DOCTOR OF CLINICAL PSYCHOLOGY (DCLINPSY)

Doctorate in Clinical Psychology: Main Research Portfolio

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Award date:
2018

Awarding institution:
University of Bath

Research Portfolio Submitted in Part Fulfilment of the requirements for the Degree of Doctorate in Clinical Psychology

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May 2018

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Acknowledgements

Thank you to all of the friends and family who have supported me during the past three years. Thank you especially to Simon, Molly, Sparky and Phoebe for their patience with me during this time. And thank you to my parents, who started me on my academic journey. I recognise that I was given a strong start in life and it is a privilege to be completing my ninth year of third-level study.

I am grateful to my clinical tutor Dr Maria Loades who provided me with constant encouragement and empathetic support. The journey has been much more enjoyable and fulfilling as a result. I have been fortunate to have fantastic research supervisors. Thank you to Dr James Gregory, Dr Megan Wilkinson-Tough, Dr Anna Strudwick and Dr Chris Gillmore for your guidance. It is important also to highlight the role of Professor Paul Salkovskis. We owe a lot to his vision in setting up this innovative course. Thank you also to the (often unsung) heroes of the admin team who keep the show on the road.

Thank you also to Georgia Chambers who did a fantastic job as a research assistant supporting my systematic literature review. Thank you also to Cohort 2015 for their friendship and support.

I have learned as much from service users and research participants as I have from academics during these three years. It is easy to underestimate the leap of faith that people take when they share their experiences with us. It is a privilege to hear your stories, so thank you.

Finally, I must express gratitude to the NHS for funding my studies. I have felt very fortunate to be paid to learn – yet another example of why this is an institution worth preserving.

Abstracts

Critical Review of the Literature

Can Borderline Personality Disorder be treated effectively in forensic settings? A systematic review

Borderline Personality Disorder (BPD) is a common diagnosis in forensic settings. Certain features of BPD, such as impulsivity and emotional dysregulation, can create a vulnerability to impulsive acts. The condition is also associated with poor mental and physical health, making the treatment of BPD and its clinical features an important goal in forensic settings. This paper reviews evidence for the effectiveness of treating BPD and its symptoms using psychological approaches in forensic settings. A systematic search found 2913 papers, of which 13 met the inclusion criteria. The papers reported nine separate studies (six controlled) that implemented four distinct interventions, often adapted for particular forensic settings. Improvements in overall BPD symptomatology and specific BPD symptoms were reported for all types of intervention, although few differences in outcome between intervention and control groups were found. There were also reported improvements in BPD-related behaviours, but data on offending behaviour were absent. Heterogeneity in study quality and design makes it challenging to draw any firm conclusions about the effectiveness of any one form of treatment over another, nor about which treatment may best suit a particular setting. Further randomised controlled trials are needed to answer these questions.

Keywords: borderline personality disorder, forensic, offending, dialectical behaviour therapy, schema therapy, STEPPS, art therapy

Service Improvement Project

Evaluation of a brief educational intervention for clinical staff aimed at promoting trauma-informed approaches to care

There is growing evidence that trauma plays an important role in the aetiology of severe and enduring mental health problems. Yet staff can be reluctant to ask patients about trauma for reasons such as anxiety about harming patients and limited access to training. Where services have adopted trauma-informed approaches (TIAs) to mental health care (i.e., considering the ways in which trauma affects individuals when planning and delivering services), improved clinical outcomes have been observed. With this in mind, a new educational video was developed for mental health staff at an NHS trust. The video was intended to be (a) brief (10 minutes); (b) contemporary and engaging; and (c) accessible using computers, smartphones and tablets. Forty-one multidisciplinary staff viewed the video. Quantitative and qualitative evaluation indicated improvements in self-reported knowledge and confidence with regard to trauma, and a decrease in worries with regard to asking patients about such experiences. Participants found the video to be enjoyable, understandable and informative. Importantly, many indicated that it spurred them to further action, such as further training and asking patients about possible trauma. These findings indicate that a video of this type can offer an important 'taster' of trauma-related learning, constituting an important step towards embedding trauma-informed ways of working at a service.

Keywords: trauma-informed approaches, trauma, PTSD, Complex PTSD

Main Research Project

The Role of Intrusive Imagery in Hoarding Disorder

The cardinal feature of Hoarding Disorder (HD) is persistent difficulty discarding possessions, with the resulting clutter compromising the intended use of living areas. Within the dominant cognitive-behavioural model of hoarding (Frost & Hartl, 1996), hoarding behaviours are positively and negatively reinforced in the context of certain object-related beliefs. Available treatments for HD have so far yielded modest outcomes, indicating a need for new approaches. Intrusive imagery has so far been neglected in HD research, despite the frequency of trauma in the histories of people with the condition. To address this, 27 individuals who met the DSM-5 criteria for HD and 28 community controls (CCs) were interviewed about their everyday experiences of mental imagery. Participants were also asked about the images they experienced during two recent real-life examples of actual or attempted discard of (1) an object of low subjective value; and (2) an object of high subjective value. Everyday imagery in the HD group commonly reflected themes of illness, death and reminiscence. Imagery in HD participants tended to carry negative emotional valence in comparison with CCs, and was associated with greater interference in everyday life and attempts to avoid the imagery. HD participants reported more negative experiences of intrusive imagery in comparison with CCs during recent episodes of discarding objects of low subjective value. However, HD participants experienced positive imagery when discarding, or trying to discard, high value objects. These findings indicate that although people with HD frequently report traumatic histories, this is not reflected in the everyday imagery that they experience. There is some evidence to suggest that the negative and positive memories experienced in relation to low and high value objects may aid our understanding of discarding and saving behaviour in HD. The theoretical and clinical implications of these findings are further discussed.

