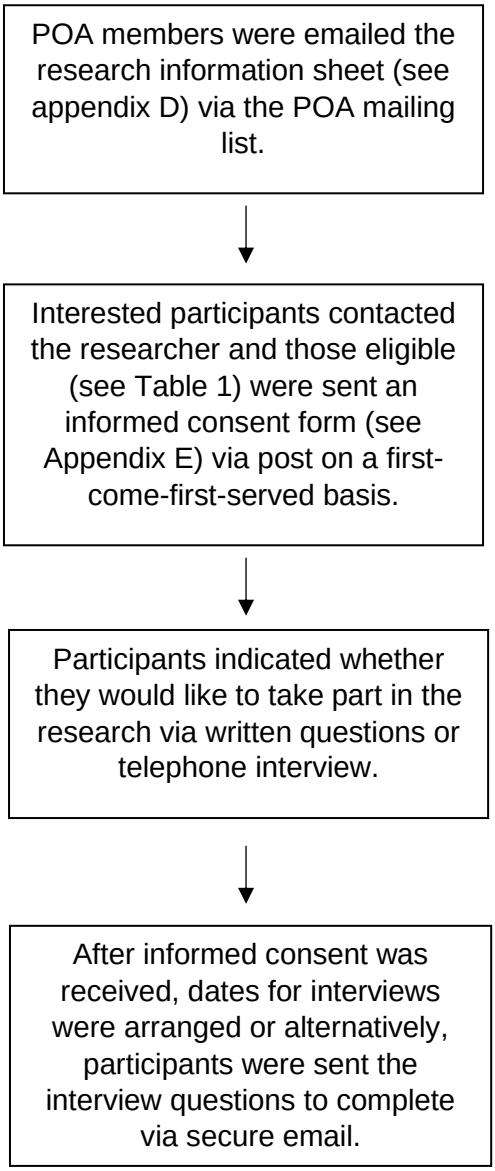


Figure 1: Flow chart outlining the procedure for recruitment of participants.

Table 1: Participant inclusion & exclusion criteria

Participant inclusion criteria	Participant exclusion criteria
Currently serving as a prison officer in a mainstream prison establishment in England and Wales (including female, male and Young Offenders Institute (YOI) establishments)	Currently working in a therapeutic role, for example within a therapeutic community prison.
Completed their probation period as a prison officer	Previously worked in any other role with victims of trauma, for example social worker, veteran or police officer.
Able to read and write English	

2.3.5 Participants. Eight participants took part in the research (see Table 2). Three prison officers expressed an interest but met the exclusion criteria and therefore were ineligible to take part. Six prison officers were eligible but contacted the researcher after the maximum number of participants had consented to the study and were therefore unable to take part.

Table 2: Participant information

Participant number	Pseudonym	Gender	Method of participation
1	Graham	Male	Verbal
2	Peter	Male	Verbal
3	Katie	Female	Verbal
4	Hayley	Female	Verbal
5	Jack	Male	Verbal
6	Vincent	Male	Written
7	Louise	Female	Written
8	Bill	Male	Written

2.3.6 Procedure. Prior to telephone interviews, participants were informed that participation was voluntary and that they could withdraw at any point. Participants were informed that participation was anonymous but not confidential, as direct quotes would be included in research reports. Participants were required to record which establishment they worked in on the consent forms. This enabled the researcher to contact participants' employers if concerns about safety, wellbeing

and/or fitness to practice were raised during interviews. Participants were also informed that the researcher may have to break confidentiality and inform third party members, such as their GP, if any concerns came to light. A semi-structured interview schedule was devised in accordance with IPA (see Appendix F). This was reviewed by the research supervisor and a Research Tutor with expertise in qualitative research methodology from the University of Birmingham. A semi-structured approach was taken (in line with IPA) to allow exploration of issues pertinent to each individual participant and to allow the collection of rich and complex data. The interview schedule was designed to be used flexibly in response to each participant, employing follow-up, probing and additional questions to allow participants to respond to questions freely and expand upon their own meaning making (Pietkiewicz & Smith, 2012). Telephone interviews were conducted in a private office at the University of Birmingham and lasted between one and one and a half hours. Interviews were audio recorded using an encrypted Dictaphone and transcribed following a two-week reflection period in which participants could request that some, or all, of their interview be excluded from the research. All participants were offered a comfort break during the interview. No interviews raised concerns that required confidentiality to be broken and no participants withdrew from the research. Participants were debriefed at the end of each interview and provided with a hardcopy of the debrief sheet (see Appendix G).

2.4 Analysis

2.4.1. Interpretative Phenomenological Analysis. Data from the five verbal interviews was analysed using IPA (Smith & Osborn, 2008; Smith, Flowers & Larkin, 2009). Table 3 describes the step-by-step process of IPA and references appendices

in which detailed examples of each step can be found, in line with Yardley's essential criteria of *'transparency'* (Yardley, 2000).

Table 3: Stages of IPA

Stage	Description
1	Stage 1 involved reading and re-reading each transcript to become familiar with the data. Initial notes and reflections were written down the left hand-side of the transcript (see Appendix H).
2	Stage 2 involved examining each transcript line by line and noting codes in green pen down the right hand-side of the transcript (see Appendix I). Codes fell across three levels; descriptive, linguistic and conceptual (Smith, Flowers & Larkin, 2009) and represented the claims and concerns made by participants
3	The next stage involved reviewing each transcript and codes assigned at stage 2 and grouping these into emergent themes (blue pen; see Appendix J).
4	Themes were then written out in sequential order for each transcript and connections across themes were explored using colour and symbol coding (see Appendix K). Connections were made between emergent themes using several strategies including similarities, differences, function of themes and frequency of themes (Smith, Flowers & Larkin, 2009). Emergent themes were grouped into superordinate themes for each participant using identified connections (see Appendix L). Stages 1-4 were completed for a single participant, and then repeated for each subsequent participant. Stages 1-4 were therefore completed 5 times (once for each of the 5 participants).
5	Superordinate themes were then examined to look for connections across participants. Where similarities, or indeed, polarisations were present, superordinate themes were grouped, and an overall meaning/label assigned. This grouping of superordinate themes created master themes, which are themes present across the group.
6	Finally, a table of master themes was created with contributing subthemes and participants detailed. These provide an account of the meaning and sense-making communicated by participants as interpreted by the researcher.

2.4.2 Results of Interpretative Phenomenological Analysis. Five master themes were identified through the IPA process. Table 4 outlines the master themes, subthemes and contributing participants. See Appendix M for additional information.

Table 4: Master themes, subthemes & contributing participants

Master theme	Subthemes	Contributing participants
1. Experiences of direct & indirect trauma	1.1 Witnessing self-harm/suicide	All
	1.2 Witnessing violence	All
	1.3 Hearing about the trauma of others	All
2. Ways of coping	2.1 Avoidance	All
	2.2 Adaptive coping	Peter, Katie, Hayley & Jack
	2.3 De-sensitisation	All
	2.4 Activation of threat system	All
3. Normalisation of trauma	3.1 Trauma as a cycle	Graham & Hayley & Jack
	3.2 Expectation to cope	Graham, Katie, Hayley & Jack
4. Empathic connections with prisoners	4.1 Impact of gender	Katie & Hayley
	4.2 Offences prevent empathic connection	Graham, Peter, Katie & Jack
	4.3 Connection versus distance	All
5. A broken system	5.1 Us & them	Graham, Katie & Jack
	5.2 Anger at the organisation	Graham, Katie & Jack

2.4.2.1 Theme 1: Experiences of direct and indirect trauma. This theme related to experiences of a potentially traumatic nature identified by participants, that fell into three categories.

2.4.2.1.1 Witnessing self-harm and suicide. All participants described numerous occasions where they had directly witnessed the act or aftermath of severe self-harm and/or suicide. Participants spoke about these experiences using graphic language and conveyed strong emotional intensity when recounting these memories:

> *Yeah, you don't think about it, I suppose the one with the guy on the bed who'd cut his arms and almost bled out in the cell, that, I didn't sleep for weeks after that. That was a struggle, because I think that was the first one,*

serious one, that I'd ever come across. That was probably the worst. I had never seen blood like that because he'd covered himself with hot water out of the sink tap in the cell so he got his blood thinned so it was flowing quicker, when he took the tourniquet off and bled out, arrrrgghhh, yeah that was, that was a hell of a mess that was (Graham).

We literally looked away for about two minutes and the guy ligatured up. And thankfully the governor was there so I said you've got to come now; we've got to open this door. So, I cut him down and then whacked him in the recovery position and thank god, opened his airway, and he started breathing and got hotel and radioed, oh mate (Katie).

Above, participants describe two suicide attempts made by prisoners. The impact of these events on participants is conveyed by the choice of words, which describe these as extreme incidents requiring urgent action on the part of participants; "struggle" "serious", "worst", "got to come", "got to open this door". Shock and anguish are also conveyed, when Graham groans during the recollection of events and Katie ends with "oh mate", as though she is reliving the horror. Participants often began to describe suicide and self-harm incidents in a matter-of-fact manner but then seemed to acknowledge, on some level, the emotional pain of these events, which is evident in both exerts above.

2.4.2.1.2 Witnessing violence. All participants described several examples of when they had directly witnessed interpersonal violence against prisoners, staff and/or themselves. Like their accounts of self-harm and suicide, participants often described incidents of violence which had stuck with them due to the severity of the injuries they had sustained or seen:

I was punched in my face and my nose was broken and I had the question of whether or not I would have a straight nose and whether or not my facial features would be changed from it (Hayley).

That was what they used to power our radios, it was a 9V battery, it lasted longer and that was one of them in a sock was their weapon of choice, or a table leg. Or pool balls in a sock, things like that; anything they could swing. And this poor boy was attacked with those types of weapons. He had like 180 stitches from the top of his head right across from the left hand-side to the top corner and it was just, pfffft, maybe quarter of an inch wide at the centre and it's something that I've never spoke about, the walls and the ceiling, and that was probably my first ever assault in prison and I'd been there about eight months (Graham).

There's one fella that got cut down on his cheek, on his beard line. I do talk about that one quite a bit because it's the biggest cut I've ever seen…no somebody did that to him, they just ran up and cut him right down his face. And it was virtually the full length of his beard line, and you can put your fingernail in it. It was massive (Jack).

Above, participants describe severe injuries as a result of interpersonal violence; Graham and Jack describe the size of injuries, and Graham and Hayley both speak about the consequences of violence; Graham with regards to the medical treatment required and Hayley about the psychological impact of being the victim of an assault. All three accounts also highlight the range of violence that they have witnessed, indicating that participants are exposed to varying levels and types of violence during their work.

2.4.2.1.3 Hearing about the trauma of others. All participants gave examples of times when they heard about the traumatic experiences of others including

prisoners, colleagues and the victims of prisoners' index offences. Some participants spoke about prisoner trauma:

> *You don't, what they're telling you about this abuse of drugs and this abuse they've been through and the trauma they've been through and people telling you they've been shot – stuff like that you don't actually let go in, so you're not like, you know, but it does (pause) it does go in on some level (Hayley).*

> *I think for me, the hardest time for me were the X years at HMP X because that was female, and I had more of an affinity with the women because of their circumstances that some of them were in there. They'd been put on the game or they were raped, or you know buggered, whatever, those are the hardest, they were the hardest to deal with I think (Katie).*

Participants gave somewhat rushed or abrupt accounts of severe traumas experienced by prisoners they had worked with, including being shot, raped and forced into prostitution. Again, similarly to the accounts of suicide and self-harm, participants often spoke about indirect trauma in a matter-of-fact manner, and then came to some acknowledgement towards the end of their accounts about the emotional impact of this on them.

Some participants did not describe the traumas experienced by prisoners, but focussed on the trauma inflicted by prisoners onto others:

> *I heard horrific stories of prisoners on the vulnerable prisoners' unit. I read letters to family and victims. I'd be on the wing listening to them, it's horrendous, talking about what they want to do to people. There was one prisoner, I listened to his calls and it became apparent that he was a dangerous prisoner. He was on the phone to someone and he was telling her how he wanted to rape and pour bleach on her (Peter).*

Peter's choice of words seem to convey a sense of shock and disgust at prisoners' behaviours, which is emphasised when he uses the words "they" in reference to prisoners as this allows him to separate himself from 'them' suggesting he doesn't want to be associated with them, in line with a disgust reaction.

Participants also spoke about the long-term impact of crime on its' victims:

> *So, I think, my argument is that there's a victim of every crime and coming to prison doesn't mean that victim is, you know, is happy. You know, they may have to live with the trauma of whatever happened to them for the rest of their life. There's not enough for the victim but they talk about pumping money into prisons to rehabilitate prisoners, but the victim doesn't get anything. No nothing (Graham).*

Here, Graham conveys a feeling of anger towards perpetrators of crime, stating there is more support for prisoners than victims. He also references the long-term consequences of trauma on victims.

2.4.2.2 Theme 2: Ways of coping. All participants described ways of coping with the difficult experiences they have faced as prison officers. Ways of coping were grouped into four subthemes.

2.4.2.2.1 Avoidance. All participants described or conveyed a sense of escaping from or forgetting traumatic experiences. For some participants, this was a conscious decision made to block out or cut off from painful memories and/or feelings:

> *"But anyway, this girl (pause) the stuff she was disclosing in a state of psychosis (pause). Erm she had gone into psychosis and the stuff she was saying (pause), I think will stay with me for the rest of my life. Because (pause) for her when we were restraining her for her safety and our safety,*

she was reliving abuse in that state of psychosis. And (pause) how do you sort of live with yourself when you're causing someone pain and they think that you are somebody who is raping them?...and I can't, I just, it makes me feel really sad sometimes. I just don't want to; I just don't want to know sometimes. Erm, things like that because it's just too sad to hear and think about (Hayley).

For Hayley, she describes a time when she connected with the victimisation of a prisoner; however, reports that this was extremely difficult to hear and that she doesn't want to hear more stories, to prevent her from experiencing further emotional pain.

Participants also described actively cutting off from difficult experiences when they physically leave the prison environment:

No because I don't think about it, I don't think about it because, that, I've learnt over the years unless you have a specifically bad day, that when you put your keys in the chute, well it's not a chute anymore but, work's done. I switch off (Katie).

I've got to the stage where I don't want to talk about what's happened if I have a confrontation with someone or you know, there's an argument and try and break up a fight or an argument or even deal with the aftermath of somebody being assaulted, you try to, you shut it off, you leave work, you hand your keys in, you go out the front of the prison, and that's it. You try and put it in the back of your mind because you don't want to talk about it (Graham).

Both participants highlighted that over time they have learnt to separate their experiences at work from their home life by switching off when they leave the prison. They also describe a desire to forget and push their thoughts out of their minds.

For some participants, avoidance of difficult memories and/or feelings appeared to be a less active decision:

> *For me, I went through a period of time where I was finding lots of people hanging and lot of people committing self-harm. And you can only deal with that so many times before you just get annoyed (Jack).*

Jack, particularly, appeared to avoid expressing emotions that in Western cultures are traditionally viewed as weak e.g. sadness or fear, something which he later acknowledged:

> *I think with me it's more anger as opposed to not, as opposed to like crying at home. I can get angry (Jack).*

This seemed to link with a masculine culture present within the prison service, where weakness, including expressing emotions, was perceived negatively.

> *This is actually where I kind of, the bravado of a prison officer is to dust yourself off and get on with it, because we are harder, and we will never let them get the better of us; we won't lose (Hayley).*

Here, avoidance is highlighted when participants push through difficult situations.

2.4.2.2.2 Adaptive coping. Adaptive coping strategies were discussed by all but one participant. Two participants identified support from family and colleagues as an essential coping strategy. Both acknowledged this may not be the case for other prison officers:

> *My wife works in mental health, so I know I get support from my wife and she gets it from me. There's actually high divorce rates in prison officers because of what they've been through and they can't talk to their partners about it (Peter).*

I have a very good, strong friendship group of prison officers and we would leave for coffee and lunch, and you know if you're talking it, it just, I don't know, I don't know if it's just me but I really feel like it's my way of putting things straight in my head, by talking it out, erm, it also puts it straight, makes you see things a bit differently (Hayley).

Other participants described physical coping strategies to manage difficult emotions and thoughts:

A very lovely hobby…I've been doing it for four years, and it's wonderful because as soon as you dance you forget everything (Katie).

I might go down the gym, if I can get rid of some of my anger and frustration down there. As you've probably heard I've got a couple of dogs; I go and sort of walk them, I throw sticks, I fight with them (Jack).

Above, participants described how physical exercise allowed them to forget, escape and release built-up emotions in a healthy way.

2.4.2.2.3 De-sensitisation. All participants described the process of becoming de-sensitised to direct and indirect traumatic experiences. Some participants specifically labelled this as de-sensitisation:

Erm, as I say sometimes, you're so de-sensitised that it's just another person telling you that they've been raped, it's just another you've heard it and heard it (Hayley).

Nothing would shock me now, I'm so de-sensitised. I've heard so many and seen so many shocking things (Peter).

There is a sense that repetition of traumatic experiences over time leads to participants becoming de-sensitised and such experiences becoming normal. Participants went on to describe how de-sensitisation has altered how they manage incidents:

Oh god yeah, my adrenaline doesn't kick in half as much as it used to. I think because I'm so used to it now (sighs) I think, I don't know. The more you see it, the more you know you just deal with it. I dunno, it's a hard one to say you know because I've seen everything; slashings, jagging's, the lots. I dunno, I think you become de-sensitised to it, you see it that much it just becomes the norm (Katie).

'I see things differently. I (pause) to be honest (pause) a lot of (pause) when we talk about it like, the people I work with who have been in it for years, you say, not get used to it, you never get used to the assaults and suicide attempts and that but you just react differently. So you don't panic as much because you've seen it so many times now, you just think, a lot of the, if someone's cut themselves, you know, if he's going to cut across his forearm, he ain't trying to kill himself; it's an attempt for attention or help. If it's from his wrist up to his elbow, the inside of his forearm, you know he's trying to kill himself. Because that's, you know, we had a lad who cut his throat open and stabbed himself in the stomach. It's just, I don't know, you've got to, we always say we've got a sick sense of humour. You don't react like you would have years ago to a serious incident (Graham).

A change in both the behavioural and emotional responses to trauma is highlighted above, with participants describing how they now respond more calmly to incidents in order to cope.

2.4.2.2.4 Activation of threat system. All participants described dealing with direct and indirect trauma through activation of the threat system:

Yeah, I mean if somebody has been punched, something violent, then it makes me concerned or worried then that it can happen to me, because it's a reminder of what can happen. So, when you speak to people at work about things like that it can make you on edge, and it makes you kind of worried, makes you scared about that could happen to me, or I never really looked at it like that, or wow that can really happen (Jack).

A sense of being constantly alert and primed to respond to danger is conveyed in the exert above. Jack linked this to hearing about the victimisation of colleagues and how this made him fear for his own safety. At other times, activation of the threat system was linked to direct trauma:

> *You're always thinking it could be you. Always on your guard and feeling under attack. It brings up other things that have happened to me. You need to be strong enough. You think, it could be you just around the corner. I often go into work thinking "oh, what's going to happen (Peter).*

Participants also reported that they remained alert outside of the prison environment:

> *It does make you think. When you're not in work you should be doing something different. Like, when I do go shopping, I'm looking round more, I reckon, but my wife she thinks I'm not listening to her. I do try but I'm also conscious of what's around me. Because I see things happen at work, in a split second, you've got to be, you know, somebody's attacked you (Graham).*

Participants remained hypervigilant in their personal lives and it seemed difficult for them to switch this off, which may be reflective of PTSD symptomology. Other symptoms of PTSD were described by participants including anger outbursts, and nightmares:

> *I kept dreaming about different prisoners dying. And in each dream there was always a different way they'd die but it was always my fault, like it would be my negligence or my lack of putting something into place that had caused them to die…(Hayley).*

Furthermore, participants describe how activation of the threat system also made them more cynical and mistrusting of others:

I think also, slightly cynical of people or, I dunno, distrusting, it's hard to describe'…'a bit more wary of things you wouldn't normally be I think'…'the crimes that are committed and the fact that you're engaging with prisoners who do what they do, and you know, obviously talk to you about it and stuff like that, and you just think, (pause), I dunno, you just become a little bit more aware or suspicious of people that you probably shouldn't be if that makes sense? (Katie).

Participants all linked a lack of trust in others to the nature of the job and working with perpetrators of crime. Participants generally viewed prisoners as untrustworthy and felt that this made them sceptical about the motives and behaviours of people outside prison. This appeared to serve a protective function.

2.4.2.3 Normalisation of Trauma. A theme of how traumatic experiences become normalised over time was present in four of the participants' dialogues. This theme was split into two subthemes.

2.4.2.3.1 Trauma as a cycle. Throughout three of the participants' dialogues, the idea of how traumatic events repeat in a cycle within the prison environment was highlighted. Graham's transcript highlights the ongoing cycle of events:

Yeah, I suppose when you look back, I suppose there is. See, every day there's an incident, every day. Whether you're directly involved or indirectly involved. If there's something on a wing, an alarm bell is called, then staff attend (Graham).

His repetition of the word 'everyday' conveys an image of continuous incidents that participants are required to confront. Graham acknowledges that staff have a duty to face these, which suggests that not only do the traumatic incidents repeat, but participants' exposure to them also repeats on the same cycle. Participants linked the

cycle of trauma to de-sensitisation, avoidance and how they try to cope with the repetition of incidents:

> *There's somebody new causing you problems, there's been another alarm, yeah, there's just something else you know? That was last week's problem that was bothering you. You just, you try to forget about it and then just get on with the work and you're too busy with something new that's upsetting you. You're thinking about that one, you're not thinking about the other incident that's happened (Hayley).*

Hayley describes how daily incidents force her to forget and disconnect from the previous day's incidents, promoting a cycle of exposure to trauma and avoidance in order to deal with the current incident.

One participant consciously acknowledged the long-term emotional and cognitive impact the cycle of trauma has had on him:

> *I suppose the only, it would enhance the cynical side of you or the miserable side to you because you just go, it's another person, another officer, another friend whose just been treated like this. Or, bloody hell, they really can stoop to a new level (Jack).*

Here, Jack refers to indirect experiences of trauma and victimisation, and how the repetition of them increases a sense of cynicism and misery about the world. A sense of misery and despair about the world was also conveyed by Hayley after she experienced a prisoner experience flashbacks of past abuse, described previously:

> *I would be quite, I'd be quite strange like, I could read something in the paper and like cry about it. I hate the thought of putting somebody else through pain and torture. Like, causing someone else pain, and I just think, I just think like (long pause) what is, do you know, how do you help somebody like that? Where do you begin? (Hayley).*

Hayley describes a sense of hopelessness about whether victimised prisoners can be helped due to severe trauma histories.

2.4.2.3.2 Expectation to cope. Four participants described a cultural expectation within the prison service to cope with exposure to trauma effectively:

> *So, you've got no healthcare, so it means you have to deal with any suicide attempts or any serious self-harm issues, you've got to deal with them on a daily basis. You don't think about it anymore. It's just part of the job (Graham).*

Graham's language indicates a sense of rigidity with regards to what and how participants are expected to cope with – "got to". This conveys that there is no other option to dealing or coping with experiences like self-harm and suicide. The sense of rigidity was conveyed amongst other participants through the choice of language and the repetition of the words "got to". Graham concludes that the expectation to cope is part of the job description of being a prison officer, which is also highlighted by other participants.

Participants also described how not coping as expected would be viewed as a weakness by others and indicate that you are unable to meet the demands of the job: "It's just [sighs], it's harder to explain when you don't want to talk about it. Well, you try not to talk about it because you don't want anyone else to think you can't cope" (Graham), and:

> *We have a lot of new staff who aren't coping, shall we say. And (sighs) like I always say, the job isn't for everyone. And I've seen over the years staff frazzle out of the job because they can't cope with it. Better they go, better they leave than stay because they'll only, it'll only get worse, it won't get better (Katie).*

Participants appeared to want to uphold an image that they can cope. Graham conveys this by describing how he would not speak openly to others when struggling with aspects of the job. Katie conveys this slightly differently, when she describes her negative perception of colleagues who have expressed their own struggles. Both exerts demonstrate a cultural belief that coping indicates strength and struggling indicates weakness.

One participant elaborates on the impact of the cultural expectation to cope with trauma exposure and how it contributes to his distress:

> *So, I think sometimes, I don't think it's the violence or the fact that you've seen somebody hanging that upsets you, it's how you're expected to get on with it, deal with it by the management. So, it makes you angry. Because you think, well actually, I just need to go and sit down for half an hour because I've just found someone purple, blue, red-faced because he's been choking for the last half an hour and now he's dead. I just want to go and get that out of my head or go for a walk. And they're like, oh, no you can't go anywhere, get back on the landings, it's only another one, shut up, get on with it (Jack).*

Jack attributes his emotional distress to the expectation to cope placed on him, more so than the traumatic event itself. Jack's exert also links to how the cycle of trauma has de-sensitised the whole system, not just frontline officers.

2.4.2.4 Theme 4: Empathic connections with prisoners*.* A theme about the ability to have empathic connections with prisoners was evident across all participants.

2.4.2.4.1 Impact of gender. The impact of gender on having empathy towards prisoners was highlighted by two participants:

I think for me, the hardest times for me were the X years at HMP X because that was female, and I had more of an affinity with the women because of their circumstances that some of them were in there. They'd been put on the game or they were raped, or you know buggered, whatever those are the hardest, they were the hardest to deal with, I think… You've got people (women) in there for manslaughter and murder because they stuck a knife in their husband because of 25 years of being abused, so you know, that's different (Katie).

Ok, so from my experience the vast majority of female prisoners have been through the worst trauma you could believe. You wouldn't even be able to get your head around what they've been through in their life, and they have then turned to substance use as a way of coping and that has then led them into some sort of crime to feed the substance misuse problem. The, yeah you know, it's led them to their offending behaviour. Erm, I've definitely been more affected by what I have seen of female prisoners than male prisoners because (pause) they're more forward with what they've been through, they're more upfront in telling you (Hayley).

Both female participants spoke about finding it easier to empathise with female prisoners and how this had a greater emotional impact on them than working with males. They appeared to hold the viewpoint that female prisoners have offended as a result of earlier traumas and victimisations, and participants were able to empathise with this. Katie drew a distinction between crimes committed by females against abusers and crimes committed by males – it seemed this made it easier for her to understand and empathise with female prisoners:

But with the guys, I don't really, because most of them are there because of their own sort of stupidity or fast money or whatever and they knew exactly what they were doing, so it was different (Katie).

Both participants are female, which may enhance their ability to empathise with female prisoners. The impact of gender on empathic connections between participants and prisoners is built upon when Hayley comments that females tend to be ‘more upfront’ about their experiences than males do. This seems to have enhanced the opportunity for empathy, as it provided an opportunity to hear about prisoners as victims as well as perpetrators.

2.4.2.4.2 Impact of offences. Four participants spoke about how knowledge of prisoners’ offences impacted empathy:

> *I don’t really care about what’s happened to them. I heard horrific stories of prisoners on the vulnerable prisoners’ unit. I read letters to family and victims. I’d be on the wing listening to them, it’s horrendous, talking about what they want to do to people (Peter).*

> *Erm, I don’t think it’s changed how I viewed them, I might treat them differently. But the majority of prisoners will just turn around and say I’ve only done that because it’s happened to me, or that’s the only choice I’ve got because this happened, so that can just wind you up because it’s not justification or a reason is it for you doing something bad, because you had something bad done to you. So, I think although you get more of an understanding of what they’re going through, it can make you look at them worse because you, you’re just blaming that other person or that thing that happened, you’re using it to justify what you’ve done. And that, to me, is just weak and pathetic (Jack).*

The quotes above depict times when participants found it hard to see past the crimes committed by prisoners and empathise with experiences of victimisation. Jack speaks about how prisoners often view their crimes as justified which created feelings of anger and disgust in participants, depicted when Jack describes feeling “worse”

about prisoners, viewing them as “weak and pathetic”. Participants seemed to have this experience more so with prisoners who had committed sexual offences:

> *Researcher: Do you think the job has made you think more about the victims of crime?*
>
> *Graham: Yeah, definitely. Definitely. Because I would (pause), when I was at HMP X I ended up working on the sex offender’s wing. And that’s got to be the worst place you could ever be. Because they talk about what they’ve done as if they’re talking about a football match you’ve both gone and watched. Their mentality about what, what they think and what they’ve done. They don’t see it as if they’ve done anything wrong. Because to them it’s ok.*

Here, Graham reflects on how a lack of empathy and compassion from prisoners towards their victims leads him to think about the victims of their crimes, rather than about the victimisation of prisoners themselves.

2.4.2.4.3 Connection versus distance. All participants acknowledged times when they have emotionally connected with prisoners and their experiences:

> *Sometimes, when I’m listening to people talking, I’m thinking, oh god you’ve got nothing to worry about, you know, some of the things I’ve had to deal with and the prisoners have had to go through in their lives, and the abuse they’ve gone through, and you think, you’ve got nothing to worry about (Peter).*

The quote from Peter above demonstrates an empathic understanding of how prisoners have been victims of abuse and how this is likely to have adversely affected them. A comparison is also made between the experiences of prisoners and those outside the prison system in relation to the severity adverse events. It appears that participants do, at times, allow themselves to think about prisoners as victims rather than only as perpetrators.

Participants also acknowledged that at other times they purposefully kept prisoners at an emotional distance to protect themselves from distress:

> *I just think (pause) I have to try and forget about them. I don't know, it's just like, it's de-sensitised you, you kind of just have to. I don't know like (pause) you actually can't take it in sometimes. I think you protect yourself, before you let it, you don't let it affect you because you put that mental block up before, like so I'm not even taking it in" – Hayley.*

> *"Yeah, I used to, certain things (pause) I got some emotional feelings for certain things that happened, or I get told you know, and then sometimes you think to yourself, well just don't do it (Graham).*

Both participants consciously acknowledged attempts not to connect with the difficult experiences they had seen or been told about. Hayley described this as a form of emotional protection, and how blocking things out prevents them from affecting her. Graham also appears to hold this view, when he actively decides not to get "emotional feelings". One participant seemed to block out the possibility of prisoners having been victimised by holding the view that they deserved payback:

> *Sometimes I think that's quite funny. Because if you've got a prisoner who is in for burglary and then they get told that their flat or car has been stolen I think that's quite funny, a bit of payback [laughs] (Jack).*

There seems to be a struggle for all participants between connecting with prisoners on a human level and keeping them at a distance in order to protect themselves from emotional pain. The acknowledgement of the impact prisoners make on participants is depicted honestly by Katie:

> *Because they make an impact, don't they? You have, you spend time with them, you talk to them, you interact with them, you help them, and with the*

women, yeah. There are prisoners now that I think of and I wonder what they're doing or whatever and hope they're ok (Katie).

2.4.2.5 Theme 5: A broken system. Three participants described experiences that were categorised into the theme of 'a broken system'. This refers to the prison system as a whole and the individual establishments in which they work becoming broken and separate, as opposed to working as a solid aligned system. Two subthemes were created and are discussed below.

2.4.2.5.1 Us & them. This theme depicts participants' descriptions of splits within the staff team which negatively affect their wellbeing and experiences in the workplace. All three participants used the word 'they' to describe less experienced staff, which emphasised a separation between the more experienced staff, in this case the participants, and 'them'. All three participants described this split which is depicted here by Katie:

Yeah, I mean, I'm old school – so I was told when I joined the service, if you do a year, and I had a mortgage to pay at the time. But if you do a year, you're pretty much bomb-proof after that. You know, get through your first year. It used to be a job for life. You don't go sick, you don't, but these staff that we're getting now, they are not coping after two weeks (Katie).

Participants spoke about finding it difficult to work effectively with less experienced staff and linked this to how they dealt with things on the job. Negative perceptions about the less experienced staff and their abilities to handle conflict and emergencies were portrayed. This is further highlighted by Graham:

It's just erm, it's hard to explain; we're used to it now. It's just become the normal thing. Where there's certain wings you go on, certain – you look at who you're working with and you think "oh yeah, that's good I'm going to have a good day today. If anything happens, they've got my back". But you

also look on and you think "oh god, they're on today. I'm not going to see much of them (Graham).

The differences between the behaviours of members of the staff team are shown here to impact participants' attitudes and mindsets about their shift. Graham shows that for him, an important part of working as a prison officer is having trust that your colleagues will support you when managing incidents, something which he describes as absent when on shift with many of his colleagues. The importance of trust and how it impacts perceived safety is neatly conveyed by Graham:

Because some staff will say, oh I can't work that person or I can't work on that wing, can you put me somewhere else? And I think, we're all prison officers, but it's just (pause), well, the mentality of some staff now, they don't think of everyone, they just think of themselves. Just themselves all the time. So, you know whether you'll be able to trust that person or whether that person is going to do that job they should do or whether they're going to watch your back. And if there's an incident, will they go towards the incident (Graham).

Graham's anxiety about his own safety can be seen by his description of some colleagues as selfish which he links to them not considering the impact of their actions on the safety of their comrades. The necessity of trust between colleagues is emphasised when Graham wonders "whether they're going to watch your back", indicating the reliance on other officers to maintain personal safety. This subtheme also links to the subtheme of *'activation of threat system'* where participants described a lack of trust in others as a way of defending against potential threat.

The split in the staff team is depicted slightly differently by Jack. Whereas the other two participants perceive less experienced staff as less capable of managing difficult

situations, Jack's perception is that they haven't been in the job long enough to understand his internal struggle:

> *Jack: If you moan about an individual because it's right to moan about them then someone will complain about that. You're quite worried about what to say at work. And up until a few weeks ago we had, I think it was 70% of staff had under a year in service, so you're not going to go and talk to somebody like that.*
>
> *Researcher: What makes it difficult to talk to them?*
>
> *Jack: They haven't seen the misery side of things; a lot of them are just so cocky that they'll probably just laugh at you or tell you to shut up.*

Jack describes how less experienced staff have not been exposed to the "misery side of things", described by him in an earlier theme. He then seems to deflect from his own recognition of misery by describing the other staff as "cocky" and indicating that he wouldn't be open with them if he was struggling emotionally for fear of persecution. This also links to the earlier theme '*expectation to cope'.*

2.4.2.5.2 Anger at the organisation. Anger towards those who hold power within the prison service was expressed by three participants. Some of this anger directly linked to a lack of resources, for example:

> *No, I've had enough of it, I've had enough of it. You know, it's changed over the years and none of it for the better…Management. Management have doubled in size and officers have been slashed by over a third (Katie).*

Participants expressed objections to several organisational factors including lack of money, lack of staff and changes to the culture of the prison service. Above, Katie gives the example of increased management positions and reduced frontline officer

positions and links this to a negative culture shift in the prison service. Other participants also expressed the same frustrations. Anger was also directed towards the organisation for taking away power from prison officers:

> *That's another thing they've done, taken lots of things away now, they've taken us to European court where we now can't take any sort of industrial action. So that's another thing they've taken away from prison staff (Graham).*

Graham's anger at losing power is conveyed by his repetition of the words "taken" and "take". These words depict a sense of power being stolen from them by those who remain powerful. This reduction in power was also evident in other participants' dialogues when talking about managers and governors.

Anger also seemed to link to a perceived lack of care for participants and prisoners:

> *…even sometimes prisoners will talk to you and they'll say, oh that CM or that governor has said that, and it makes you think; they're treating the prisoners with the same arrogance, cockiness, nastiness as us, so then it, you just end up, whether hate is the right word, but you just end up disliking them even more. And I suppose, most of my anger, disappointment, upset and frustrations are aimed at the management, at how they treat us (Jack).*

This quote highlights how participants do not feel adequately cared for and supported by those in power. The emotional intensity expressed by participants is clearly depicted by Jack's repetition of words to describe the treatment from those in power and to describe his emotions, and the use of the word "hate".

2.4.3 Results of template analysis. Written data was analysed using TA (Brooks & King, 2014). The process of TA is outlined in Table 5.

Table 5: Stages of TA

Stage	Description
1	Stage 1 began with a production of the coding template to be applied to the data. This was taken from the initial IPA. Master and subthemes from the IPA were used as a priori themes and formed the coding template. Master themes became first level themes and subthemes became second level themes. Second level themes were colour coded for ease of coding. See Appendix N for the coding template.
2	Stage 2 involved reading and re-reading each transcript to become familiar with the data.
3	Stage 3 involved highlighting segments of each transcript when it mapped onto second level themes from the coding template. The name of the theme was written on the right hand-side of the transcript (see Appendix O).
4	Transcripts were then re-read and any additional themes that did not fit onto the coding template were looked for. No additional themes were identified from the data.
5	Finally, a table of first and second level themes was created with contributing subthemes and participants detailed.