Keywords: hoarding disorder, intrusive imagery, intrusive memories, cognitive-behavioural therapy

Critical Review of the Literature

Can Borderline Personality Disorder be treated effectively in forensic settings? A systematic review

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Word count: 7020

March 2018

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The Journal of Forensic Psychiatry and Psychology publishes papers relating to psychological research, theory and practice as applied to offenders. The journal regularly publishes systematic literature review

Can Borderline Personality Disorder be treated effectively in forensic settings? A systematic review

Introduction

Borderline Personality Disorder (BPD) is characterised by "a pervasive pattern of instability of personal relationships, self-image, and affects, and marked impulsivity" (American Psychiatric Association, 2013, p. 663). The diagnosis has been critiqued for ignoring the role of childhood trauma in the aetiology of this cluster of symptoms, which can otherwise be seen as reactions to adverse circumstances such as sexual abuse and oppression (Shaw & Proctor, 2005). This lack of understanding is arguably responsible for the frequent stigmatisation faced by individuals who carry the BPD label (Bonnington & Rose, 2014). Arguments about the validity of the diagnosis aside, individuals with a BPD diagnosis often encounter very significant difficulties for which effective treatments are a priority. Self-injurious behaviours and suicide attempts are common, with 4% of people followed up over ten years taking their own life in one study (Zanarini et al., 2007), compared with a current 10-year suicide rate for the general population of the UK of 0.001% (Samaritans, 2016). Although the majority of people with a BPD diagnosis never commit a criminal or violent act, prevalence rates of BPD in prison populations have been found to be as high as 55% in women and 30% across genders (Black et al., 2007).

In correctional settings, a BPD diagnosis is associated with higher rates of physical and mental comorbidity, higher suicide risk, poorer functioning and lower quality of life, in comparison with non-BPD offenders (Black et al., 2007; Blackburn & Coid, 1999). A BPD diagnosis has also been found to predict institutional violence in prison (Warren et al., 2002) and has been linked to an increased risk of recidivism (Black et al., 2007; Jamieson & Taylor, 2004). Some research has suggested that offending behaviour can be linked to features associated with the diagnosis (Raine, 1993; van den Bosch, den Haan, & Lammers, 2005, cited in van den Bosch, Hysaj, & Jacobs, 2012). Theoretical work by Linehan (1993) provides an explanation for why people with BPD might be vulnerable to impulsive acts. Her biosocial aetiological model proposes that BPD results from a combination of emotional vulnerability in the individual and an invalidating environment early in life. The invalidating environment deprives the individual of the opportunity to learn how to understand and regulate emotions, resulting in impulsive acts when the individual feels that they are experiencing overwhelming emotional crisis (Linehan, 1993). Another cardinal feature of BPD, affect dysregulation, has been found to have a relationship with antisocial behaviour in studies of adolescent males and females (Mezzich et al., 1997; Snyder, 1997). This body of research indicates that treating BPD and its clinical features should be an important goal in forensic settings.

Borderline Personality Disorder has long been considered to be difficult to treat (Linehan, 1993). However, studies on interventions using treatments such as Dialectical Behaviour Therapy (DBT), Mentalization-Based Therapy (MBT) and Schema Therapy (ST) have shown that aspects of the condition such as suicidal and self-destructive behaviours, anger and substance abuse are amenable to change (Bateman & Fonagy, 2008; Linehan et al., 2006; Young, Klosko, & Weishaar, 2003). Bloom, Woodward, Susmaras, and Pantalone (2012) conducted a systematic review of studies of DBT for BPD in inpatient settings and found that the treatment may be effective in reducing symptoms related to the condition, with effect sizes ranging from very small to large. However, the authors specifically excluded any articles that related to the forensic settings and suggested that this would be a useful topic for future research.

Psychological approaches developed for typical populations cannot simply be applied to forensic populations, owing to the unique needs of forensic populations (e.g., chronic, complex and co-morbid mental health difficulties, frequent cognitive deficits, and common experiences of severe trauma; Barnao & Ward, 2015). Considering BPD in particular, adaptations need to be made to take account of factors such as (a) offenders leaving custody or being transferred to another institution, which can create challenges for implementing the relatively lengthy courses of therapy usually recommended for BPD; (b) the importance of working with offence-related behaviour in addition to self-harm and suicide risk, and (c) certain challenges created by institutional environments, e.g., offenders living alongside other individuals with similar difficulties. The body of evidence for interventions for people with *any* personality disorder in forensic settings is currently limited, which is perhaps unsurprising given the paucity of research on interventions for offenders with mental disorders more generally (Barnao & Ward, 2015). Psychological interventions for antisocial personality disorder (ASPD) have been reviewed systematically, with recidivism as a specific focus (Gibbon et al., 2010; Wilson, 2014). The treatment of psychopathy in forensic settings has also been subject to several reviews (e.g., Polaschek & Daly, 2013; Salekin, Worley, & Grimes, 2010). However, no systematic review has consolidated research on the treatment of BPD in forensic settings, despite clinical advances in the area (e.g., Black, Blum, McCormick, & Allen, 2013; McCann, Ball, & Ivanoff, 2000; Nee & Farman, 2008).

This systematic review aims to identify, synthesise and critically evaluate all existing research on psychological treatment for BPD and its associated clinical features in forensic settings. This review is important, since national policy has for some time stipulated that services need to be improved for people with a diagnosis of BPD in forensic settings (McMurran, 2002; NIMH, 2003). The policy implementation guidance ‘Personality Disorder: no longer a diagnosis of exclusion’ (NIMH, 2003, p. 6) included the aim of ensuring that ‘offenders with a personality disorder receive appropriate care from forensic services and interventions designed

both to provide treatment and to address their offending behaviour'. Furthermore, the NICE guideline on the recognition and management of BPD is explicit that its recommendations should be applied in forensic settings (NICE, 2009). This systematic review will be highly useful for healthcare professionals and researchers working in forensic settings because it will provide them with an evidence base to justify the implementation of interventions for BPD within their services, while also meeting national policy directives. It will also highlight gaps that should be addressed through further research.

The specific questions addressed by this review are as follows:

1. Can psychological approaches be used to treat BPD effectively in forensic settings?
2. Can psychological treatments developed for BPD be used effectively with individuals with other personality disorder (PD) diagnoses (i.e., PD and mixed PD) in forensic settings?
3. Are the BPD-related outcomes measured in forensic settings predominantly symptom-related (e.g., emotional regulation), behaviour-related (e.g., records of incidents or challenging behaviour), or offence-related (e.g., recidivism)?

Methodology

This review follows the Preferred Reporting Items for Systematic Reviews and Meta-analyses statement (PRISMA: Moher, Liberati, Tetzlaff, & Altman, 2009). The review protocol was published on the PROSPERO International Prospective Register of Systematic Reviews on 27 September 2016 (registration number CRD42016048373).

Inclusion Criteria

Several criteria were used to guide the selection of original research studies for inclusion in the review. The inclusion and exclusion criteria are summarised in Table 1.1, and justification for the key criteria is provided below.