Table 6 shows the first and second level themes from the coding template and contributing participants.

Table 6: Coding template for TA and contributing participants

First level theme	Second level theme	Contributing participants
1. Experiences of direct & indirect trauma	1.1 Witnessing self-harm/suicide	Lucy & David
	1.2 Witnessing violence	All
	1.3 Hearing about the trauma of others	None
2. Ways of coping	2.1 Avoidance	All
	2.2 Adaptive coping	All
	2.3 De-sensitisation	Lucy & David
	2.4 Activation of threat system	All
3. Normalisation of trauma	3.1 Trauma as a cycle	None
	3.2 Expectation to cope	Lucy & David
4. Empathic connections with prisoners	4.1 Impact of gender	None
	4.2 Offences prevent empathic connection	None
	4.3 Connection versus distance	Lucy & Luke
5. A broken system	5.1 Us & them	None
	5.2 Anger at the organisation	David

2.4.3.1 Theme 1: Experiences of direct and indirect trauma. All participants described witnessing violence, both against prisoners and staff:

> *Seeing prisoners slashed or boiling water and sugar thrown over them. Walking into a cell and seeing the aftermath of someone having had their face half beaten off. Finding a dead prisoner slumped over with his head in the toilet (Luke).*

Lucy and David also described witnessing self-harm and suicide. David's account demonstrates the traumatic impact of such incidents:

> *It is over 20 years since the last lad killed himself whilst on nights, I remember his name, what cell he was in, and graphically recall the events of that night. I feel guilty that, having performed CPR along with a nurse for over 40 minutes, we were unable to save him (David).*

David's reference to twenty years having passed whilst still graphically recalling the event conveys how much he was impacted by it.

There was limited evidence in participants' responses that mapped onto *'hearing about the trauma of others.'*

2.4.3.2 Theme 2: Ways of coping.

2.4.3.2.1 Avoidance. All participants talked about using avoidance to cope with difficult aspects of their jobs. Luke described how he would "Blank them out, put them far away," and "I don't bring my problems home, home is not the forum for my problems" (Luke). Luke depicts how participants purposefully try to push difficult memories or thoughts about incidents out of their minds. He also describes avoiding sharing his experiences with family members, which provides another opportunity for him to avoid revisiting them.

2.4.3.2.2 Adaptive coping. All participants described adaptive coping strategies used to manage difficult experiences. These included professional support: "I have recently had some great support and advice from a member of the mental health team within my establishment" (David) and support from friends and colleagues: "…now I am older I can manage stress differently and maybe do a quick fifteen minute chat before going home with a colleague discussing it" (Lucy). Participants also used hobbies to cope: "Messing around with my technology, I like to ride my motorbike and fix it" (Luke).

2.4.3.2.3 De-sensitisation. Two participants described the process of de-sensitisation. Both participants referred to how the passing of time enabled them to deal with situations effectively: "Experience allows you to react to potentially

harrowing and dangerous events without it affecting you until the situation is resolved and then you have time to think about it" (David). Lucy also identified that time in the job led to her being less affected by difficult experiences: "As an old timer, I haven't come across a lot of incidents that bother me for quite a few years" (Lucy).

2.4.3.2.4 Activation of threat system. Responses from all participants mapped onto the theme *'activation of threat system'.* Participants spoke both about an increased hypervigilance and a reduction in trust in others due to an anticipation of danger:

> *I hate going out to pubs and if I do then I ensure that I can see the entrance to the room and also sit with my back to the wall so I can assess any incidents and react accordingly (David).*

David describes the sense of being primed for and expecting dangerous situations to occur to keep himself safe from them.

2.4.3.3 Theme 3: Normalisation of trauma. There was no evidence in participants' responses that mapped onto the template of *'trauma as a cycle'.*

2.4.3.3.1 Expectation to cope. Two participants described experiences that mapped onto the a priori theme of *'expectation to cope'*. Both participants referred to a culture within the prison service of needing to be strong and not to ask for help:

> *The culture of it being a macho role and the fear of appearing weak to either your colleagues or managers tends to prevent you from disclosing sensitive information about yourself. Sickness policy, with any stress related illness or even a simple statement of being stressed leads to an immediate referral to the Occupational Health provider, leads to even more stress as staff will not admit to that, especially with the risk of dismissal rather than the higher cost of treating someone (David).*

This exert has clear links to the theme from the IPA regarding the cultural expectation to cope and how seeking support is viewed as a weakness. Both David and Lucy felt that staff often avoid seeking support due to fear of dismissal or negative treatment from the system.

2.4.3.4 Theme 4: Empathic connections with prisoners. There was no evidence from the TA that mapped onto the themes of '*the impact of gender'* and *'offences prevent empathic connection'.*

2.4.3.4.1 Connection versus distance. Two participants referenced times when they have connected with prisoners as victims: "The norm [prisoners being victims] sorry to say, they wouldn't admit that…" (Lucy). Lucy acknowledges, although somewhat briefly, that it is normal for prisoners to have been victimised. She quickly switches to talking about how prisoners make it hard for this to be connected with for long, due to the culture in prison of appearing tough: "…they too have to show to all an attitude that they aren't weak, according to all their show and tell would be 'I did the serious crime, look at me'" (Lucy). Although participants in the TA did not link this culture to gender, it is similar to the ideas within the theme of *'impact of gender'* from the IPA.

Participants also acknowledged that they purposefully disconnect from stories of prisoner trauma: "I listen, but I don't let what's being said have an impact on me" (Luke). This mirrors the dialogue from within the IPA theme of *'connection versus distance'* when participants spoke about not wanting to empathise with prisoners. There appears to be a desire not to let the information about prisoners' lives affect them.

2.4.3.5 Theme 5: A broken system.

2.4.3.5.1 Us & them. Written data did not map onto the theme *'us & them'.*

2.4.3.5.2 Anger at the organisation. One participant spoke about feeling angry about several organisational factors including early promotions, poor management, misaligned values and aims and inadequate support. These were the same as organisational factors highlighted by IPA participants:

> *…then receiving little or no support from managers who appear to be only interested in carrying on with the regime instead of supporting colleagues. This is due to poor managers throughout the service who are promoted beyond their means and abilities. This makes the pain you feel even worse as the lack of support is known about but there appears to be no ambition to change it (David).*

David describes feeling "bitter" about the issues outlined by him above. He also states that the organisational difficulties increase his emotional pain, something echoed particularly by Jack in the IPA.

2.5 Discussion

The aim of this study was to explore mainstream prison officers' experiences of VT in England and Wales. The IPA led to the development of five master themes; *(1) experiences of direct and indirect trauma; (2) ways of coping; (3) normalisation of trauma; (4) empathic connections with prisoners;* and *(5) a broken system.* These themes are discussed in relation to existing theoretical frameworks, implications for clinical practice and areas for future research. Limitations of the study are also discussed.

2.5.1 Theoretical Implications. The first theme, '*experiences of direct and indirect trauma',* described the range of traumatic events witnessed directly or vicariously by participants, and included self-harm, suicide, violence and indirect traumas. This corresponds with documented statistics and accounts in the literature (MOJ, 2018; Spinaris, Denhof & Kellaway, 2012; South, 2017) and demonstrates that participants are exposed to events which make them vulnerable to trauma responses e.g. PTSD, STSD and VT.

The second theme; *'ways of coping'* encompassed the different ways in which participants coped with their experiences of trauma. Each subtheme depicted a distinct coping strategy. *'Adaptive coping',* included activities which are generally viewed as healthy, for example, exercise, hobbies and social support. The other subthemes; *'avoidance', 'de-sensitisation'* and '*activation of threat system'* were not termed adaptive, as they seemed to be driven by different processes and potentially be maladaptive. This idea relates to the psycho-analytic concept of primitive and mature defenses used by individuals to protect their psychological functioning. Strategies described within '*adaptive coping'* appear to map onto more mature defenses whereas *'avoidance'* is conceptualised as a less mature defense (Freud, 1935).

The subtheme *'activation of threat system'* related to preparing for danger and included hypervigilance, anticipating threat and assuming others to be dangerous. Physiological reactions resembling symptoms of PTSD were described including nightmares and hyperarousal, and withdrawal was also described in the subtheme of *'avoidance'.* There is a paucity of research on the prevalence of PTSD in prison officers, with a small number of studies having been conducted in the USA, despite it

being well-recognised that prison officers are exposed to similar types, severities and frequencies of traumatic events as emergency service and military personnel (Spinaris et al, 2012). Although this research did not focus on PTSD in prison officers, it provides evidence that they do experience elements of PTSD symptomology and/or STSD, which is supported by and further adds to the existing literature (Denhof & Spinaris, 2016; McManus, 2010; Spinaris, et al, 2012).

In addition, the subtheme *'activation of threat system'* links to the theoretical conceptualisation of VT. McCann & Pearlman's theory of VT identifies five psychological schemas hypothesised to be disrupted when individuals experience direct or indirect trauma (McCann & Pearlman, 1990). *'Activation of threat system'* encompasses two of those schemas; dependency/trust and safety. Participants described becoming overwhelming cynical and mistrusting of others (trust), and a continuous anticipation of danger (safety). Although these schema disruptions are clear within the data, the mechanism through which the disruptions occurred is less clear; such changes may have occurred through a combination of direct and indirect trauma including when prisoners are victimised, colleagues are victimised and hearing about the victims of the crimes of prisoners.

This theme also links to Corrections Fatigue (CF; Denhof & Spinaris, 2014); a concept developed in the USA. CF is conceptualised as the unique cumulative effect of prison work over time resulting in negative changes in three domains; declined physical health/functioning, negative personality changes, and dysfunctional workplace ideology/behaviour (Denhof & Spinaris, 2014). The model posits that such changes occur due to organisational factors, operational issues and experiences of direct and indirect trauma. The experiences described within both *'avoidance'* and

'activation of threat system' match the symptoms of CF in the areas of declined physical health and negative personality changes.

Additionally, the theme *'a broken system'* also correlates with the concept of CF. This theme encompasses two areas; a splitting within the staff team between inexperienced and experienced staff, frontline officers and management, and officers and the government, and anger towards the prison service due to organisational factors and poor leadership. Participants' experiences depict many of the organisational and operational issues outlined in the CF model and how these negatively impact workplace ideology and behaviour.

Furthermore, the theme *'normalisation of trauma'* also adds evidence to the experience of CF. This theme depicts a process whereby traumatic events are repeated in the prison environment, and this cycle leads to such events becoming normal. This linked to a cultural expectation that prison officers must be strong, resilient and independent; a traditionally masculine culture appeared to be valued. Within CF, a 'culture of toughness' is highlighted as a dysfunctional workplace ideology (Denhof & Spinaris, 2014). This is mirrored in participants' dialogues, and links to wider theories on gender roles in Western societies, particularly that of hegemonic masculinity (Connell 1987). Modern hegemonic masculinity is defined as the expectation for males to display ruthless competitiveness, supress emotions other than anger, not show vulnerability and devalue women (Kupers, 2005). Despite some of the participants in the current study being female, the subtheme of *'expectation to cope'* was still applicable and is in keeping with research on the 'machismo' culture present in prisons experienced by both prisoners and prison staff (Crawley, 2004; Crawley & Crawley 2008; Kupers, 2005).

Finally, the theme *'empathic connections with prisoners'* depicted contrasting accounts of when participants did and did not connect empathically with prisoner victimisation. Gender and crime appeared to mediate whether participants empathised with prisoners as having been victimised. Female participants described poignant accounts of their understanding of female prisoners and how victimisation and trauma often led to offending behaviours. This fits with established knowledge of female offending patterns and histories (Cauffman, 2008). Knowledge of crimes, particularly sex offences, made it more difficult for participants to show empathy towards prisoners. *'Connection versus distance'* highlighted the struggle between acknowledging and denying that prisoners have also been victimised and may link to the dual role prison officers hold of 'helper and disciplinarian', outlined in CF. In order to help, one must be able to empathise, however this may be at the detriment of maintaining discipline and security (Bond & Gemmell, 2014; Schaufeli & Peters, 2000).

2.5.2 Implications for clinical & organisational practice. The present findings indicate that prison officers are at risk of developing symptomology of PTSD, STSD, VT and CF. Findings also highlighted a prison culture of keeping emotions and distress hidden, which exacerbates distress and may lead to the development of mental health problems. The prison service would benefit from a whole system and long-term approach to challenging this culture, which would promote the discussion of the emotions, distress, trauma and mental health of prison officers. This is already being done in the USA through various research and centres, including the Desert Waters Correctional Outreach Project (Kelly, 2018; South, 2017); the prison service in England & Wales is behind the USA in this respect. Ways to begin such a culture

change include: providing staff training on risk factors and early warning signs of trauma symptomology and mental health problems; training on and promotion of self-care and healthy lifestyles; staff wellbeing events; promoting the sharing of positive experiences of counselling and therapy; and forums where officers can offload difficult experiences in a safe space.

Findings also highlighted how prison officers are exposed to severe traumas and may receive little immediate and long-term support to cope with the impact of these. Prison establishments in England & Wales would benefit from developing additional support strategies to help officers deal with the aftermath of trauma. This might include mandatory and regular psychology-led individual and/or group supervision for all frontline staff, psychology-led reflective practice sessions for all frontline staff, and managerial follow-up when officers have been referred to Occupational Health or counselling services to ensure the right treatment has been offered and received. HMPPS has published a policy on post-incident care (HMPPS, 2018) which stipulates mandatory debriefs after incidents including “providing practical and emotional support and information”; however, participants’ narratives suggest this is not always followed. Auditing the use of this policy would help identify establishments which need support in policy adherence.

Operational factors implicated in the development of CF also need to be addressed. These include but are not limited to cuts to frontline staff; increasing prisoner numbers; changes to pensions and pay; and staff shortages through absence and sickness. In times of austerity across the public sector there are obvious barriers to addressing some of these. However, higher level management and stakeholders within the prison service are positioned to promote such needed discussions.

2.5.3 Limitations. This study has methodological limitations including the low sample size, which makes it difficult to generalise findings to the wider prison officer population. However, as there is limited research on VT in prison officers, a qualitative approach was most appropriate, and this research did therefore not aim to provide a nomothetic account of VT in prison officers. In qualitative research the analysis and interpretation are heavily influenced by the researcher and therefore different themes may have been identified by other researchers. Attempts to minimise this were made by triangulating the data analysis with the second researcher and using two distinct data collection methods. The reflexivity statement also provides an account of potential biases within the analysis. In addition, there may be bias within the sample itself. Participants are likely to be prison officers who have pre-existing ideas about their own trauma experiences and the prison service, and therefore the sample may be unrepresentative of the overall prison officer population in England and Wales.

2.5.4 Future research. This research provides preliminary evidence that prison officers in mainstream prisons in England & Wales experience symptomology linked to PTSD, STSD, VT and CF. Future research is needed to expand upon these findings; qualitative research would help to expand on the understanding of and distinguish between these experiences. Quantitative research would help to generalise findings, using psychometric measures of trauma symptomology to provide objective estimates of prevalence with larger samples. The evidence for trauma symptomology within this sample was clear, however the mechanisms through which it developed was not e.g. hearing about trauma, direct trauma or the

prison environment itself. Further research which specifically examines such mechanisms would be useful to inform preventative and treatment interventions.

2.5.5. Conclusions. In conclusion, this research suggests that prison officers do experience symptomology related to several direct and indirect trauma experiences. It is not clear through which mechanisms these develop; whether through exposure to trauma victims or the nature of the prison environment itself. Further research is needed on trauma in prison officers and would build on that which has largely been done in the USA, particularly quantitative research which can be generalised to the wider prison officer population. The prison system would benefit from a cultural shift in its attitude towards distress, trauma and help-seeking in order to increase the support available for officers working in such a complex and demanding environment.

2.6 References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: APA.

Andrews, D.R., & Wan, T.T.H. (2009). The importance of mental health to the experience of job-related strain: an evidence guided approach to improve retention. *Journal of Nursing Management, 17,* (1), 340-351.

Ardino, V. (2012). Offending behaviour: the role of trauma and PTSD. *European Journal of Psychotraumatology, 3,* (1), 18969.

Baird, K., & Kracen, A.C. (2006). Vicarious traumatisation and secondary traumatic stress: a research synthesis. *Counselling Psychology Quarterly, 19,* (2), 181-188.

Bakker, A.B., Demerouti, E., & Sanz-Vergel, A.I. (2014). Burnout and work engagement: The JD-R Approach. *Annual Review of Organisational Psychology and Organisation Behaviour, 1,* (1), 389-411.

Baranyi, G., Cassidy, M., Fazel, S., Priebe, S., & Mundt, A.P. (2018). Prevalence of posttraumatic stress disorder in prisoners. *Epidemiological Reviews, 40,* (1), 1-12.

Bell, H., Kulkarni, S., & Dalton, L. (2003). Organisational prevention of vicarious trauma. *Families in Society: The Journal of Contemporary Human Services, 84,* (4), 463-470.

Bond, N., & Gemmell, L. (2014). Experiences of prison officers on a lifer psychologically informed planned environment. *Therapeutic communities: the international journal of therapeutic communities, 35,* (3), 84-94.

Brooks, J., & King, N. (2014). *Doing Template Analysis: evaluating an end-of-life care service.* Research Methods Cases, UK: SAGE Publications Ltd.

Brush, B.L., Gultekin, L.E., Dowdell, E.B., Saint Arnault, D.M., & Satterfield, K. (2018). Understanding trauma normativeness, normalisation and help seeking in homeless mothers. *Violence against women, 24,* (13), 1523-1539.

Carlson, B.E., & Shafer, M.S. (2010). *The Prison Journal, 90,* (4), 475-493.

Cauffman, E. (2008). Understanding the female offender. *The Future of Children, 18,* (2), 119-142.

Crawley, E.M. (2004). Emotion and performance: prison officers and the presentation of the self in prisons. *Punishment and Society, 6,* (4), 411-427.

Crawley, E. & Crawley, P. (2008). Understanding Prison Officers: culture, cohesion and conflict in Bennett, J., Crewe, B. & Wahidin, A. (eds.). *Understanding Prison Staff.* Oxford, UK: Willan Publishing with HM Prison Service.