To be considered for inclusion, studies had to have been conducted within forensic services, which were defined as those that deal exclusively with individuals who have committed offences. Such settings include both mental health and non-mental health settings, e.g., prisons, probation services, youth offender institutions/juvenile detention centres, and forensic mental health services. Studies conducted within inpatient/prison and outpatient/community settings were all considered for inclusion.

A pragmatic approach was adopted regarding BPD diagnosis within the inclusion criteria, in consideration of the fact that diagnosis of personality disorders in forensic settings is variable. Although the application of reliable diagnostic criteria to participant selection is important in psychological research (Spitzer, Endicott, & Robins, 1978), the authors of the present review were keen not to exclude studies that may be of value for practitioners in the field, but which might not have applied full diagnostic criteria (e.g., DSM-5) criteria for BPD to every participant. Thus, a balance was struck: to be included, all participants in a study should have a BPD or personality disorder diagnosis, either formal (i.e., confirmed by diagnostic interview) or informal (reported as a clinical diagnosis but unconfirmed). Diagnoses of 'personality disorder' or 'mixed personality disorder' were only acceptable if some participants in the study had a BPD diagnosis and provided the treatment under investigation was developed for BPD (e.g., DBT, MBT, etc.). In this way, it is hoped that the research included in this systematic review is of relevance to practitioners who work both with patients with a BPD diagnosis and those with BPD-related problems.

Initial searches indicated that few gold-standard randomised controlled trials (RCTs) would be available. It was therefore decided to include a wide range of studies that

measured change on one or more measures relevant to BPD following an intervention. However, studies had to have implemented distinct interventions rather than holistic service models, in which any element of the model might be responsible for therapeutic change. Service evaluation studies, risk assessment interventions and interventions aimed at staff (e.g., psychologically informed practice) were excluded. Psycho-educational interventions were only considered if changes in behaviour and/or symptoms were measured (i.e., studies that solely measured changes in knowledge were excluded).

Dissertations were considered for inclusion. Papers not written in the English language were excluded since no resources for translation were available. Conference abstracts were excluded, although they were used to identify further relevant papers.

During the analysis stage, evidence from studies using different designs were considered separately from each other wherever possible. This decision reflected the fact that controlled studies have greater power to demonstrate treatment effects in comparison with uncontrolled studies. Furthermore, randomised trials may be less susceptible to publication biases in comparison with other study designs, since pre-specified protocols are more commonly registered for randomised trials (Reeves, Deeks, Higgins, & Wells, 2011).

Table 1.1. *Summary of inclusion and exclusion criteria for systematic review*

	Inclusion	Exclusion
POPULATION:	The study is conducted within a forensic setting (mental health or non-mental health; inpatient or outpatient)	The study is not conducted within a forensic setting
	Study participants receiving the intervention must meet <u>one</u> of the following two criteria: A. Diagnosis of BPD, either formal (i.e., confirmed by diagnostic interview) or informal (reported as a clinical diagnosis but unconfirmed), with or without comorbid Axis 1 or 2 disorders B. Diagnosis of personality disorder or mixed personality disorder (either formal or informal, as above), provided that: • <u>At least some of the study participants have a diagnosis of BPD, and</u> • The treatment under investigation was developed for BPD (e.g., DBT, MBT, etc.)	Participants do not have a formal or informal diagnosis of personality disorder (even if the study focused on BPD-type symptoms) Studies whose stated focus is a specific type of personality disorder other than BPD (e.g., ASPD or psychopathy) Participants have a learning disability
STUDY DESIGN:	The treatment modality is either individual or group psychotherapy	Holistic service models Psychological interventions provided to staff rather than service users
	Interventional studies that include pre- and post-outcome data on one or more measures relevant to BPD	Qualitative research, single case studies and case series
	Studies published from 1980 onwards	Papers published prior to 1980
	Articles published in English	Articles not published in English

Literature Search

The following databases were used to perform searches of titles and abstracts: PsycINFO, PsycEXTRA, MEDLINE, Embase, ProQuest Dissertations and Theses (UK & Ireland) and the International Bibliography of the Social Sciences (IBSS).

The final search was conducted on 16th August 2016. Search terms were selected to describe the setting (e.g., "Correctional", "Forensic", "Prison", "Probation"), in combination with an appropriate diagnosis (e.g., "Borderline Personality Disorder", "Emerging Personality Disorder", "Personality Disorder*"), in combination with an appropriate intervention (e.g., "Cognitive Behavioral Therapy", "Dialectical Behavior Therapy", "Psychotherapy"). Search terms and syntax were modified to meet the requirements of the selected databases (see Appendix 1.1).

Selection of Studies

Titles and abstracts of all studies identified in the literature search were screened by the lead author (NS) to identify any potentially relevant studies. A subset of titles and abstracts (10%) were assessed independently by a doctoral student (CH) to assess inter-rater agreement, which was good (kappa= 0.656). Full texts of studies that looked relevant were obtained. References lists of included studies and relevant review papers were searched by hand to identify further relevant studies. In addition, authors of included studies were contacted via email to request further published or unpublished studies.

The full texts were then assessed by both reviewers (NS and CH) to determine eligibility for the review. Any discrepancies were resolved by discussion between reviewers. Supervision with an experienced Clinical Psychologist (MWT) was used when required. Data relating to study characteristics and outcomes were extracted by the lead author (NS) and checked by a research assistant (GC).

Assessment of Risk of Bias of Included Studies

The extent to which a review can draw conclusions about the effects of an intervention depends on the validity of the included studies (Higgins, Altman & Sterne, 2011). Therefore, risk of bias was assessed for each of the papers included within this review, using the Cochrane Collaboration's risk of bias tool. The methodology of the risk of bias analysis is described in Appendix 1.2.

Results

Study Selection

The flow chart in Figure 1.1 shows how eligible studies were selected. The literature search a generated 2913 studies, of which 538 were identified as duplicates. After screening of titles and abstracts, 62 studies were considered eligible for full-text screening. Manual searching of reference lists of selected papers, relevant reviews, related papers and contacting researchers identified a further 12 studies. Assessment of full texts resulted in the exclusion of 61 studies: 19 were not original research (e.g. conference abstracts, reviews, opinion articles); 4 were not conducted within a forensic setting; 21 recruited participants who did not meet the BPD/PD diagnostic inclusion criteria; 4 had an inappropriate study design (e.g., qualitative, case study); 6 were excluded because the intervention did not meet the inclusion criteria (e.g., holistic service evaluations); and 7 were not written in the English language.