Denhof, M.D., & Spinaris, C.G. (2014). *Theoretical Process Model of Corrections Fatigue*. Retrieved from: http://desertwaters.com/wp-content/uploads/2013/08/Corrections-Fatigue-Model-Attachment-Document.pdf

Denhof, M.D., & Spinaris, C.G. (2016). *Prevalence of trauma-related health conditions in correctional officers: a profile of Michigan corrections*

organization members. Retrieved from: http://desertwaters.com/wp-content/uploads/2016/07/MCO-Paper_FINAL.pdf

Depass, C.M. (2005). Vicarious Trauma in Correctional Mental Health Staff. *A dissertation submitted in partial satisfaction for the degree Doctor of Psychology Carlos Albizu University.*

Fazel, S.F., Hayes, A.J., Bartellas, K., Clerici, M., & Trestman, R. (2016). The mental health of prisoners: a review of prevalence, adverse outcomes and interventions. *Lancet Psychiatry, 3,* (9), 871-881.

Figley, C.R. (1995). Compassion fatigue as Secondary Traumatic Stress Disorder: an overview. In C.R. Figley (ed). *Compassion fatigue: coping with secondary traumatic stress disorder* (pp1-20). New York, USA: Brunner Mazel.

Freud, S. (1939). An outline of Psychoanalysis. *The International Journal of Psychoanalysis, 21,* (1), 27-84.

Freudenberger, H. J. (1974). The staff burnout syndrome in alternative institutions.

Psychotherapy Theory Research & Practice, 12, (1), 72—83.

Her Majesty's Prison and Probation Services. (2018). *Post-incident care.* Retrieved from: http://www.justice.gov.uk/offenders/psis/AI-2018-01-PSI-2018-02-Post-incident-care-updated.pdf

Honorato, B., Caltabiano, N., & Clough, A.R. (2016). From trauma to incarceration: exploring the trajectory in a qualitative study in male prison inmates from north Queensland, Australia. *Health and Justice, 4,* (3), 10.

Iliffe, G., & Steed, L.G. (2000). Exploring the counsellors experience of working with perpetrators and survivors of domestic violence. *Journal of Interpersonal Violence 15* (4), 393–412.

Kelly, D. (2018). Surviving in prison work: staff wellness programmes. *Winston Churchill Memorial Trust.* Retrieved from: https://www.wcmt.org.uk/sites/default/files/report-documents/Kelly%20D%20Report%202016%20Final.pdf

Kupers, T.A. (2005). Toxic masculinity as a barrier to mental health treatment in prison. *Journal of Clinical Psychology, 61,* (6), 713-724.

Malkina-Pykh, I.G. (2017). Associations of burnout, secondary-traumatic stress and individual differences among correctional psychologists, *Journal of Forensic Science Research, 1,* (1), 18-34.

Maslach, C. (1976). Burned-out. *Human Behaviour, 5,* (1), 16—22.

Maslach, C., Jackson, S., & Leiter, M. (1986). *Maslach Burnout Inventory* (3rd ed.). Mind Garden Inc.

Maslach, C., & Leiter, M. (1997). *The truth about burnout*. San Francisco, CA: Jossey-Bass.

McCann, L., & Pearlman, L.A. (1990). Vicarious traumatisation: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress, 3,* (1), 131-149.

McCraty, R., Atkinson, M., Lipsenthal, L., & Arguelles, L. (2009). New hope for correctional officers: an innovative programme for reducing stress and health

risks. *Association for Applied Psychophysiology and Biofeedback, 34,* (1), 251-274.

McManus, J. (2010). The experiences of officers in a therapeutic prison: an Interpretative Phenomenological Analysis. Shuker, R., & Sullivan, E. (eds) In. *Grendon and the emergence of forensic therapeutic communities: developments in research and practice.* UK: John Wiley & Sons.

Ministry of Justice (2013). *Safety in Custody Update December 2013.* Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/305614/safety-in-custody-to-dec-2013.pdf

Ministry of Justice (2018). *Safety in Custody Statistics, England and Wales: Deaths in prison custody to June 2018 and assaults and self-harm to March 2018.* Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/797074/safety-custody-bulletin-q4-2018.pdf

Munger, T., Savage, T., & Panosky, D.M. (2015). When caring for perpetrators becomes a sentence: recognising vicarious trauma. *Journal of Correctional Health Care, 21,* (4), 365-374.

Pai, A., Suris, A.A., & North, C.S. (2017). Posttraumatic stress disorder in the DSM-V: controversy, change and conceptual considerations. *Behavioural Sciences, 7,* (1), 1-7.

Pietkiewicz, I., & Smith, J.A. (2012). A practical guide to using Interpretative Phenomenological Analysis in qualitative research psychology. *Praktyczny*

przewodnik interpretacyjnej analizy fenomenologicznej w badaniach jakościowych w psychologii. Czasopismo Psychologiczne, 18 (2), 361-369.

Royal College of Nursing. (2013). Beyond breaking point? A survey report of RCN members on health, wellbeing and stress. London, UK: Royal College of Nursing.

Salston, M.D., & Figley, C.F. (2003). Secondary traumatic stress effects of working with survivors of criminal victimisation. *Journal of Traumatic Stress, 16* (2), 167-174.

Saylor, W.G., & Wright, K.N. (2008). Status, longevity, and perceptions of the work environment among federal prison employees. *Journal of Offender Rehabilitation, 17,* (3), 133-160.

Schaufeli, W.B., & Peeters, M.C.W. (2000). Job stress and burnout among correctional officers: a literature review. *International Journal of Stress Management, 7,* (1), 19-48.

Sirdifield, C., Gojkovic, D., Brooker, C., & Ferriter, M. (2009). A systematic review on the epidemiology of mental health disorders in prison populations: a summary of findings. *The Journal of Forensic Psychiatry & Psychology, 20* (1), 78-101.

Smith, J.A., Flowers, P., & Larkin, M. (2009). *Interpretative Phenomenological Analysis: Theory, Method & Research*. UK: SAGE Publications Ltd.

Smith, J. A., & Osborn, M. (2008). Interpretative Phenomenological Analysis. In J.A. Smith (ed). *Qualitative Psychology: A Practical Guide to Methods* (2nd ed). London, UK: Sage.

South, A. (2017). How prison officers survive prison. *Winston Churchill Memorial Trust.* Retrieved from: https://www.wcmt.org.uk/sites/default/files/report-documents/South%20A%20Report%202017%20Revised.pdf

Spinaris, C.G., Denhof, M.D., Kellaway, G.A. (2012). *Posttraumatic Stress Disorder in United States Corrections Professionals: prevalence and impact on functioning.* Retrieved from: http://desertwaters.com/wpcontent/uploads/2013/09/PTSD_Prev_in_Corrections_09-03-131.pdf.

Thomas, B. (2012). Predictors of Vicarious Trauma and Secondary Traumatic Stress among Correctional Officers. *A dissertation submitted in partial satisfaction for the degree Doctor of Psychology at the Philadelphia College of Osteopathic Medicine.*

Trippany, R.L., White Kress, V.E., Wilcoxon, S.A. (2004). Preventing vicarious trauma: what counsellors should know when working with trauma survivors. *Journal of Counselling and Development, 82,* (1), 31-37.

Tye, C.S., & Mullen, P.E. (2006). Mental disorders in female prisoners. *Australian and New Zealand Journal of Psychiatry, 40,* (3), 266-271.6

World Health Organisation, 1992. *The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines.* Geneva: World Health Organisation.

Yardley, L. (2000). Dilemmas in qualitative health research. *Psychology and Health, 15,* (2), 215-228.

CHAPTER THREE – PUBLIC DISSEMINATION DOCUMENT: Trauma in young prisoners and prison officers

Supervised by:

Dr Caroline Oliver

3.1 Introduction

3.1.1 What is this document about?

This document summarises a recent research study which explored trauma in the prison service. The first section describes a meta-analysis on the percentage of young people in prison, worldwide, with post-traumatic stress disorder (PTSD). The second section describes a piece of research which explored experiences of trauma in a group of prison officers in England & Wales.

3.1.2 Purpose of the research

This research was done by a Clinical Psychologist in Training. As part of their training they are required to conduct a piece of clinically relevant research.

3.2 Meta-analysis

3.2.1 What is a meta-analysis?

A meta-analysis looks at all the available data from published research studies on a phenomenon or event and combines the data using statistical calculations to produce a summary. For example, to estimate how many people in the world have eczema, a meta-analysis would take the percentages of people with eczema from all the published studies and estimate an average from those.

3.2.2 Why do this particular meta-analysis?

There have been lots of studies conducted on PTSD estimates in young people in custody, however currently, no meta-analyses have been done. A recent meta-analysis was done on PTSD in adult offenders, worldwide and it estimated PTSD to be higher in the prisoner population than in the general population (Baranyi et

al, 2018). It would be useful to know more about the rates of PTSD in young people who offended. This meta-analysis therefore wanted to provide an estimate of the number of young people in prison who have PTSD.

3.2.3 Aims of the meta-analysis

The aims of this meta-analysis were therefore to provide the first synthesised estimate of PTSD in young people in prison worldwide, and to describe the quality of studies conducted in this area.

3.2.4 How did we conduct this meta-analysis?

Firstly, relevant studies were identified through an electronic online search of the following databases; PsychInfo, Web of Science and CINAHL Plus. Studies were included if they were available in the English language and reported percentages of PTSD in young sentenced offenders between the ages of 10 and 21 years. Relevant information from suitable studies was extracted and put into a statistical programme. The programme computed an estimated summary of PTSD in young people in custody from all the studies. Information about the quality of each study was also gathered and the statistical programme used this when producing a summary.

3.2.5 What does this meta-analysis tell us?

3.2.5.1 How many young people in custody have PTSD?

29 studies were identified as suitable in the online search. There were fewer studies conducted on females than males. Across the 29 studies, estimates of PTSD in young people in custody varied hugely. Differences between studies such as country of origin, how PTSD was assessed, and quality of the study did

not account for this variation, which means it is difficult to draw any firm conclusions. However, it was estimated that between 10% and 15% of male young people in custody and between 21% and 37% of female young people in custody have had PTSD in the last 12 months.

3.2.5.2 What is the quality of studies in this area?

Overall, studies were of good quality in relation to the assessment tools they used to measure PTSD, the mathematical calculations they conducted on data, and how they reported data. Studies were of poorer quality in relation to how they chose participants for the research and for not including participants from a range of backgrounds and settings. This meant that findings may not be applicable to the overall population of young people in custody.

3.2.6 Conclusions

3.2.6.1 What conclusions can be drawn?

This meta-analysis tells us that there is variation across studies in how many young people in custody have had PTSD in the previous 12 months. It is therefore hard to make a firm conclusion about the overall rate of PTSD in this group. However, it does tell us that young people in custody have higher rates of PTSD than the general population. For example, young people in the community in England & Wales have PTSD rates of 4.4% (Lewis et al, 2019), whereas this meta-analysis suggested lowest estimates of 10% for males and 21% for females. Therefore, prisons need to ensure they are using trauma-informed approaches when working with young people to improve the wellbeing of both offenders and prison staff. Community establishments who work with offenders should also be

trauma-informed, as sentenced offenders often connect with the criminal justice system long before they enter the prison system.

3.2.6.2 Future research

More high quality studies are needed in this area, particularly with female young people in custody. Future studies should ensure that they try to minimise risks of bias from participants and include participants from a range of backgrounds, ethnicities and nationalities so that findings are more applicable to the wider young offender population.

3.3 Research paper

3.3.1 Why is this research important?

Prison officers are exposed to high rates of potentially traumatic experiences including violence, suicide and severe self-harm (MOJ, 2018). Prison officers are also exposed to indirect trauma, for example hearing about the trauma of prisoners, colleagues, and the victims of the prisoners' crimes. Working with victims of trauma can have a negative impact on professionals including through vicarious trauma; this occurs when a person's belief system about themselves, others, and the world changes. Research shows that forensic and mental health professionals experience vicarious trauma (Malkina-Pykh, 2017; Munger, Savage & Panosky, 2015; Trippany, White Kress & Wilcoxon, 2004). There are only two studies currently published exploring whether prison officers experience vicarious trauma, one in the USA and one in a specialist therapeutic community prison in the UK, and therefore more research needs to be done.

3.3.2 What was the aim of this research?

The aim of this research was to explore experiences of vicarious trauma in prison officers in mainstream prisons in England & Wales.

3.3.3 How was this research conducted?

Eight prison officers from England and Wales took part in the research. Five participants chose to share their experiences in telephone interviews and three chose to share their experiences by answering interview questions via written responses. Interview data was analysed using Interpretative Phenomenological Analysis (IPA; Smith, Flowers & Larkin, 2009) which collected themes from the data to understand prison officers' experiences. Written responses were analysed using Template Analysis (TA, Brooks & King, 2014) which is suitable for written data. The TA used themes identified from the IPA as a template and examined whether the same themes were present in the written data.

3.3.4 What did the research tell us?

Five themes were identified from the research; *(1) experiences of direct and indirect trauma, (2) ways of coping, (3) normalisation of trauma (4) empathic connections with prisoners* and *(5) a broken system.*

The first theme identified that participants had experienced a range of traumatic incidents including self-harm, suicide, violence, victimisation and indirect trauma. The second theme identified that participants used a range of coping mechanisms to deal with the traumas they experienced. Some participants' reactions to trauma indicated symptoms of PTSD or secondary traumatic stress disorder, and a

change in their beliefs about whether others can be trusted and whether the world is safe.

The third theme related to a process where traumatic experiences become the 'norm' over time and with repetition. This theme also described how there is a culture within prison establishments for participants to cope with traumatic experiences by being strong, not asking for help and not showing vulnerability, which linked to a masculine culture.

The fourth theme identified that participants were conflicted between empathising with prisoners having been victims themselves and cutting off from this to avoid emotional distress and pain.

The final theme described how participants felt that the prison system was broken due to staff having different aims and values and due to organisational factors negatively impacting their ability to carry out effective work. This theme also identified how participants felt anger towards those in power.

3.3.5 Conclusions

3.3.5.1 What can we conclude from this research?

This research identified that prison officers are exposed to direct and indirect trauma. Symptoms of PTSD or secondary traumatic stress disorder were described by several participants, although this may not necessarily mean they would meet the threshold for a diagnosis of PTSD. Participants described changes to their beliefs about trust and safety, which links to changes seen in vicarious trauma. Overall, participants' accounts more closely linked to a concept developed by prison researchers in the USA termed 'correctional fatigue'. This

describes the unique cumulative impact of prison work in three areas; declined physical health/functioning, negative personality changes, and dysfunctional workplace ideology/behaviour (Denhof & Spinaris, 2014). Correctional fatigue is shown to be caused by three factors; organisational factors, operational issues and experiences of direct and indirect trauma.

3.3.5.2 Implications for clinical/organisational practice

The culture of the prison service in England and Wales was described by participants as one that views emotional distress, support seeking and mental health difficulties as weaknesses. Prison officers would benefit from a culture change that promotes emotional expression and provides appropriate support to officers, particularly in relation to trauma. More support should be put into place, including mandatory Psychology-led supervision and reflective practice, training and events on staff wellbeing, self-care and healthy lifestyles, mandatory debriefs after incidents, and managerial follow-up of referrals to Occupational Health and counselling/therapy services.

3.3.5.3 Future research

In the UK there is limited research on how prison officers are affected by their work and there is currently no other research on corrections fatigue. Future studies should expand on the findings of this research and that done in the USA. Specifically, research should attempt to measure rates of PTSD and other trauma symptoms in prison officers to get a better understanding of how they are affected.

3.4 References

Baranyi, G., Cassidy, M., Fazel, S., Priebe, S., & Mundt, A.P. (2018). Prevalence of posttraumatic stress disorder in prisoners. *Epidemiological Reviews, 40,* 1-12.

Brooks, J., & King, N. (2014). *Doing Template Analysis: evaluating an end-of-life care service.* Research Methods Cases, UK: SAGE Publications Ltd.

Lewis, S.J., Arseneault, L., Caspi, A., Fisher, H.L., Matthews, T., Moffitt, T.E., Odgers, C.L., Stahl, D., Ying Teng, J., & Danese, A. (2019). The epidemiology of trauma and post-traumatic stress disorder in a representative cohort of young people in England and Wales. *The Lancet, 6,* 247-256.

Malkina-Pykh, I.G. (2017). Associations of burnout, secondary-traumatic stress and individual differences among correctional psychologists, *Journal of Forensic Science Research, 1,* 18-34.

Ministry of Justice (2018). *Safety in Custody Statistics, England and Wales: Deaths in prison custody to June 2018 and assaults and self-harm to March 2018.* Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/797074/safety-custody-bulletin-q4-2018.pdf

Munger, T., Savage, T., & Panosky, D.M. (2015). When caring for perpetrators becomes a sentence: recognising vicarious trauma. *Journal of Correctional Health Care, 21,* (4), 365-374.

Smith, J.A., Flowers, P., & Larkin, M. (2009). *Interpretative Phenomenological Analysis: Theory, Method & Research*. UK: SAGE Publications Ltd.

Trippany, R.L., White Kress, V.E., Wilcoxon, S.A. (2004). Preventing vicarious trauma: what counsellors should know when working with trauma survivors. *Journal of Counselling and Development, 82,* 31-37.

Appendix A

Additional data from meta-analysis

Table 12: Hypothesised moderating variables – mixed gender studies

				Q	P
Language	**English speaking country** 21% [12-30%] I^2=96% K=5	**Non-English speaking country** 20% [8-32%] I^2=96% K=3		0.02	0.8804
Continent	**Asia** 21% 15-27%] I^2=n/a K=1	**Europe** 19% [1-38%] I^2=97% K=2	**North America** 21% [12-30%] I^2=96% K=5	0.03	0.9852
Country	**USA** 21% [12-30%] I^2=96% K=5	**Non-USA** 20% [8-32%] I^2=96% K=3		0.02	0.8804
Diagnostic Classification	**DSM-IV** 19% [13-26%] I^2=95% K=6	**Not diagnostic** 24% [20-27%] I^2=0% K=2		1.39	0.2380
Assessment format	**Interview** 17% [10-23%] I^2=93% K=4	**Self-report** 23% [20-26%] I^2=0% K=3	**Mixed** 26% [22-30%] I^2=n/a K=1	6.03	0.0489*
Income of country	**High Income (HIC)** 20% [14-27%] I^2=96% K=7	**Middle Income (MIC)** 21% [15-27%] I^2=n/a K=1	**Low Income (LIC)** K=0	0.03	0.8711

Note. K=number of studies, I^2 = Higgins *=significant

Table 13: Goodness of fit test results for mixed gender samples

	rstudent	dffits	cook.d	cov.r	tau2.del	QE.del	hat	weight	dfb nfs
Ghazali	0.2376	0.0749	0.0056	1.096	0.0099	398.425	0.0896	8.9633	0.0749
Karnick	-0.8973	-0.3171	0.1314	1.4256	0.0129	412.461	0.0968	9.6815	-0.3192
Ribas-Sinol	-1.5551	-0.52	0.3053	1.2413	0.0112	357.218	0.0968	9.6815	-0.5216
Thompson	0.4259	0.1301	0.0168	1.0839	0.0098	401.771	0.0842	8.417	0.1301
Van Damme	-0.8049	-0.2873	0.108	1.427	0.013	412.884	0.0968	9.6815	-0.2893
Plattner	1.0851	0.3506	0.1146	1.0224	0.0092	370.54	0.0896	8.9633	0.3509
Martin	0.5763	0.1956	0.0358	1.0345	0.0092	358.927	0.094	9.3991	0.1954
Robertson	0.8109	0.2789	0.0696	0.9901	0.0088	342.776	0.094	9.3991	0.2785
Wood	2.4426	0.8052	0.5099	0.8582	0.0076	308.44	0.0896	8.9633	0.8076
Duclos	-1.8538	-0.6075	0.371	1.1128	0.0099	318.726	0.0968	9.6815	0.-6076
Ulzen	0.479	0.1335	0.0178	1.0733	0.0098	407.284	0.0717	7.1686	0.1336

Appendix B

Ethical approval from the University of Birmingham.

Dear Dr [redacted]

Re: "A Qualitative Study Exploring Prison Officers' Experiences of Vicarious Trauma"

Application for Ethical Review ERN_17-1606

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

On behalf of the Committee, I confirm that this study now has full ethical approval on the condition that you have the appropriate prison approvals in place prior to the work commencing.

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

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

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

Kind regards,

[redacted]

Aston Webb Building

University of Birmingham

Edgbaston B15 2TT

Tel: [redacted]
Email:

Web: https://intranet.birmingham.ac.uk/finance/RSS/Research-Support-Group/Research-Ethics/Research-Integrity-at-the-University-of-Birmingham.aspx

Appendix C

Ethical approval from HMPPS & NOMS NRC

Alicia King
School of Psychology
University of Birmingham
Birmingham
B15 2TT

HM Prison and Probation Service
National Research Committee
Email: National.Research@NOMS.gsi.gov.uk

09 May 2018

APPROVED SUBJECT TO MODIFICATIONS – HMPPS RESEARCH

Ref: 2018-066
Title: A qualitative study exploring prison officers' experiences of vicarious trauma

Dear Alicia

Further to your application to undertake research across HMPPS, the National Research Committee (NRC) is pleased to grant approval in principle for your research. The Committee has requested the following modifications:

- The methodology should be updated to clearly explain how the sample will be recruited using the POA mailing list. As long as participants are undertaking the research outside of working hours, Governor approval is not required.
- Participants should be asked which prison they currently work in for the purpose of directing them to appropriate support services should they become distressed during the course of the interview. This needs to be set out clearly in the participant information sheet and consent form sections outlining times when confidentiality may be broken.
- Direct quotes included in the final report should not identify any individual.
- Should none of the sample provide examples of experiences of vicarious trauma, the analysis and final report should give consideration to reasons for this. This may be linked to the limitations of the study.
- In the final research reports, the limitations should be clearly set out.

Before the research can commence you must agree formally by email to the NRC (National.Research@NOMS.gsi.gov.uk), confirming that you accept the modifications set out above and will comply with the terms and conditions outlined below and the expectations set out in the HMPPS Research Instruction (https://www.gov.uk/government/organisations/her-majestys-prison-and-probation-service/about/research).

Please note that unless the project is commissioned by MoJ/HMPPS and signed off by Ministers, the decision to grant access to prison establishments, National Probation Service (NPS) divisions or Community Rehabilitation Company (CRC) areas (and the offenders and practitioners within these establishments/divisions/areas) ultimately lies with the Governing Governor/Director of the establishment or the Deputy Director/Chief Executive of the NPS division/CRC area concerned. If establishments/NPS divisions/CRC areas are to be approached as part of the research, a copy of this letter must be attached to the request to prove that the NRC has approved the study in principle. The decision to grant access to existing data lies with the Information Asset Owners (IAOs) for each data source and the researchers should abide by the data sharing conditions stipulated by each IAO.

Please note that a HMPPS/MoJ policy lead may wish to contact you to discuss the findings of your research. If requested, your contact details will be passed on and the policy lead will contact you directly.

Please quote your NRC reference number in all future correspondence.

Yours sincerely,
National Research Committee

Appendix D

Participant information sheet (version 4)

PARTICIPANT INFORMATION SHEET VERSION 4 (10/05/2018)

Title of Project: Qualitative Study Exploring Prison Officers' Experiences of Vicarious Trauma

Researchers: Alicia King (Trainee Clinical Psychologist at the University of Birmingham) & Dr Caroline Oliver (Academic Supervisor at the University of Birmingham)

My name is Alicia King and I am a Trainee Clinical Psychologist. I am completing research at the University of Birmingham and I also work within the NHS. As part of my training, I conduct an original piece of research. I am interested in the role of prison officers and how their job impacts them. I am particularly interested in whether prison officers experience trauma symptoms, as a result of working with offenders who are sometimes victims of trauma themselves or as a result of hearing about the difficult experiences of their colleagues at work.

- What is the purpose of this research?
  The purpose of this research is to explore prison officers' experiences of working within UK prisons. We are particularly interested in how the role impacts your beliefs and thoughts about the world as a result of working with colleagues who may have experienced trauma whilst on the job and with offenders who may have been victims of trauma.

- Why have I been invited to take part?
  You have been invited to take part because you are currently working as a prison officer in a mainstream UK prison. To take part in this research you must meet the following criteria:

  1. You must have completed your probation period as a prison officer and be currently working in a mainstream UK prison. This can include private or public female, male and Young Offenders Institute (YOI) establishments.
  2. You must be able to read and speak English.

  To take part in this research you must <u>not</u> meet any of the following criteria. If you do, you cannot take part:

  1. You must not have worked in any other role with victims of trauma, for example therapist, police officer, nurse, firefighter, member of the armed forces, social worker.
  2. You must not be working in a therapeutic community or in any other therapy roles.

- What will happen to me if I agree to take part?
  If you agree to take part, you will firstly sign an informed consent form stating that you wish to take part. This form will be sent to you in the post with a return stamped addressed envelope. You will need to sign this and send it back to me before you take part in the study.

  Once I have your signed consent form, you will take part in an interview with myself. You have two choices of how to take part.

  Option 1:The interview will take place over the telephone. This will involve me asking you some questions to find out about your experiences of being a prison officer. The interview will last between an hour and an hour and a half. You will be offered a comfort break during the interview.

  The interview will be audio recorded and transcribed by me at a later date. The data will be stored on a password protected laptop which only the researcher has access to. No personally identifiable information e.g. your name will be stored on this laptop. Documents with such information on will be kept in a locked filing cabinet at the University of Birmingham. The data will be confidential, however direct quotes from interviews will be used in the write-up of the research.

  Option 2: You can submit a written response to the interview questions. If you opt for this I will send you the interview questions through the post with another stamped address envelope to send them back to me in, or you can submit your written responses via email. I will supply you with my nhs.net email address which is secure.

  Your written responses will be transcribed by me once I receive them. The data will be stored on a password protected laptop which only I have access to. No personally identifiable information e.g. your name will be stored on this laptop. Documents with such information on will be kept in a locked filing cabinet at the University of Birmingham. The data will be confidential, however direct quotes from interviews will be used in the write-up of the research.

  If, during the interview, you use your name, the name of a prison, a colleague's name or an inmate's name, this will be removed from the transcription to protect identities. If you discuss something during the interview which you later decide you don't want to be written into the research report, you can tell me this after the interview. You have two weeks after the interview or after you have sent your written responses to tell me if you want something removing from the transcription or if you want to withdraw your interview from the project.

If, during the interview, you become distressed or decide you no longer want to take part, you can stop the interview. If you receive the interview questions in the post and decide you no longer want to take part you can do this. You do not need to inform me of this.

If, during the interview, you discuss things which cause me concern about your wellbeing or fitness to practice, or about any historical incidents of risk in the workplace, I may have to break confidentiality and inform my academic supervisor, your GP and/or your employer. This will be done sensitively and to ensure your safety and wellbeing. In order to do, you will be required to inform me of the prison establishment(s) you currently work out. I will only speak to your employer if I have concerns about your wellbeing following the interview.

If you do not want to answer any of the questions in the interview, this is fine – just let me know and we can move onto the next question, or leave written questions blank.

- What will happen if I do not want to carry on with the study?
  Nothing. You can stop the interview at any time. If you withdraw during the interview, your recording will be deleted from the audio recording device.

- Expenses and payments
  You will not receive any payments or rewards for taking part in this study.

- What will happen to the results of the research study?
  The results of the research study will be written up for submission as a research thesis and reviewed by academic staff at the University of Birmingham. A public document will also be written which summarises the findings of the research study. If you wish to receive this, please indicate this on the informed consent form in the relevant box. The results of the research study will also be shared with the Prison Officer's Association and may be published in an academic journal and presented at relevant conferences/seminars.

- What happens if I have any further concerns?
  If you have any further concerns you can ask me questions now. Alternatively, you are welcome to take some time to think about the research study and arrange to speak with me again on an alternative date to complete the interview.

If you would like to discuss any aspect of this research, or are if you are interested in taking part, please contact:

Researcher contact details:

Alicia King

[redacted]

Supervisor contact details:

Dr Caroline Oliver

Course Director for the ForenPsyD

University of Birmingham

[redacted]

Appendix E

Informed consent form (version 3)

CONSENT FORM VERSION 3

Research site: .....

Study Number& Title:.....

Participant Identification Number:.....

CONSENT FORM

Title of Project: Qualitative Study Exploring Prison Officers' Experiences of Vicarious Trauma

Researchers: Alicia King (Trainee Clinical Psychologist at the University of Birmingham) & Dr Caroline Oliver (Academic Supervisor at the University of Birmingham)

Please initial box

1. I confirm that I have understood the information sheet dated ..... (version ...) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time during the research interview, without giving any reason, without my own or my loved one's medical/social care or legal rights being affected. ☐

3. I choose to take part in a verbal interview with the researcher - I understand that the research interview will be audio-recorded. Once transcribed by the researcher, this recording will be saved on a secure University of Birmingham computer for ten years and deleted from the audio recording device; **OR** ☐

4. I choose to take part by submitting written responses to the interview questions to the researcher. Once transcribed by the researcher, this will be saved on a secure University of Birmingham computer for ten years. ☐

5. I understand that following the research interview I will have a two-week period for reflection. The researcher will then contact me at which point I may withdraw my ☐

interview entirely or in part, without giving any reason, without my medical/social care or legal rights being affected.

6. I understand that the data collected during this study will be looked at by the researcher and relevant others at the University of Birmingham to ensure that the analysis is a fair and reasonable representation of the data. Parts of the data may also be made available to the NHS team responsible for me but only if any previously undisclosed issues of risk to my safety should be disclosed. ☐

7. I understand that direct quotes from my interview may be published in any write-up of the data, and used for training purposes, but that my data will remain confidential, my name will not be attributed to any such quotes and that I will not be identifiable by my comments. ☐

8. I understand that parts of this interview may involve talking about sensitive topics or experiences. In the event that I disclose information to the researcher that raises concerns about my historical or current fitness to practice, I understand that the researcher may have to break confidentiality and speak to other researchers from the University of Birmingham, my GP and/or the Prison Officers' Association (POA). ☐

9. For the above reasons, I consent to indicating which prison establishment(s) I currently work in, in order that the correct support may be given to me in my place of employment where required. ☐

10. I would like [redacted] (POA) to provide me with a summary of the research once the project has been completed. ☐

11. I agree to take part in the above study. ☐

.....	.....	.....
Name of participant	Date	Signature

Name(s) of all prison establishments you currently work at:

…….

.....	.....	.....
Name of researcher	Date	Signature

Supervisor contact details:

Dr Caroline Oliver

Chartered Psychologist and Registered Forensic Psychologist

Course Director for the Doctorate in Forensic Psychology Practice (ForenPsyD)

University of Birmingham

[redacted]

Appendix F

Semi-structured interview schedule (version 2) developed for verbal interviews and sent out to participants choosing to take part via written response.

Vicarious Trauma in Prison Officers

Interview Questions (21/02/2018)

1. How long have you been serving as a prison officer?
2. What category of prison have you:
   a) previously worked in?
   b) work in currently?
3. What got you into working as a prison officer?
4. What is it like to work as a prison officer?
   a. *What does the role involve?*
   b. *What are your roles and responsibilities?*
   c. *What is a general day like?*
5. What do you enjoy about your work as a prison officer?
6. What are the more difficult parts to the role?
   a. *Can you tell me about any aspects of the role that have caused you distress?*
   b. *What is it like to work closely with colleagues who have had difficult experiences on the job?*
   c. *What is it like to work closely with offenders who have been victims of crime themselves?*
7. How do you deal with these more difficult aspects of the role?
   a. *At work*
   b. *At home*
   c. *Self-care, interests, activities*
   d. *Support, therapy, colleagues, external organisations*
8. How has working as a prison officer impacted/changed you?
   a. *Professionally*
   b. *Personally*

Appendix G

Debrief sheet (version 2) read out to participants at the end of verbal interviews and emailed to both sets of participants after participation.

DEBRIEF SHEET VERSION 2 (16/02/2018)

Title of Project: Qualitative Study Exploring Prison Officers' Experiences of Vicarious Trauma

Researchers: Alicia King (Trainee Clinical Psychologist at the University of Birmingham) & Dr Caroline Oliver (Academic Supervisor at the University of Birmingham)

I would like to thank you for taking part in this research project. I have provided some information below about the aims of this research project and what happens next.

Aims

This research aims to explore the experiences of Prison Officers working in UK prisons. Specifically, we are interested in whether Prison Officers experience 'vicarious trauma'. Vicarious trauma can occur when a professional works closely with victims of trauma, for example victims of abuse, violence and/or crime. This experience can have a negative impact on professionals, and when it occurs over a long period of time, can affect the way professionals thinks and feel about themselves, other people and the world around them.

Research shows that many professionals experience vicarious trauma including nurses, social workers, emergency services personnel and therapists. There is less research on whether prison officers experience vicarious trauma. I therefore hope that this research will add to our understanding of whether Prison Officers experience vicarious trauma. This will help organisations to provide appropriate support to protect the wellbeing of Prison Officers' and the services they deliver.

What happens next?

You can tell me now if there are any parts of your interview that you want removing from the research project. You also have two weeks from today to tell me if there are any additional parts of your interview you want removing from the research project.

I will assign a fake name to your interview answers instead of your real name. I will transcribe your interview answers. The transcribed data will be stored on a secure and password

protected computer at the University of Birmingham. Direct quotes will be used in the write-up of the project but will remain confidential.

Available support

You may have found parts of this interview challenging or distressing. I have provided the details of some organisations which can offer support. Additionally, we can talk together about this now if you so wish.

Prison Officer's Association

The Professional Trades Union for Prison, Correctional and Secure Psychiatric Workers

Stress & Support Counselling Phone Line

Telephone number: 0800 107 6568

Website: http://www.poauk.org.uk/index.php?aid=2

Samaritans UK

Telephone number: 116 123

Email: jo@samaritans.org

Website: https://www.samaritans.org/

MIND

Telephone: 0300 123 3393

Text: 86463

Website: https://www.mind.org.uk/

Supervisor contact details:

Dr Caroline Oliver

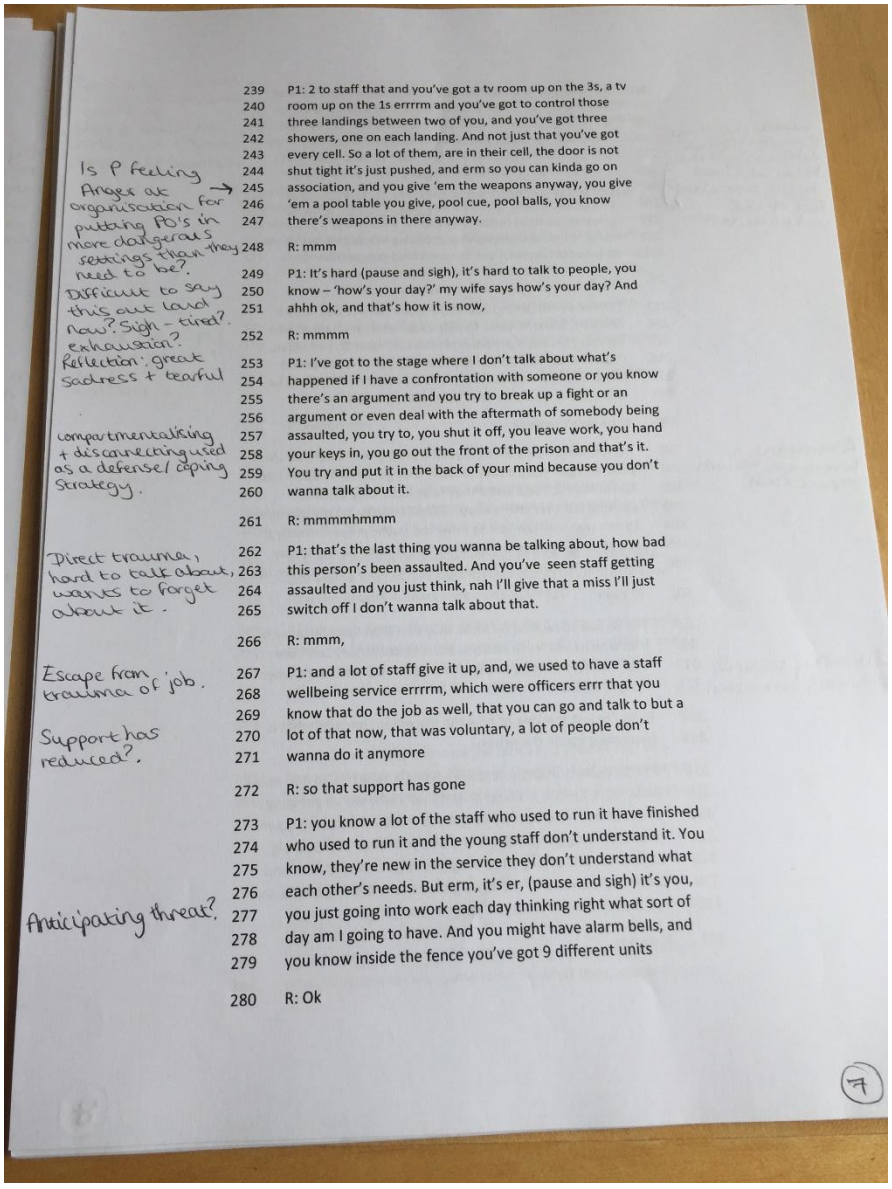
Chartered Psychologist and Registered Forensic Psychologist

Course Director for the Doctorate in Forensic Psychology Practice (ForenPsyD)

University of Birmingham

Appendix H

Example transcript from participant 1 to demonstrate stage 1 (initial thoughts and reflections) of IPA process.