One study (Gee & Reed, 2013) did not include a statistical analysis of findings, and was excluded for this reason. However, the authors of the study provided a manuscript of a further unpublished study that met the inclusion criteria.

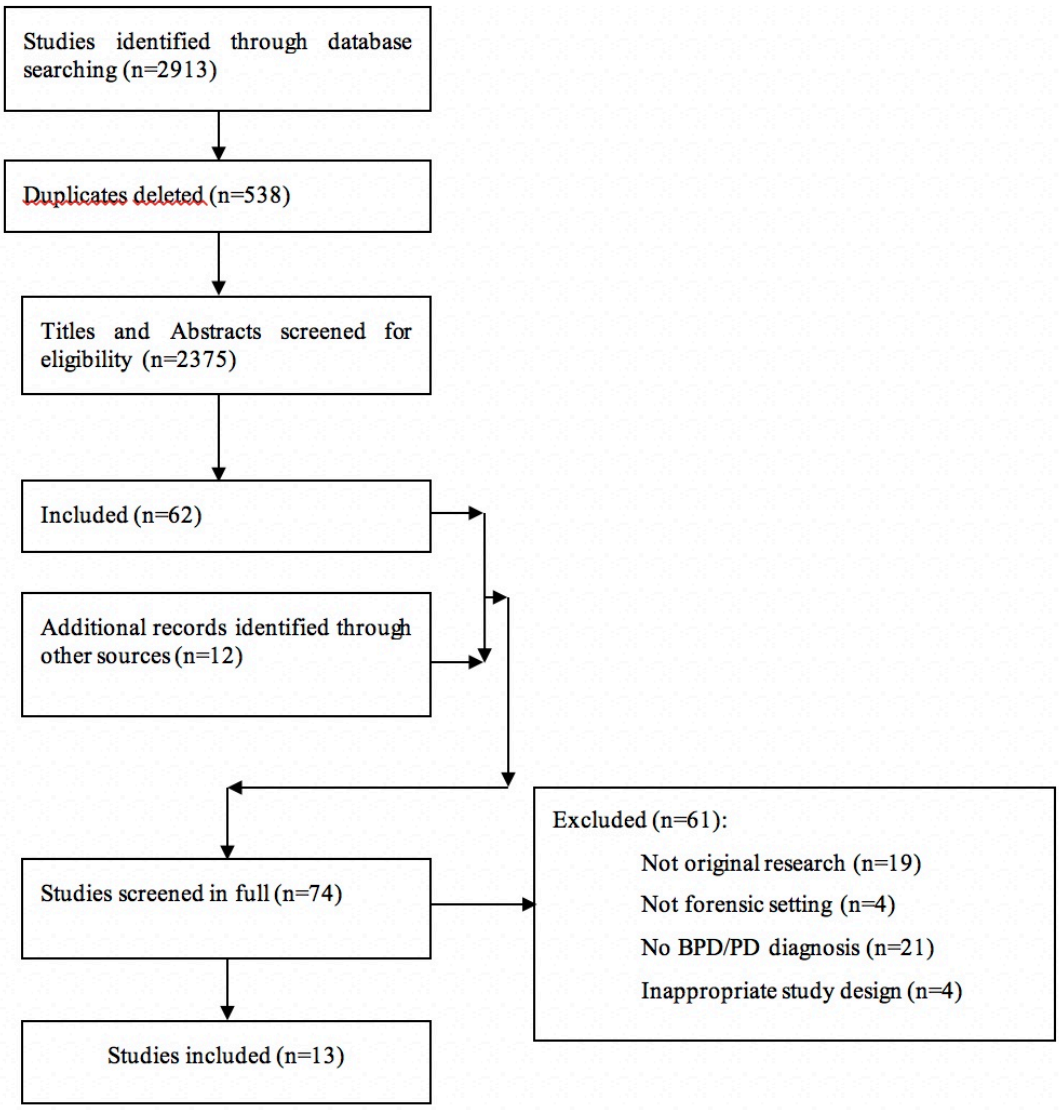

Figure 1.1. Flow Chart for the selection of eligible studies

Summary of Study Characteristics

Thirteen papers met the inclusion criteria (Bernstein et al., 2012; Black et al., 2008; Black et al., 2013; Black, Simsek-Duran, Blum, McCormick, & Allen, 2016; Doyle, Tarrier, Shaw, Dunn, & Dolan, 2016; Evershed et al., 2003; Gee, White, Reeves, & Bartlett, 2016; Low, Jones, Duggan, Power, & MacLeod, 2001; Nee & Farman, 2005; Nee & Farman, 2008; Santisteban et al., 2015; Tarrier et al., 2010; van den Broek, Keulen-de Vos, & Bernstein, 2011). The papers were published between 2001 and 2016. Only three of the papers were published before 2008, and eight were published since 2010. Some papers described results from the same study (i.e., preliminary results followed by either full findings or follow-up findings). Such papers were grouped together at the point of data extraction to avoid reporting the same findings twice. Thus, nine individual studies are discussed in this review. The characteristics of the nine studies are presented in Table 1.2.

Table 1.2. Study Characteristics

Study; Location	Setting	Participant Characteristics			Intervention			Study Design	Outcome Measures
	Description	N; Features (including offending history)	Age M (SD); Gender	Diagnostic Criteria	Type	Modality	Description		1. BPD symptom-related 2. Behaviour-related 3. Offence-related (including risk) 4. Mood & Overall Improvement
Bernstein et al. (2012) *Preliminary findings;* Netherlands	7 TBS forensic psychiatric hospitals	30 (16 intervention, 14 TAU) 90% received TBS sentences for violent offences Mean PCL-R total score: 25.4 (SD 6.9). 18/30 patients (60%) had PCL-R scores higher than cut-off of 25	41.3 (8.5) All male	DSM-IV diagnosis of PD (assessed using SIDP-IV) 30% BPD (10% solely BPD; 20% BPD + ASPD) 86.7% ASPD 33.3% NPD 3.3% PPD	ST	Individual	2x individual therapy sessions per week (often reducing to x1 session/week in third year)	Multicentre randomised controlled trial vs TAU (i.e., 1x individual therapy session, e.g., CBT, psycho-dynamic therapy, client-centred therapy, per week) Both intervention and TAU groups also received ancillary treatments, e.g., group therapy, arts therapies 3-year trial and 3-year follow-up	1. SIDP-IV; SNAP-I (patient & informant); YSQ; SMI 2. Resocialisation (i.e., supervised and unsupervised leave); Institutional violence (i.e., aggression and other incidents) 3. Recidivism (using Ministry of Justice records); HCR-20; SVR-20 4. START; SCL-90; Global therapy outcome (classified by researchers)