239 P1: 2 to staff that and you've got a tv room up on the 3s, a tv
240 room up on the 1s errrrm and you've got to control those
241 three landings between two of you, and you've got three
242 showers, one on each landing. And not just that you've got
243 every cell. So a lot of them, are in their cell, the door is not
244 shut tight it's just pushed, and erm so you can kinda go on
245 association, and you give 'em the weapons anyway, you give
246 'em a pool table you give, pool cue, pool balls, you know
247 there's weapons in there anyway.

248 R: mmm

249 P1: It's hard (pause and sigh), it's hard to talk to people, you
250 know – 'how's your day?' my wife says how's your day? And
251 ahhh ok, and that's how it is now,

252 R: mmmm

253 P1: I've got to the stage where I don't talk about what's
254 happened if I have a confrontation with someone or you know
255 there's an argument and you try to break up a fight or an
256 argument or even deal with the aftermath of somebody being
257 assaulted, you try to, you shut it off, you leave work, you hand
258 your keys in, you go out the front of the prison and that's it.
259 You try and put it in the back of your mind because you don't
260 wanna talk about it.

261 R: mmmmhmmm

262 P1: that's the last thing you wanna be talking about, how bad
263 this person's been assaulted. And you've seen staff getting
264 assaulted and you just think, nah I'll give that a miss I'll just
265 switch off I don't wanna talk about that.

266 R: mmm,

267 P1: and a lot of staff give it up, and, we used to have a staff
268 wellbeing service errrrm, which were officers errr that you
269 know that do the job as well, that you can go and talk to but a
270 lot of that now, that was voluntary, a lot of people don't
271 wanna do it anymore

272 R: so that support has gone

273 P1: you know a lot of the staff who used to run it have finished
274 who used to run it and the young staff don't understand it. You
275 know, they're new in the service they don't understand what
276 each other's needs. But erm, it's er, (pause and sigh) it's you,
277 you just going into work each day thinking right what sort of
278 day am I going to have. And you might have alarm bells, and
279 you know inside the fence you've got 9 different units

280 R: Ok

Is P feeling Anger at organisation for putting PO's in more dangerous settings than they need to be?

Difficult to say this out loud now? Sigh – tired? exhaustion? Reflection: great sadness + tearful

compartmentalising + disconnecting used as a defense/coping strategy.

Direct trauma, hard to talk about, wants to forget about it.

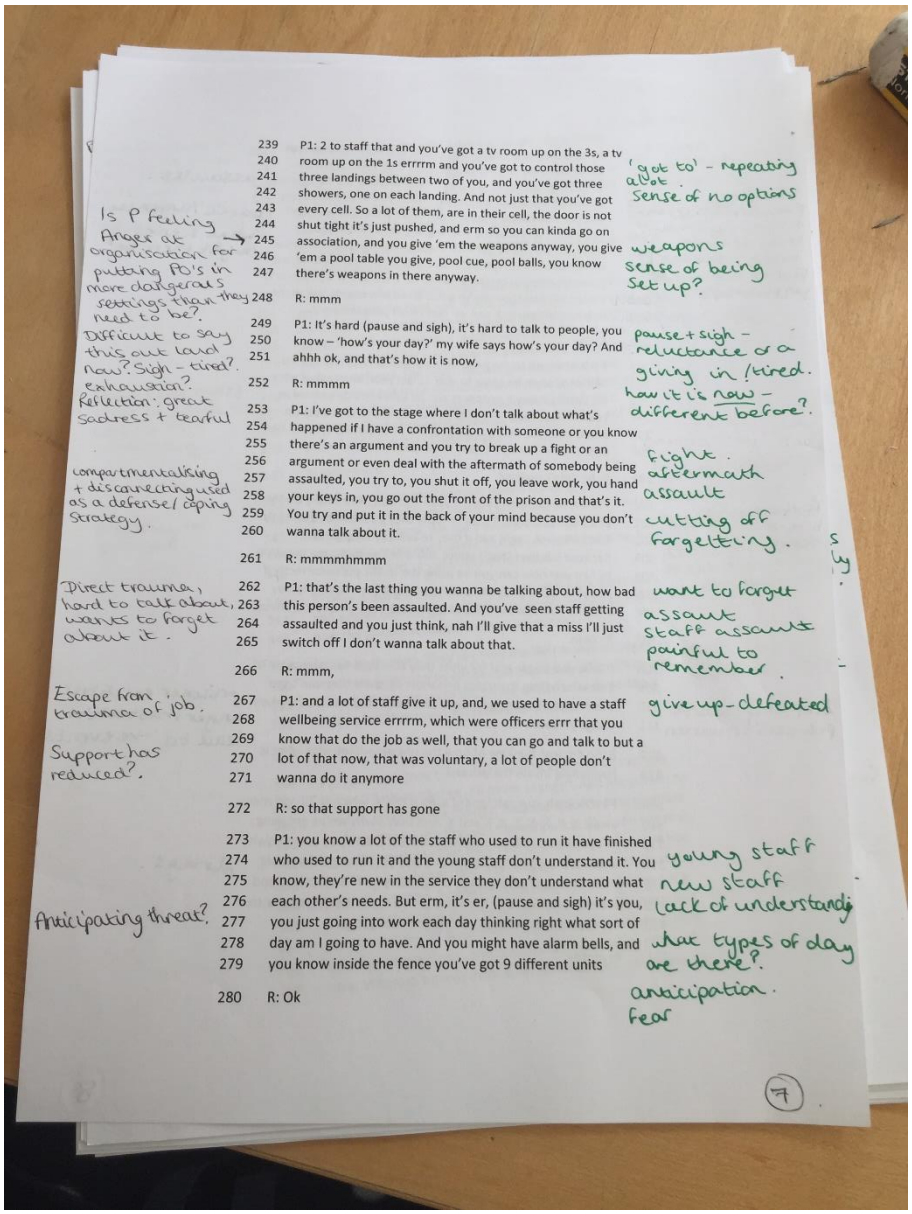
Escape from trauma of job.

Support has reduced?

Anticipating threat?

Appendix I

Example transcript from participant 1 to demonstrate stage 2 (coding) of IPA process.



239 P1: 2 to staff that and you've got a tv room up on the 3s, a tv
240 room up on the 1s errrrm and you've got to control those
241 three landings between two of you, and you've got three
242 showers, one on each landing. And not just that you've got
243 every cell. So a lot of them, are in their cell, the door is not
244 shut tight it's just pushed, and erm so you can kinda go on
245 association, and you give 'em the weapons anyway, you give
246 'em a pool table you give, pool cue, pool balls, you know
247 there's weapons in there anyway.

248 R: mmm

249 P1: It's hard (pause and sigh), it's hard to talk to people, you
250 know – 'how's your day?' my wife says how's your day? And
251 ahhh ok, and that's how it is now,

252 R: mmmm

253 P1: I've got to the stage where I don't talk about what's
254 happened if I have a confrontation with someone or you know
255 there's an argument and you try to break up a fight or an
256 argument or even deal with the aftermath of somebody being
257 assaulted, you try to, you shut it off, you leave work, you hand
258 your keys in, you go out the front of the prison and that's it.
259 You try and put it in the back of your mind because you don't
260 wanna talk about it.

261 R: mmmmhmmm

262 P1: that's the last thing you wanna be talking about, how bad
263 this person's been assaulted. And you've seen staff getting
264 assaulted and you just think, nah I'll give that a miss I'll just
265 switch off I don't wanna talk about that.

266 R: mmm,

267 P1: and a lot of staff give it up, and, we used to have a staff
268 wellbeing service errrrm, which were officers errr that you
269 know that do the job as well, that you can go and talk to but a
270 lot of that now, that was voluntary, a lot of people don't
271 wanna do it anymore

272 R: so that support has gone

273 P1: you know a lot of the staff who used to run it have finished
274 who used to run it and the young staff don't understand it. You
275 know, they're new in the service they don't understand what
276 each other's needs. But erm, it's er, (pause and sigh) it's you,
277 you just going into work each day thinking right what sort of
278 day am I going to have. And you might have alarm bells, and
279 you know inside the fence you've got 9 different units

280 R: Ok

Is P feeling Anger at organisation for putting PO's in more dangerous settings than they need to be?

Difficult to say this out loud now? Sigh – tired? exhaustion? Reflection: great sadness + tearful

compartmentalising + disconnecting used as a defense/coping strategy.

Direct trauma, hard to talk about, wants to forget about it.

Escape from trauma of job.

Support has reduced?

Anticipating threat?

'got to' – repeating about. Sense of no options

weapons sense of being set up?

pause + sigh – reluctance or a giving in / tired.

how it is now – different before?

fight. aftermath assault

cutting off forgetting.

want to forget assault staff assault painful to remember.

give up – defeated

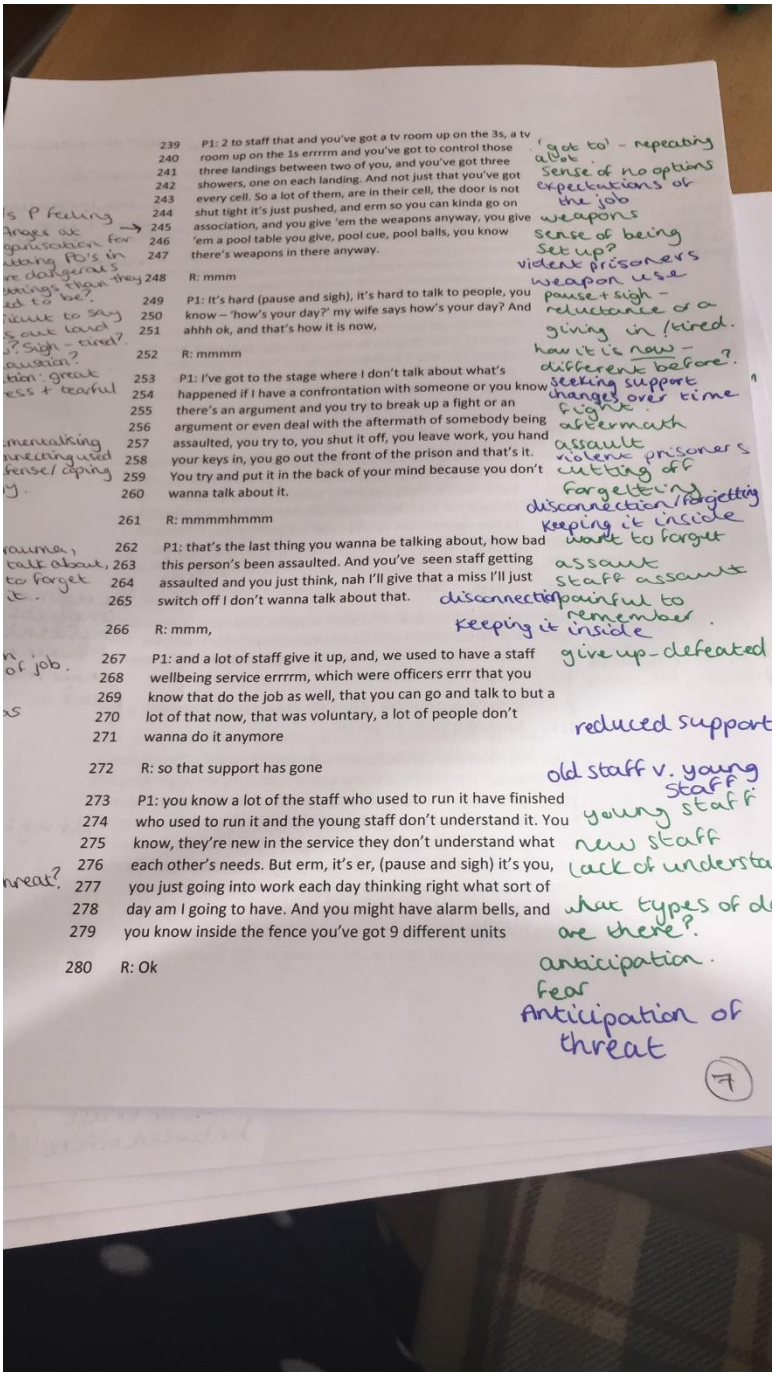
young staff new staff lack of understandi

what types of day are there?

anticipation. fear

Appendix J

Example transcript from participant 1 to demonstrate stage 3 (themes) of IPA process.

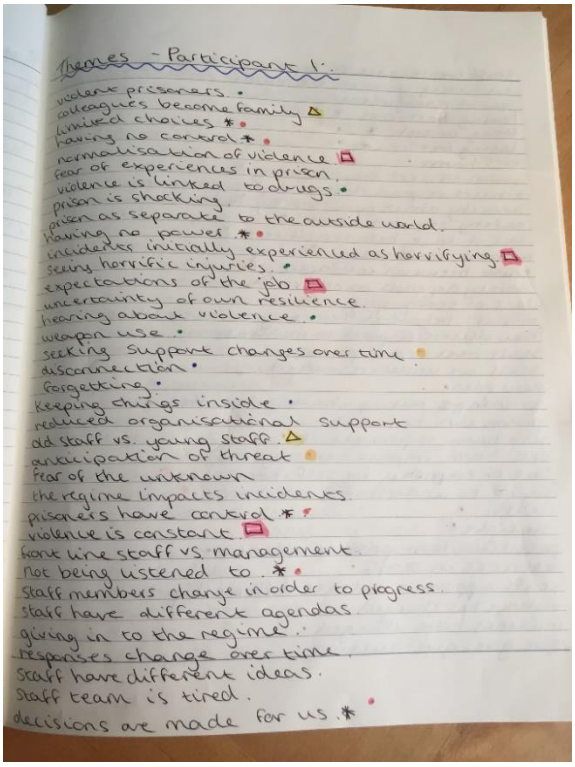


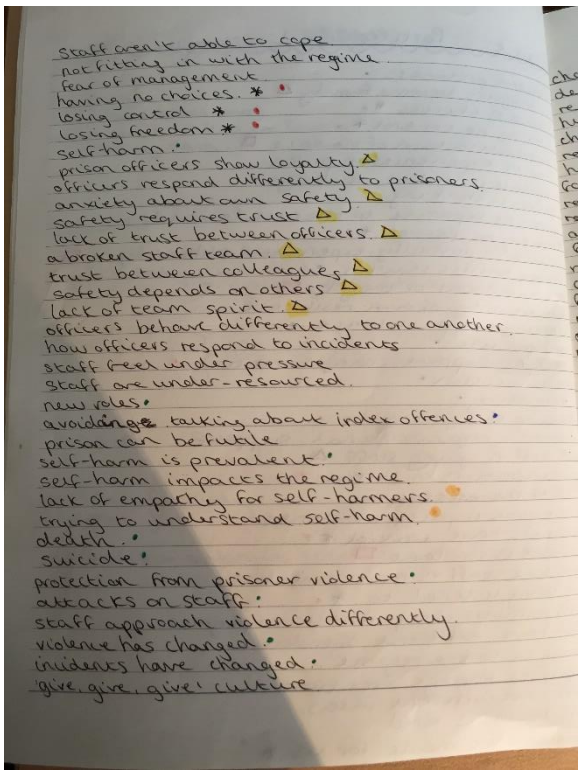
239 P1: 2 to staff that and you've got a tv room up on the 3s, a tv
240 room up on the 1s errrrm and you've got to control those
241 three landings between two of you, and you've got three
242 showers, one on each landing. And not just that you've got
243 every cell. So a lot of them, are in their cell, the door is not
244 shut tight it's just pushed, and erm so you can kinda go on
245 association, and you give 'em the weapons anyway, you give
246 'em a pool table you give, pool cue, pool balls, you know
247 there's weapons in there anyway.
248 R: mmm
249 P1: It's hard (pause and sigh), it's hard to talk to people, you
250 know – 'how's your day?' my wife says how's your day? And
251 ahhh ok, and that's how it is now,
252 R: mmmm
253 P1: I've got to the stage where I don't talk about what's
254 happened if I have a confrontation with someone or you know
255 there's an argument and you try to break up a fight or an
256 argument or even deal with the aftermath of somebody being
257 assaulted, you try to, you shut it off, you leave work, you hand
258 your keys in, you go out the front of the prison and that's it.
259 You try and put it in the back of your mind because you don't
260 wanna talk about it.
261 R: mmmmhmmm
262 P1: that's the last thing you wanna be talking about, how bad
263 this person's been assaulted. And you've seen staff getting
264 assaulted and you just think, nah I'll give that a miss I'll just
265 switch off I don't wanna talk about that.
266 R: mmm,
267 P1: and a lot of staff give it up, and, we used to have a staff
268 wellbeing service errrrm, which were officers errr that you
269 know that do the job as well, that you can go and talk to but a
270 lot of that now, that was voluntary, a lot of people don't
271 wanna do it anymore
272 R: so that support has gone
273 P1: you know a lot of the staff who used to run it have finished
274 who used to run it and the young staff don't understand it. You
275 know, they're new in the service they don't understand what
276 each other's needs. But erm, it's er, (pause and sigh) it's you,
277 you just going into work each day thinking right what sort of
278 day am I going to have. And you might have alarm bells, and
279 you know inside the fence you've got 9 different units
280 R: Ok

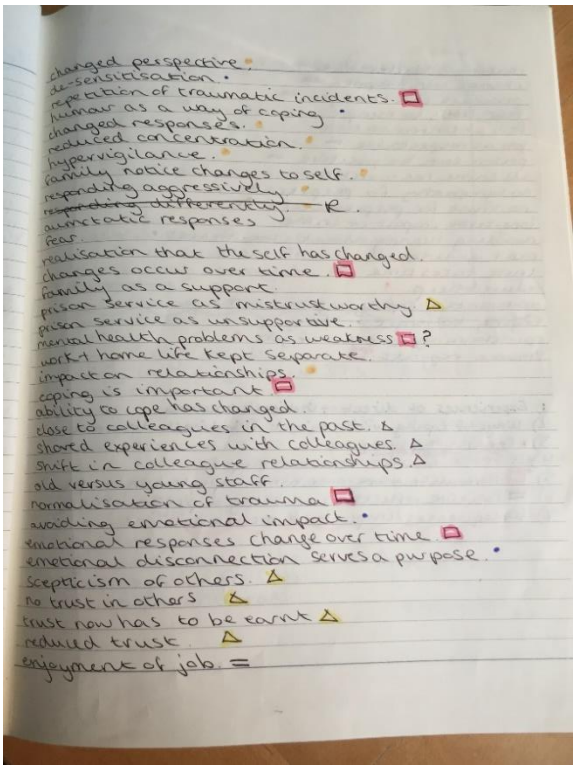
'got to' – repeating
sense of no options
expectations of the job
weapons
sense of being set up?
violent prisoners
weapon use
pause + sigh – reluctance or a giving in / tired.
how it is now – different before?
seeking support
changes over time
fight
aftermath
assault
violent prisoners
cutting off
forgetting
disconnection / forgetting
keeping it inside
want to forget
assault
staff assaults
disconnection
painful to remember
keeping it inside
give up – defeated
reduced support
old staff v. young staff
young staff
new staff
lack of understa
what types of d
are there?
anticipation
fear
Anticipation of threat
7

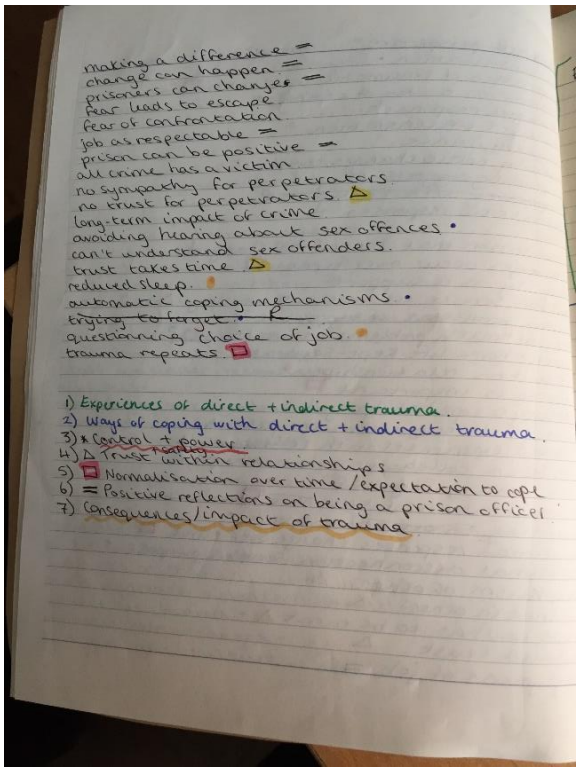
Appendix K

Example transcript from participant 1 to demonstrate the colour and symbol coding used to group connected emergent themes together.



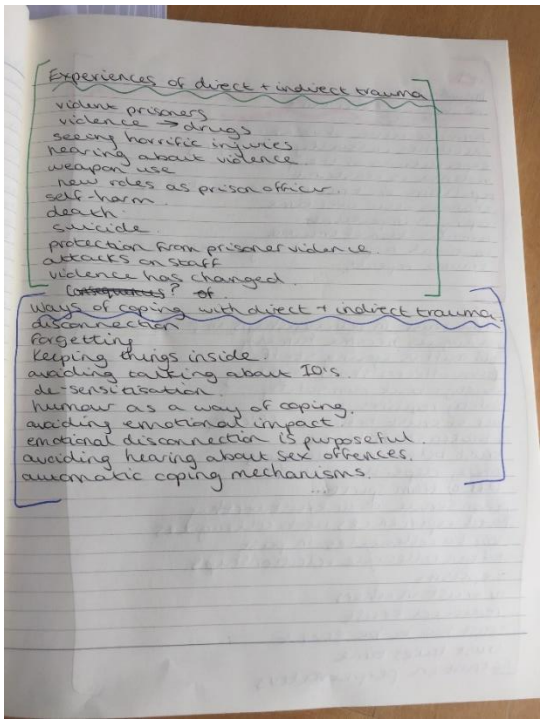


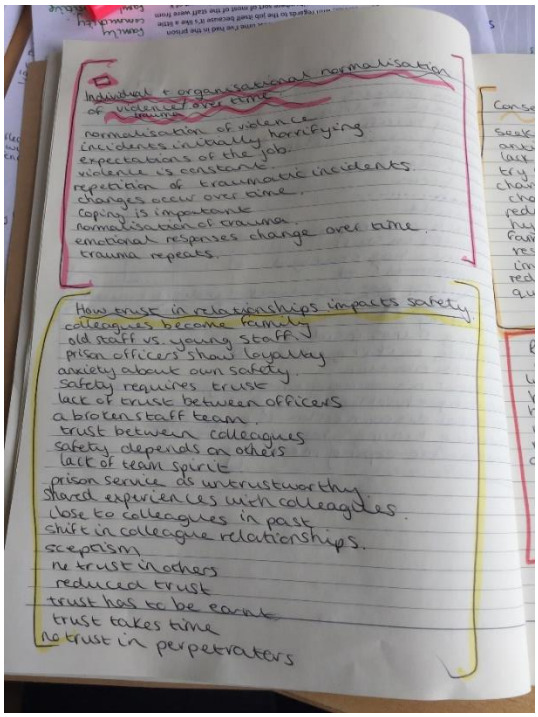


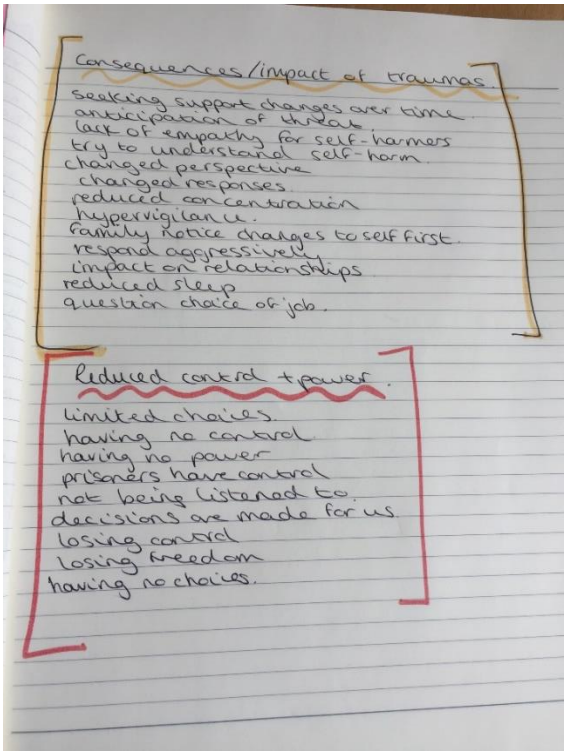


Appendix L

Example from participant 1 to demonstrate the grouping of emergent themes into superordinate themes.







Appendix M

Table of master themes, subthemes, contributing participants and quotes.

Table 7: Master themes, subthemes, contributing participants, quotes & line numbers	
1. Experiences of direct and indirect trauma	
1.1 Witnessing self-harm/suicide	
Contributing participants: Graham, Peter, Katie, Hayley & Jack	
Graham: 'Yeah you don't think about it, I suppose the one with the guy on the bed who'd cut his arms and almost bled out in the cell, that, I didn't sleep for weeks after that. That was a struggle, because I think that was the first one, serious one, that I'd ever come across. That was probably the worst. I had never seen blood like that because he'd covered himself with hot water out of the sink tap in the cell so he got his blood thinned so it was flowing quicker, when he took the tourniquet off and bled out, arrrrgghhh, yeah that was, that was a hell of a mess that was'.	Line 1471-1479
Katie: 'We literally looked away for about two minutes and the guy ligatured up. And thankfully the governor was there so I said you've got to come now; we've got to open this door. So, I cut him down and then whacked him in the recovery position and thank god, opened his airway, and he started breathing and got hotel and radioed, oh mate'.	Line 159-165
1.2 Witnessing violence	
Contributing participants: Graham, Peter, Katie, Hayley & Jack	
Hayley: 'I was punched in my face and my nose was broken and I had the question of whether or not I would have a straight nose and whether or not my facial features would be changed from it'.	Line 239-242
Katie: 'I had, I was down the landings and I'm getting, no that landing had been cleared by that point, and I just heard a noise up on the three's and there were two officers and a prisoner there, well I saw one officer, and I was just coming through the prisoner cell door and I ran down there to the prisoner, put him in a straight arm lock, my colleague had the other arm and I watched my colleague, who is now no longer in the job because the assault took him off, come crawling out onto the prisoner, and his face, I've never seen anything like it. It was just battered'.	Line 289-300
Graham: 'That was what they used to power our radios, it was a 9V battery, it lasted longer and that was one of them in a sock was their weapon of choice, or a table leg. Or pool balls in a sock, things like that; anything they could swing. And this poor boy was attacked with those types of weapons. He had like 180 stitches from the top of his head right across from the left hand-side to the top corner and it was just, pfffft, maybe quarter of an inch wide at the centre and it's something that I've never spoke about, the walls and the ceiling, and that was probably my first ever assault in prison and I'd been there about eight months'.	Line 210-221
Jack: 'There's one fella that got cut down on his cheek, on his beard line. I do talk about that one quite a bit because it's the biggest cut I've ever seen…no somebody did that to him, they just ran up and cut him right down his face. And it was virtually the full length of his beard line, and you can put your fingernail in it. It was massive'.	Line 296-304
1.3 Hearing about the trauma of others	

Contributing participants: Graham, Peter, Katie, Hayley & Jack	
Hayley: 'But anyway, this girl (pause) the stuff she was disclosing in a state of psychosis (pause). Erm she had gone into psychosis and he stuff she was saying (pause) I think will stay with me for the rest of my life. Because (pause) for her when we were restraining her for her safety and our safety, she was reliving abuse in that state of psychosis. And (pause) how do you sort of live with yourself when you're causing someone pain and they think that you are somebody who is raping them?'	Line 324-331
Hayley: 'You don't, what they're telling you about this abuse of drugs and this abuse they've been through and the trauma they've been through and people telling you they've been shot – stuff like that you don't actually let go in, so you're not like, you know, but it does (pause) it does go in on some level'.	Line 442-447
Katie: 'I think for me, the hardest time for me were the X years at HMP X because that was female and I had more of an affinity with the women because of their circumstances that some of them were in there. They'd been put on the game or they were raped or you know buggered, whatever those are the hardest, they were the hardest to deal with I think'.	Line 377-382
Peter: 'I heard horrific stories of prisoners on the vulnerable prisoners' unit. I read letter to family and victims. I'd be on the wing listening to them, it's horrendous, talking about what they want to do to people. There was one prisoner, I listened to his calls and it became apparent that he was a dangerous prisoner. He was on the phone to someone and he was telling her how he wanted to rape and pour bleach on her'.	Line 412-419
Graham: 'So, I think, my argument is that there's a victim of every crime and coming to prison doesn't mean that victim is, you know, is happy. You know, they may have to live with the trauma of whatever happened to them for the rest of their life. There's not enough for the victim but they talk about pumping money into prisons to rehabilitate prisoners, but the victim doesn't get anything. No nothing'.	Line 1335-1341
2. Ways of coping	
2.1 Avoidance	
Contributing participants: Graham, Peter, Katie, Hayley & Jack	
Graham: 'I've got to the stage where I don't want to talk about what's happened if I have a confrontation with someone or you know, there's an argument and try and break up a fight or an argument or even deal with the aftermath of somebody being assaulted, you try to, you shut it off, you leave work, you hand your keys in, you go out the front of the prison, and that's it. You try and put it in the back of your mind because you don't want to talk about it.'	Line 253-260
Katie: 'No because I don't think about it, I don't think about it because that, I've learnt over the years unless you have a specifically bad day, that when you put your keys in the shute, well it's not a shute anymore but, work's done. I switch off'.	Line 754-758
Hayley: 'And I can't, I just, it makes me feel really sad sometimes. I just don't want to; I just don't want to know sometimes. Erm, things like that because it's just too sad to hear and think about'.	Line 355-358
Jack: 'For me, I went through a period of time where I was finding lots of people hanging and lot of people committing self-harm. And you can only deal with that so many times before you just get annoyed'.	Line 270-273
Jack: 'I think with me it's more anger as opposed to not, as opposed to like crying at home. I can get angry.'	Line 805-807

Hayley: 'This is actually where I kind of, the bravado of a prison officer is to dust yourself off and get on with it, because we are harder, and we will never let them get the better of us; we won't lose'.	Line 244-247
2.2 Adaptive coping	
Contributing participants: Peter, Katie, Hayley & Jack	
Peter: 'My wife works in mental health, so I know I get support from my wife and she gets it from me. There's actually high divorce rates in prison officers because of what they've been through and they can't talk to their partners about it'.	Line 160-63
Katie: 'A very lovely hobby…I've been doing it for four years, and it's wonderful because as soon as you dance you forget everything'. 'It's easier to speak to, you know my mate who is now out of the job, if I need to let off steam, I can just give her a ring. There's nobody better to talk to than somebody who knows what you've gone through'.	Line 228 Line 480-483
Hayley: I have a very good, strong friendship group of prison officers and we would leave for coffee and lunch, and you know if you're talking it, it just, I don't know, I don't know if it's just me but I really feel like it's my way of putting things straight in my head, by talking it out, erm, it also puts it straight, makes you see things a bit differently'.	Line 598-604
Jack: 'I might go down the gym, if I can get rid of some of my anger and frustration down there. As you've probably heard I've got a couple of dogs; I go and sort of walk them I throw sticks, I fight with them'.	Line 776-781
2.3 De-sensitisation	
Contributing participants: Graham, Peter, Katie, Hayley & Jack	
Graham: 'I see things differently. I (pause) to be honest (pause) a lot of (pause) when we talk about it like, the people I work with who have been in it for years, you say, not get used to it, you never get used to the assaults and suicide attempts and that but you just react differently. So you don't panic as much because you've seen it so many times now, you just think, a lot of the, if someone's cut themselves, you know, if he's going to cut across his forearm, he ain't trying to kill himself; it's an attempt for attention or help. If it's from his wrist up to his elbow, the inside o his forearm, you know he's trying to kill himself. Because that's, you know, we had a lad who cut his throat open and stabbed himself in the stomach. It's just, I don't know, you've got to, we always say we've got a sick sense of humour. You don't react like you would have years ago to a serious incident'.	Line 780-794
Peter: 'Nothing would shock me now, I'm so de-sensitised. I've heard so many and seen so many shocking things'.	Line 173-175
Katie: 'Oh god yeah, my adrenaline doesn't kick in half as much as it used to. I think because I'm so used to it now'. '(sighs) I think I don't know. The more you see it, the more you know you just deal with it. I dunno, it's a hard one to say you know because I've seen everything; slashings, jagging's, the lots. I dunno, I think you become de-sensitised to it, you see it that much it just becomes the norm'.	Line 329-331 Line 177-181
Hayley: 'Erm, as I say sometimes, you're so de-sensitised that it's just another person telling you that they've been raped, it's just another you've heard it and heard it'.	Line 315-317
Jack: 'I've seen sort of cuts, wounds, hangings, up to now I can't think of, none of them have actually bothered me. They've built up over time but there's not one where I can say, that was absolutely horrible. I've seen someone eat their own poo. That was pretty disgusting. That sticks in my mind that one. More because I just think it's disgusting'.	Line 332-338
2.4 Activation of the threat system	

Contributing participants: Graham, Peter, Katie, Hayley & Jack	
Graham: 'It does make you think. When you're not in work you should be doing something different. Like, when I do go shopping, I'm looking round more, I reckon, but my wife she thinks I'm not listening to her. I do try but I'm also conscious of what's around me. Because I see things happen at work, in a split second, you've got to be, you know, somebody's attacked you'.	Line 826-832.
Peter: 'You're always thinking it could be you. Always on your guard and feeling under attack. It brings up other things that have happened to me. You need to be strong enough. You think, it could be you just around the corner. I often go into work thinking "oh, what's going to happen'.	Line 301-305
Katie: 'God, you just look at people differently, you're very aware. I dunno, I'm just a lot more alert going out and doing things. Yes, definitely'.	Line 349-351
Hayley: ''I definitely feel like a more sensitive person outside of work. I became quite alert about things'.	Line 287-288
Jack: 'Yeah, I mean if somebody has been punched, something violent, then it makes me concerned or worried then that it can happen to me, because it's a reminder of what can happen. So, when you speak to people at work about things like that it can make you on edge, and it makes you kind of worried, makes you scared about that could happen to me, or I never really looked at it like that, or wow that can really happen'.	Line 478-485
Graham: 'Erm, I'm more untrustworthy with people outside of work, my wife would say. I don't trust anyone until they can prove that I can trust them…yeah, oh definitely, and even friends, friends, certain people who I get to know. My wife will trust any of them until something happens and I'm the opposite…I got to be proven that I can trust them. To be honest, nearly every occasion I've been proven right'….'I think that honestly, it's just because of the job, because of the people I deal with day in and day out, you don't trust them until you can see that their trustworthy'.	Line 1144-1162
Katie: 'I think also, slightly cynical of people or, I dunno, distrusting, it's hard to describe'…'a bit more wary of things you wouldn't normally be I think'…'the crimes that are committed and the fact that you're engaging with prisoners who do what they do, and you know, obviously talk to you about it and stuff like that, and you just think, (pause), I dunno, you just become a little bit more aware or suspicious of people that you probably shouldn't be if that makes sense?'	Line 353-364
3. Normalisation of trauma	
3.1 Trauma as a cycle	
Contributing participants: Graham, Hayley & Jack	
Graham: 'Yeah, I suppose when you look back, I suppose there is. See, every day there's an incident, every day. Whether you're directly involved or indirectly involved. If there's something on a wing, an alarm bell is called, then staff attend.	Line 956-959
Hayley: 'There's somebody new causing you problems, there's been another alarm, yeah, there's just something else you know? That was last week's problem that was bothering you. You just, you try to forget about it and then just get on with the work and you're too busy with something new that's upsetting you. You're thinking about that one, you're not thinking about the other incident that's happened'.	Line 395-401
Jack: 'I suppose the only, it would enhance the cynical side of you or the miserable side to you because you just go, it's another person, another officer, another friend whose just been treated like this. Or, bloody hell, they really can stoop to a new level'.	Line 730-734