Black et al. (2008) *Preliminary results, incorporated within Black et al. (2013)* Black et al. (2013) *Full results* Black et al. (2015) *Re-analysis of data to examine effect of co-morbid ASPD;* USA	Prison & community corrections	*2013:* 77 (67 prison, 10 community) No. previous convictions: M 5.9 (SD 6.8) Violent act conviction: 22% Time served: M 2.2 years (SD 3.4) Psychopathy not reported *2015:* N = 64 (55 prison, 9 community)	*2013:* 31.4 (8.6) 14 male 63 female *2015:* 30.9 (8.8) 14 male 50 female	DSM-IV criteria for BPD (assessed using SIDP-IV)	STEPPS	Group	20x 2-hour weekly group sessions. Detailed lesson plans used. & 1x 2-hour evening session for system members	Single-arm uncontrolled trial. 20-week programme. No follow up.	1. BEST 2. Suicidal behaviour (= pooled suicidal & self-harm behaviours); Disciplinary infractions 3. – 4. BDI; PANAS;
Doyle et al. (2016) *Full results, peer-reviewed;* Tarrier et al. (2010) *Ministry of Justice report*	High security hospital	63 (29 intervention, 34 TAU) Number of past convictions: M 7.4 (SD 6.42) Length of stay (days): M 4945 (SD 3465)	42.3 (11.3) All male	Primary diagnosis of DSM-IV Axis II disorder (assessed using SCID-II) 20/63 (32%) had BPD diagnosis	ST	Individual	1x weekly 60-minute session for a minimum of 18 months	Randomised controlled trial vs TAU (i.e., specific therapies and various social, occupational, recreational activities)	1. BIS-II; NAS; CIRCLE; YSQ 2. MOAS; VRS; IBRS 3. HCR-20 4. APQ; BPRS;

UK		Number of participants violent in past month: 14/63 (22%) 39/63 (61.9%) met diagnostic criteria for psychopathy (i.e., PCL-R score higher than 25)		43/63 (68.3%) had ASPD diagnosis				24-month trial with follow-up to 36-months	
Evershed et al. (2003); UK	High security hospital	17 <u>Intervention group (n=8):</u> Number of previous offences: M 2.88 (SD 3.64) Years admitted: M 10.0 (SD 9.07) <u>TAU group (n=9):</u> Number of previous offences: M 6.56 (SD 5.20)	<u>Intervention group (n=8):</u> 35.75 (9.75) <u>TAU group (n=9):</u> 33.89 (7.46) All male	Diagnosis of personality disorder (all participants recruited from a personality disorder service) All met criteria for BPD on PAI	DBT	Individual and Group	18-months of standard DBT with adaptations: Additional treatment targets added (violent behaviour, ideation, urges and emotions) Ward-based skills coaches in place of telephone consultation Materials for skills groups made relevant for male inpatients	Non-randomised controlled trial vs non-contempor-aneous TAU (i.e., CBT, sex offender and substance misuse groups.) 18-months of treatment with follow-up to 24-months	1. STAXI; NAS; BDHI-D 2. Violence behaviours (frequency and seriousness); 3. – 4. –

		Years admitted: M 3.44 (SD 1.51) Psychopathy not reported							
Gee et al. (2016); UK	Women's prison	33 94% sentenced prisoners 6% on remand Index offences: 27% minor violence 25% major violence 21% dishonesty 15% arson 12% criminal damage Psychopathy not reported	32 (9.2) All female	DSM-IV criteria for BPD or ASPD (assessed using SCID-II) BPD: 100% ASPD: 91%	Forensically modified DBT (the 'Options' programme)	Group and individual	16-week programme Content modified to incorporate focus on offending 1x 1-hour individual therapy session per week 3 hours group skills training per week Weekly therapist consultation team meeting	Uncontrolled intervention study 16-week programme with follow-up to 32 weeks Programme run in x4 non-contemporaneous rounds	1. BSL; NMR 2. Deliberate self-harm incidents; Number of days at active risk of self-harm and suicide (routinely recorded by the prison); Adjudications regarding proven violence; MOAS 3. – 4. –
Low et al. (2001); UK	High security hospital	10 Length of hospital stay: M 4.5 years (SD 3.0)	28.7 (6.5) All female	DSM-III-R criteria for BPD (assessed using IPDE)	DBT	Group and individual	12 months of therapy, incorporating: 1x weekly group skills training session	Uncontrolled pilot study 12 months of treatment with follow-up to 18 months.	1. DES; RLI; BHS; BSSI; EII 2. Rates of self-harm 3. – 4. IDAS; BDI

		Psychopathy not reported					1x weekly individual session		
Nee & Farman (2005) *Phase 1 results* Nee & Farman (2008) *Phase 1 & 2 results* UK	*One-year programmes:* Closed training prisons for life-sentenced prisoners *Short format programmes:* Local allocation and remand prison	*27* *One-year programmes (intervention group):* 9 *One-year programmes (waitlisted control group):* 5 *Short format (16-week) programmes (uncontrolled):* 13 Number of previous convictions ranged from 0 to 39 (mean not reported). Index offences: Arson (8) Murder (7) Attempted murder (1) Manslaughter (2)	31 (9.7) All female	Diagnosis of BPD (assessed using SCID-II)	DBT	Group and individual	*One-year programmes:* 1x group-skills training session and 1x individual therapy session per week for one year (DBT Stage 1 only) *Short format programmes:* 2x group sessions and 1x individual therapy session per week for 16-weeks (DBT Stage 1 only) Note: Both programmes incorporated 24-hour telephone access for crisis and weekly	*One-year programmes:* Non-randomised controlled trial (waitlisted control) 12 months of treatment with follow-up to 18 months. *Short format programmes:* Uncontrolled trial 16 weeks of treatment. Follow-up planned but data not collected, owing to release/transfer of participants	1. BSI; EII; ECQ; DES; RLI; STAXI 2. Self-harming behaviour; Adjudications data 3. Reconviction 4. LOCQ; RSEI; Quality of Life

		Other violent offences (4) Psychopathy not reported					consultation meetings for therapists		
Santisteban et al. (2015); USA	Juvenile diversion programmes	40 adolescents 65% arrested/ detained at police station in previous year 70% referred from juvenile justice system Psychopathy not reported	15.8 (0.8) 25 male 15 female	DSM-IV criteria for BPD (assessed using RDIB) All participants also met criteria for substance use disorder	I-BAFT IDC	Group and individual Individual	7 months of therapy 1 x family therapy session and 1x skills training or individual session per week 7 months of therapy 2x individual sessions per week and 1x family meeting with caregivers per month	Randomised controlled trial 7 months of treatment with follow-up to 12-months	1. BP-MACI; 2. Substance use (TLFB + urine toxicology) 3. – 4. DPS; residential days of treatment
van den Broek et al. (2011); Netherlands	TBS forensic psychiatric hospital for male patients	10 Length of stay: M 38.3 months (SD 8.4) Convictions: 30% murder/ attempted murder	40.7 (7.4) All male	Diagnosis of DSM-IV personality disorder (assessed using SIDP-IV) 40% BPD 90% ASPD 30% Narcissistic PD	ST and Arts therapies (i.e., drama therapy, art therapy and psychomotor therapy)	Individual	12-18 months of therapy *ST condition:* 2 sessions/ week of psychotherapy & 1 session/ week of Arts therapy	Randomised controlled pilot study, vs TAU (i.e., 'typically a form of cognitive-behavioural, psychodynamic or humanistic psychotherapy')	1. MOS 2. – 3. – 4. –

		10% manslaughter/ attempted manslaughter 20% sexual crimes 20% assault 20% property crimes Mean PCL-R total score: 23.8 (SD 7.4). 6/10 patients (60%) had PCL-R score higher than cut-off of 25		*TAU Condition:* 1 session/ week of psychotherapy & 1 session/ week of Arts therapy	4x consecutive therapy sessions videotaped for assessment in each of the 4 treatment conditions, during a 3-month period. Up to 18 months of treatment. No follow-up.	

Measures: APQ = Anti-social Personality Questionnaire; BDHI = Buss Durkee Hostility Index; BDI = Beck Depression Inventory; BEST = Borderline Evaluation of Severity Over Time; BHS = Beck Hopelessness Scale; BIS-II = Barratt Impulsiveness Scale; BP-MACI = Borderline Personality Scale – Millon Adolescent Clinical Inventory; BPRS = Brief Psychiatric Rating Scale; BSI = Borderline Syndrome Index; BSL = Borderline Symptom List; BSSI = Beck Scale for Suicide Ideation; CALPAS = California Psychotherapy Alliance Scale; CAQ = Custodial Adjustment Questionnaire; CIRCLE = Chart of Interpersonal Reactions in Closed Living Environments; DES = Dissociative Experiences Scale; DPS = Diagnostic Interview Schedule for Children – Predictive Scales (depression measure); ECQ = Emotion Control Questionnaire; EII = Eysenck's Impulsivity Inventory; GAS = Global Assessment Scale; HCR-20 = Historical Clinical Risk - 20 items; IBRS = Institutional Behaviour Rating Scale; IPDE = International Personality Disorder Examination; IDAS = Irritability, Depression and Anxiety Scale; LOCQ = Locus of Control Questionnaire; MOAS = Modified Overt Aggression Scale; MOS = Mode Observation Scale; NAS = Novaco Anger Scale; NMR = Negative Mood Regulation scale; PAI = Personality Assessment Inventory; PANAS = Positive and Negative Affectivity Scale; PCL-R = Psychopathy Checklist Revised; RDIB: Revised Diagnostic Interview for Borderlines; RLI = Reasons for Living Inventory; RSEI = Rosenberg's Self-Esteem Inventory; RWCS = Revised Ways of Coping Scale; SCID-II = Structured Clinical Interview for DSM-IV Axis II; SCL-90 = Symptom Checklist-90; SIDP-IV = Structured Interview for DSM-IV Personality; SMI = Schema Mode Inventory; SNAP-I = Schedule for Nonadaptive and Adaptive Personality; START = Short Term Assessment of Risk and Treatability; STAS = State Trait Anxiety Scale; STAXI = State Trait Anger Expression Inventory; SVR-20 = Sexual Violence Risk Assessment; TAS = Toronto Alexithymia Scale; TLFB = Timeline Followback; VRS = Violence Risk Scale; YSQ = Young Schema Questionnaire

Treatments: CBT = Cognitive-Behavioural Therapy; DBT = Dialectical Behaviour Therapy; I-BAFT = Integrative BPD-oriented Adolescent Family Therapy; IDC = Individual Drug Counselling; STEPPS = Systems Training for Emotional Predictability and Problem Solving; ST = Schema therapy; TAU = treatment as usual

Note: ASPD = Antisocial personality disorder; FU = Follow-up; ITT = Intention to Treat; NPD = Narcissistic Personality Disorder; PPD = Paranoid Personality Disorder; TBS = *Ter Beschikking Stelling* (translates as 'At the disposal of (the Government)'. Specialised institutions for forensic psychiatric care in the Netherlands)

Settings

Most of the studies (n=5) were conducted in the UK. Two were conducted in the USA and two were conducted in the Netherlands. Five studies (Bernstein et al., 2012; Doyle et al., 2016; Evershed et al., 2003; Low et al., 2001; van den Broek et al., 2011) were conducted in forensic/high security hospitals. Two studies (Gee et al., 2016; Nee & Farman, 2008) were conducted in prisons. One study (Santisteban et al., 2015) was conducted in the community setting and one study (Black et al., 2013) included participants in both prison and community settings.

Participants

Sample sizes ranged from 10 participants in the smallest studies (Low et al., 2001; van den Broek et al., 2011), to 77 in the largest study (Black et al., 2013). The largest randomised controlled study (Doyle et al., 2016) included 63 participants. The mean sample size across studies was 34.11 participants. Four studies included all male participants, three studies included all female participants and two studies included a mix of genders. The mean age of participants across the nine studies was 33.11. One study (Santisteban et al., 2015) recruited adolescents, the rest included only adults.