3.2 Expectation to cope	
Contributing participants: Graham, Katie, Hayley & Jack	
Graham: 'It's just (sighs), it's harder to explain when you don't want to talk about it. Well, you try not to talk about it because you don't want anyone else to think you can't cope'.	Line 897-900
Graham: 'So, you've got no healthcare, so it means you have to deal with any suicide attempts or any serious self-harm issues, you've got to deal with them on a daily basis. You don't think about it anymore. It's just part of the job.	Line 1466-1469
Katie: 'We have a lot of new staff who aren't coping, shall we say. And (sighs) like I always say, the job isn't for everyone. And I've seen over the years staff frazzle out of the job because they can't cope with it. Better they go, better they leave than stay because they'll only, it'll only get worse, it won't get better'.	Line 650-655
Hayley: 'This is actually where I kind of, the bravado of a prison officer is to dust yourself off and get on with it, because we are harder and we will never let them get the better of us, we won't lose'.	Line 244-247
Jack: 'Personally, I was more annoyed at how I was being treated by the management because, well, I thought ok, I'll give this a go – I'll say I'm finding this hard; I'm struggling with this and I'll see what they're going to do. And there is nothing. It's just this kind of blank, dumb expression and I got fed up of hearing "it's part of being a prison officer, it's part of the job, get on with it; if you can't deal with it, you know where the door is"'. 'So, I think sometimes, I don't think it's the violence or the fact that you've seen somebody hanging that upsets you, it's how you're expected to get on with it, deal with it by the management. So, it makes you angry. Because you think, well actually, I just need to go and sit down for half an hour because I've just found someone purple, blue, red-faced because he's been choking for the last half an hour and now he's dead. I just want to go and get that out of my head or go for a walk. And they're like, oh, no you can't go anywhere, get back on the landings, it's only another one, shut up, get on with it'.	Line 273-280 Line 742-752
4. Empathic connection with prisoners	
4.1 Impact of gender	
Contributing participants: Katie & Hayley	
Katie: 'I think for me, the hardest times for me were the X years at HMP X because that was female, and I had more of an affinity with the women because of their circumstances that some of them were in there. They'd been put on the game or they were raped, or you know buggered, whatever those are the hardest, they were the hardest to deal with, I think… You've got people (women) in there for manslaughter and murder because they stuck a knife in their husband because of 25 years of being abused, so you know, that's different'.	Line 377-389
Hayley: 'Ok, so from my experience the vast majority of female prisoners have been through the worst trauma you could believe. You wouldn't even be able to get your head around what they've been through in their life, and they have then turned to substance use as a way of coping and that has then led them into some sort of crime to feed the substance misuse problem. The, yeah you know, it's led them to their offending behaviour. Erm, I've definitely been more affected by what I have seen of female prisoners than male prisoners because (pause) they're more forward with what they've been through, they're more upfront in telling you'.	Line 298-308

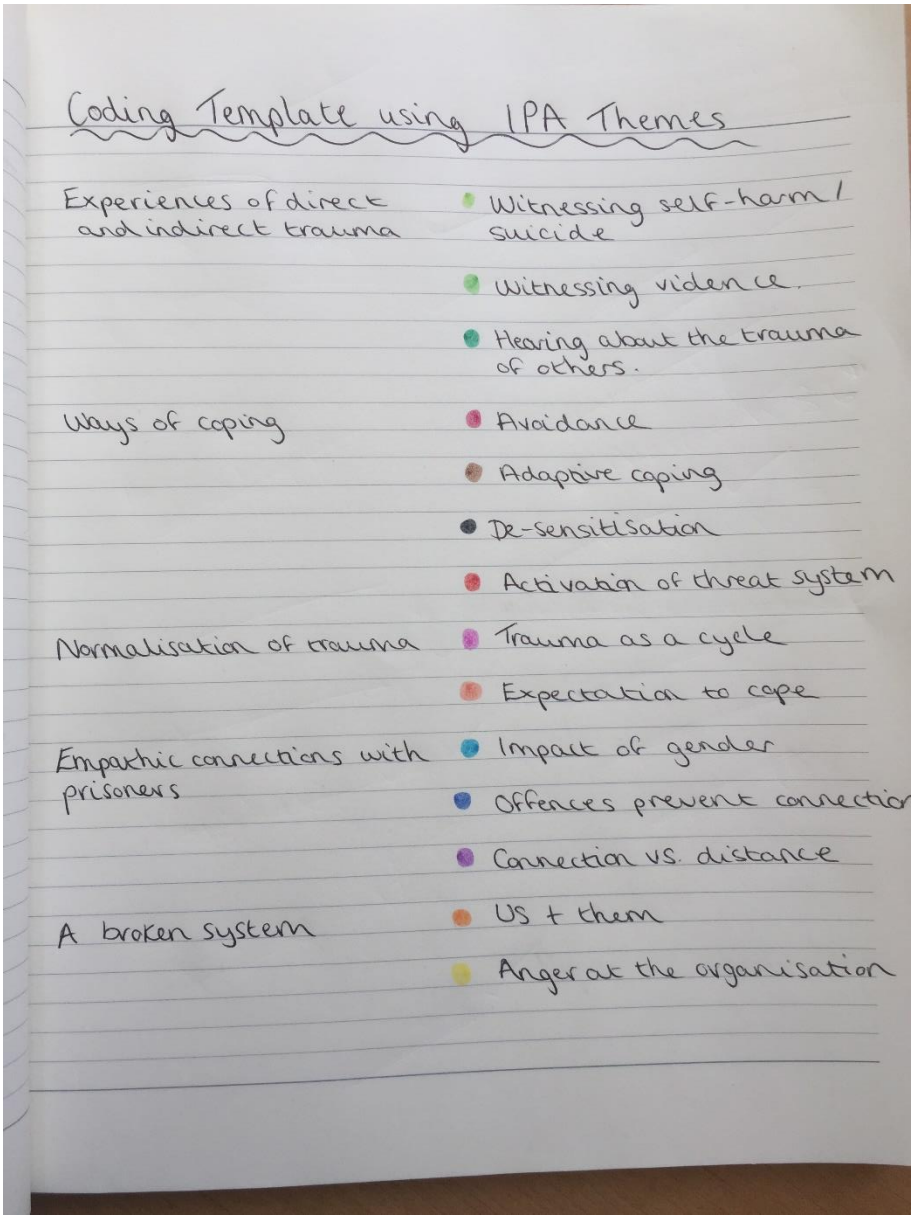
Katie: 'But with the guys, I don't really, because most of them are there because of their own sort of stupidity or fast money or whatever and they knew exactly what they were doing, so it was different'.	Line 384-386
4.2 Impact of offenses	
Contributing participants: Graham, Peter, Katie & Jack	
Graham: 'Yeah, definitely. Definitely. Because I would (pause) when I was at HMP X I ended up working on the sex offender's wing. And that's got to be the worst place you could ever be. Because they talk about what they've done as if they're talking about a football match you've both gone and watched. Their mentality about what, what they think and what they've done. They don't see it as if they've done anything wrong. Because to them it's ok'.	Line 1344-1353
Katie: 'But with the guys, I don't really, because most of them are there because of their own sort of stupidity or fast money or whatever and they knew exactly what they were doing, so it was different'.	Line 384-386
Peter: 'I don't really care about what's happened to them. I heard horrific stories of prisoners on the vulnerable prisoners' unit. I read letters to family and victims. I'd be on the wing listening to them, it's horrendous, talking about what they want to do to people. There was one prisoner, I listened to his calls and it became apparent that he was a dangerous prisoner. He was on the phone to someone and he was telling her how he wanted to rape and pour bleach on her'.	Line 412-419
Jack: 'Erm, I don't think it's changed how I viewed them, I might treat them differently. But the majority of prisoners will just turn around and say I've only done that because it's happened to me, or that's the only choice I've got because this happened, so that can just wind you up because it's not justification or a reason is it for you doing something bad, because you had something bad done to you. So, I think although you get more of an understanding of what they're going through, it can make you look at them worse because you, you're just blaming that other person or that thing that happened, you're using it to justify what you've done. And that, to me, is just weak and pathetic'.	Line 649-660
4.3 Connection versus distance	
Contributing participants: Graham, Peter, Hayley, Katie & Jack	
Peter: 'Sometimes, when I'm listening to people talking, I'm thinking, oh god you've got nothing to worry about, you know, some of the things I've had to deal with and the prisoners have had to go through in their lives, and the abuse they've gone through, and you think, you've got nothing to worry about'.	Line 541-546
Katie: 'Because they make an impact don't they? You have, you spend time with them, you talk to them, you interact with them, you help them, and with the women, yeah. There are prisoners now that I think of and I wonder what they're doing or whatever and hope they're ok'.	Line 797-801
Hayley: 'And I, I dunno, I at one point, because she had plastered her cell wall with faeces and urine, and the heat, because it's causing a lot of heat then, I had offered her a glass of water because I could just see this human being in front of me was just distressed and uncomfortable and I offered her a glass of water; she couldn't grasp that like, she couldn't even (pause), erm, nobody should go through that. Nobody (long pause). Nobody should go through that'.	Line 336-344
Graham: 'Yeah, I used to, certain things (pause) I got some emotional feelings for certain things that happened, or I get told you know, and then sometimes you think to yourself, well just don't do it'.	Line 1083-1086

Hayley: 'I just think (pause) I have to try and forget about them. I don't know, it's just like, it's de-sensitised you, you kind of just have to. I don't know like (pause) you actually can't take it in sometimes. I think you protect yourself, before you let it, you don't let it affect you because you put that mental block up before, like so I'm not even taking it in'.	Line 431-437
Jack: 'Sometimes I think that's quite funny. Because if you've got a prisoner who is in for burglary and then they get told that their flat or car has been stolen I think that's quite funny, a bit of payback (laughs)'.	Line 601-604
5. A broken system	
5.1 Us & them	
Contributing participants: Graham, Katie & Jack	
Graham: 'They've even split the staff, the staff are not together anymore'. Graham: 'It's just erm, it's hard to explain; we're used to it now. It's just become the normal thing. Where there's certain wings you go on, certain – you look at who you're working with and you think "oh yeah, that's good I'm going to have a good day today. If anything happens, they've got my back". But you also look on and you think "oh god, they're on today. I'm not going to see much of them"'.	Line 488 Line 491-499
Graham: 'Because some staff will say, oh I can't work that person or I can't work on that wing, can you put me somewhere else? And I think, we're all prison officers, but it's just (pause), well, the mentality of some staff now, they don't think of everyone, they just think of themselves. Just themselves all the time. So, you know whether you'll be able to trust that person or whether that person is going to do that job they should do or whether they're going to watch your back. And if there's an incident, will they go towards the incident'.	514-523
Katie: 'Yeah, I mean, I'm old school – so I was told when I joined the service, if you do a year, and I had a mortgage to pay at the time. But if you do a year, you're pretty much bomb-proof after that. You know, get through your first year. It used to be a job for life. You don't go sick, you don't, but these staff that we're getting now are not coping after two weeks'.	Line 670-675
Jack: 'If you moan about an individual because it's right to moan about them then someone will complain about that. You're quite worried about what to say at work. And up until a few weeks ago we had, I think it was 70% of staff had under a year in service, so you're not going to go and talk to somebody like that'. Researcher: 'What makes it difficult to talk to them?' Jack: 'They haven't seen the misery side of things; a lot of them are just so cocky that they'll probably just laugh at you or tell you to shut up'.	Line 548-557
5.2 Anger at the organisation	
Contributing participants: Graham, Katie & Jack	
Graham: 'That's another thing they've done, taken lots of things away now, they've taken us to European court where we now can't take any sort of industrial action. So that's another thing they've taken away from prison staff'.	Line 472-475
Katie: 'No, I've had enough of it, I've had enough of it. You know, it's changed over the years and none of it for the better'…'Management. Management have doubled in size and officers have been slashed by over a third'.	Line 258-262
Jack: 'They just don't care so, yeah, it's their attitude that makes you angry, frustrated, disappointed. It's them that makes you miserable' They need to change'.	Line 762-765

Jack: '…even sometimes prisoners will talk to you and they'll say, oh that CM or that governor has said that, and it makes you think; they're treating the prisoners with the same arrogance, cockiness, nastiness as us, so then it, you just end up, whether hate is the right word, but you just end up disliking them even more. And I suppose, most of my anger, disappointment, upset and frustrations are aimed at the management, at how they treat us'.	Line 735-742

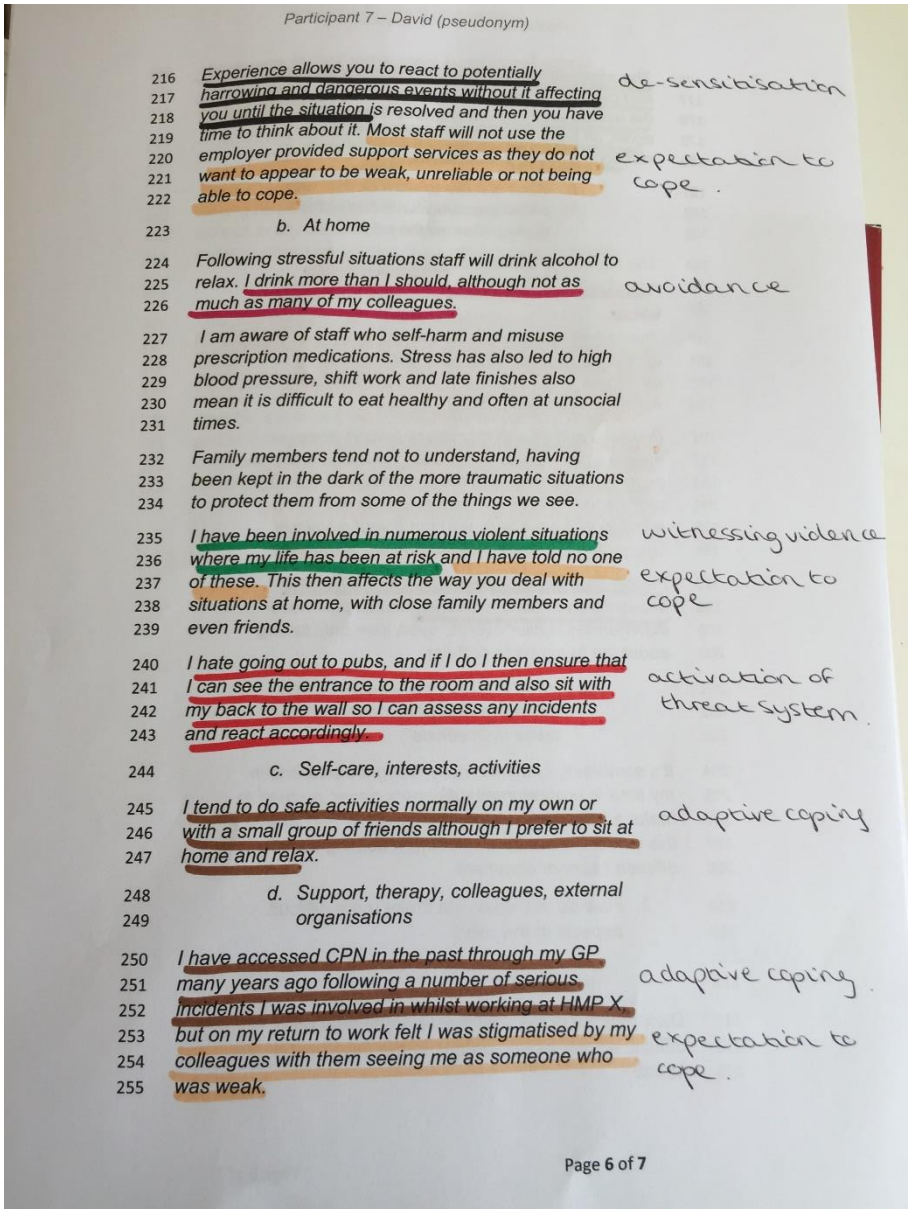
Appendix N

Hierarchical coding template created from the master and subthemes from the IPA. Subthemes are colour coded so they can be easily coded for in the template analysis.



Appendix O

Example transcript from participant 8 demonstrating the application of the coding template to the text. Text is highlighted with the relevant colour and then the name of the code is written in the right hand-side margin.



Participant 7 – David (pseudonym)

Experience allows you to react to potentially harrowing and dangerous events without it affecting you until the situation is resolved and then you have time to think about it. Most staff will not use the employer provided support services as they do not want to appear to be weak, unreliable or not being able to cope. — de-sensitisation; expectation to cope.

b. At home

Following stressful situations staff will drink alcohol to relax. I drink more than I should, although not as much as many of my colleagues. — avoidance

I am aware of staff who self-harm and misuse prescription medications. Stress has also led to high blood pressure, shift work and late finishes also mean it is difficult to eat healthy and often at unsocial times.

Family members tend not to understand, having been kept in the dark of the more traumatic situations to protect them from some of the things we see.

I have been involved in numerous violent situations where my life has been at risk and I have told no one of these. This then affects the way you deal with situations at home, with close family members and even friends. — witnessing violence; expectation to cope

I hate going out to pubs, and if I do I then ensure that I can see the entrance to the room and also sit with my back to the wall so I can assess any incidents and react accordingly. — activation of threat system.

c. Self-care, interests, activities

I tend to do safe activities normally on my own or with a small group of friends although I prefer to sit at home and relax. — adaptive coping

d. Support, therapy, colleagues, external organisations

I have accessed CPN in the past through my GP many years ago following a number of serious incidents I was involved in whilst working at HMP X, but on my return to work felt I was stigmatised by my colleagues with them seeing me as someone who was weak. — adaptive coping; expectation to cope.

Page 6 of 7

Appendix P

Model of Corrections Fatigue (Denhof & Spinaris, 2014)