In eight studies, personality disorder diagnoses were confirmed by clinical interview with reference to DSM-IV or DSM-III-R criteria. In the other study (Evershed et al., 2003), participants were recruited from a personality disorder service; all participants had a PD diagnosis and also met criteria for BPD on the PAI (a self-report measure). Six studies included only participants with a BPD diagnosis. Three studies included participants with other PD diagnoses in addition to participants with a BPD diagnosis.

A measure of psychopathy was reported in three studies (Bernstein et al., 2012; Doyle et al., 2016; van den Broek et al., 2011), all of which used ST as an intervention. No study used psychopathy as a reason to exclude participants.

Participant dropout rates ranged from 0% (van den Broek et al., 2011) to 52.4% (Doyle et al., 2016), with a mean of 28.92% (although it should be noted that studies varied widely in how they defined dropouts).

Study Design

Six studies used control groups. Three of these studies (Bernstein et al., 2012; Doyle et al., 2016; van den Broek et al., 2011) were randomised controlled trials (RCTs) versus treatment as usual (TAU), one study (Santisteban et al., 2015) was an RCT versus an active treatment, and one study (Evershed et al., 2003) was controlled (but not randomised) versus TAU. Three studies (Black et al., 2013; Gee et al., 2016; Low et al., 2001) were uncontrolled single arm studies, and one study (Nee & Farman, 2008) included both a non-randomised controlled element (12-month DBT programme) and an uncontrolled element (16-week DBT programme).

Length of treatment ranged from 16 weeks (Nee & Farman, 2008) to 36 months (Bernstein et al., 2012). Follow-up data beyond the treatment period were reported in six studies. Follow-up periods ranged from 16 weeks (Gee et al., 2016) to 52 weeks (Doyle et al., 2016). Bernstein et al. (2012) plan to collect and report three years (36 months) of follow-up data, but reported no follow-up data in their preliminary findings. The mean follow-up period for the six studies that reported follow-up data was 27.66 weeks.

Interventions

Four different forms of psychotherapeutic intervention developed for treating BPD were implemented across the studies. Four studies investigated Dialectical Behaviour Therapy (DBT; Linehan, 1993), or an adapted form of DBT. Three studies used Schema Therapy (ST; Young et al., 2003) and one study used Systems Training for Emotional Predictability and Problem Solving (STEPPS; Blum, Pfohl, John, Monahan, & Black, 2002; Blum et al., 2008). One study used Integrative Borderline Personality Disorder-Oriented Adolescent Family Therapy (I-BAFT; Santisteban, Muir, Mena, & Mitrani, 2003). Three studies offered individual therapy

only, one study offered group therapy only, and five studies offered both individual and group therapy.

Dialectical Behaviour Therapy is a modified form of cognitive-behavioural therapy developed to treat BPD and self-harm in the general population. The skills taught within DBT specifically target the emotional and interpersonal deficits found in BPD, and include approaches drawn from Eastern philosophy (Linehan, 1993). Within the selected studies, DBT was adapted for forensic settings in a range of ways, including: additional treatment targets, e.g., violent behaviour, ideation, urges and emotions (Evershed et al., 2003) or offending behaviour (Gee et al., 2016); exclusion of telephone consultation (Gee et al., 2016) or providing ward-based support in place of telephone consultation (Evershed et al., 2003); delivery of Stage 1 of DBT only (i.e., with the aim of increasing behavioural control and improving quality of life; Nee & Farman, 2008); updates to skills group materials to make them relevant to male inpatients (e.g. adding 'watch a football match on television' to self-soothing lists; Evershed et al., 2003). Treatment length for DBT ranged from 16 weeks (Gee et al., 2016; Nee & Farman, 2008) to 12 months (Low et al., 2001; Nee & Farman, 2008) to 18 months (Evershed et al., 2003).

Schema Therapy is a form of cognitive therapy that focuses primarily on the deepest level of cognition, the Early Maladaptive Schema (EMS) and Schema Modes (Young et al., 2003). This approach was developed in response to difficulties in applying CBT to personality disorders, in which three common characteristics (rigidity, avoidance and long-term interpersonal difficulties), together with variability of presentation, pose therapeutic challenges. Schema Therapy has been adapted for forensic settings to include a focus on specific schema modes that are hypothesised to play a role in violence and criminality (Bernstein, Arntz, & Vos, 2007). Bernstein et al. (2007) expanded the schema mode model to include modes that are characteristic of antisocial and psychopathic patients, e.g., 'self-aggrandizer' mode and 'bully and attack' mode. Therapy in the forensic setting aims to heal an individual's vulnerable side ('vulnerable child' mode) and enhance reliance on more adaptive forms of coping ('healthy adult' mode). van den Broek et al. (2011) added

arts therapy (Blacker, Watson, & Beech, 2008; Reiss, Quayle, Brett, & Meux, 1996) as an adjunctive treatment to ST.

Systems Training for Emotional Predictability and Problem Solving is a form of group therapy for BPD that takes place over 20 weeks (Blum et al., 2002; Blum et al., 2008). The unique element of the programme is the systems component, which includes psycho-education about BPD for members of the system around an individual, encouraging them to reinforce and support the individual's new skills and manage interpersonal conflict. STEPPS was adapted for the forensic setting by Black et al. (2013) by incorporating a one-time two-hour evening event for family members and friends, corrections officers and other staff members to attend. This session included education about BPD and how best to respond to an individual with the disorder.

Integrative Borderline Personality Disorder-Oriented Adolescent Family Therapy was developed in recognition of the fact that borderline behaviour and substance use can trigger each other (Santisteban et al., 2003). The manualised treatment combines an effective intervention for adolescent substance abuse (i.e., structural family therapy) with skills components taken from DBT. Santisteban et al. (2015) implemented the programme by providing weekly family therapy with either a skills training session or an individual session each week. Individual Drug Counselling (IDC; Mercer & Woody, 1999) was used as an active comparison intervention.

Outcome Measures

A total of 47 separate psychometric measures were employed across all nine studies. These were classified into four categories for ease of reporting: BPD symptom-related, behaviour-related, offence-related and mood/overall improvement. All nine studies set out to measure changes in BPD symptoms (although Bernstein et al. (2012) did not report findings within this domain in their preliminary report). Eight studies included measures of behavioural change. Three studies (Bernstein et al., 2012; Doyle et al., 2016; Nee & Farman, 2008) included offence-related measures in

their design, although only Doyle et al. (2016) reported findings in this domain. Six studies also included measures relating to mood or overall improvement.

Outcomes

Table 1.3 provides an overview of the key findings by outcome category together with details of drop-out rates for each study.

Table 1.3. Summary of study outcomes

Study	Analysis	Outcomes (*all changes in score represent clinical improvement unless otherwise specified.*)				Drop Outs (definition; n (%); analysis)
		BPD Symptom-related	**Behaviour-related**	**Offence-related (including risk)**	**Mood & Overall Improvement**	
Bernstein et al. (2012)	BG	<u>Measures excluded from preliminary analysis</u> SIDP-IV; SNAP-I; YSQ; SMI	<u>Non-Significant Findings</u> ↑proportion of ST patients received supervised and unsupervised leave at each time point compared with TAU. After two years of treatment, 62.5% of ST patients had received supervised leave, compared with 35.7% of TAU patients (p=0.27); in the same time period, 31.3% of ST patients received unsupervised leave, compared with 7.1% of TAU patient (p=0.18). ST patients received leave more rapidly than TAU patients. ST patients who received *supervised* leave needed 137 fewer days to get supervised leave than TAU patients who received this type of leave (p=0.30). ST patients who received *unsupervised* leave needed an average of 138 fewer days to receive unsupervised leave than TAU patients (p=0.14) <u>Measures excluded from preliminary analysis</u> Institutional violence	<u>Measures excluded from preliminary analysis</u> Recidivism (to be reported when follow-up is completed) <u>Non-Significant Findings</u> HCR-20 total scores appeared to improve more rapidly in ST patients than in TAU patients (p=ns) <u>Measures excluded from preliminary analysis</u> SVR-20	<u>Non-Significant Findings</u> ST patients showed fewer overall negative global therapy outcomes (18.8%) than TAU patients (35.7%) over the 3 years of therapy (p=0.3) <u>Measures excluded from preliminary analysis</u> START; SCL-90	Terminating treatment (transferred to other clinics, worsening of psychiatric condition, recidivism, lack of cooperation with the research) 8/30 (26.6%) Dropouts not included in analysis

Study	Analysis	Outcomes (*all changes in score represent clinical improvement unless otherwise specified.*)				Drop Outs (definition; n (%); analysis)
		BPD Symptom-related	**Behaviour-related**	**Offence-related (including risk)**	**Mood & Overall Improvement**	
Black et al. (2008) *Preliminary results, incorporated within Black et al. (2013)* Black et al. (2013) *Full results* Black et al. (2015) *Re-analysis of data to examine effect of co-morbid ASPD;*	WG BG (Black et al., 2015)	<u>2013:</u> ↓**BEST Total*** pre, 34.3; post, 19.5, F=78.1, p<0.001; d=1.3 <u>2015:</u> ↑ **Greater improvement** in BPD+ASPD group vs BPD alone group on **BEST Negative Behaviours*** (F=4.8 (1, 154), p=0.030, ES = -0.55), **BEST Positive Behaviours**** (F=8.5 (1, 154), p=0.004, ES = 1.22) and **BEST Total*** (F=4.7 (1, 154), p=0.032, ES = -0.74) <u>Non-Significant Findings</u> BEST Thoughts/Feelings	<u>2013:</u> ↓**Suicidal behaviour*** pre, 0.14; post, 0.05, t= -2.22, p=0.029 ↓**Disciplinary infractions*** pre, 0.26; post, 0.17, t=-2.06, p=0.043	N/A	<u>2013:</u> ↓**BDI***** pre, 25.5; post, 10.6, F=85.7, p<0.001; d=1.08 ↓**PANAS Negative affectivity***** pre, 27.6; post, 20.5, F=23.8, p<0.001; d=0.69 <u>Non-Significant Findings</u> PANAS Positive affectivity <u>2015:</u> ↑ **Greater improvement** in BPD+ASPD group vs BDP alone group on **PANAS Positive Affectivity**** (F=7.5 (1, 147), p=0.007, ES = 0.89) <u>Non-Significant Findings</u> PANAS Negative Affectivity, BDI	<u>2013:</u> Not completing the programme 36/77 (47%) Dropouts included in analysis <u>2015:</u> 31/64 (48%) Dropouts included in analysis Assumed but not actually mentioned

Study	Analysis	Outcomes (*all changes in score represent clinical improvement unless otherwise specified.)*				Drop Outs (definition; n (%); analysis)
		BPD Symptom-related	**Behaviour-related**	**Offence-related (including risk)**	**Mood & Overall Improvement**	
Doyle et al. (2016) *Full results, peer-reviewed*; Tarrier et al. (2010) *Ministry of Justice report*	BG	**↑YSQ defectiveness/shame schema**** estimated treatment effect (i.e., mean outcome for TAU minus mean outcome for ST+TAU) at 24 months =-2.47 (i.e., an increase), SE =.93, p=0.008 <u>Non-Significant Findings</u> BIS Total NAS Total CIRCLE (8 subscales) YSQ (15 subscales)	**VRS Dynamic Total*** estimated treatment effect (i.e., mean outcome for TAU minus mean outcome for ST + TAU) at 24 months =-3.43 (i.e., a reduction in risk), SE = 1.65, p=0.038 <u>Results and/or statistics not reported:</u> IBRS MOAS	<u>Non-Significant Findings</u> HCR-20 (3 subscales)	<u>Non-Significant Findings</u> APQ (10 subscales) BPRS Total	Withdrew from study (n=5, 7.9%), transferred from research site (n=28, 44.4%) Dropouts included in analysis (ITT)

Evershed et al. (2003)	BG & WG	↓ **STAXI trait*** vs TAU, pre, 18.63; FU, 16.13, ES=.43, F=3.18, p=0.048 (interaction) ↓ **STAXI anger out*** vs TAU, pre, 15.75; FU, 14.5, ES=.23, F=3.97, p=0.043 (interaction) ↓ **NAS cognitive**** vs TAU, pre, 32.00; FU, 28.13, ES= .79, F=6.64, p=0.009 (interaction) ↓ **BDHI covert*** vs TAU, pre, 11.00; FU, 7.50, ES .59, F=5.22, p=0.020 (interaction) ↓ **BDHI overt*** vs TAU, pre, 9.63; FU, 7.25, ES .69, F=5.18, p=0.021 (interaction) Trends towards significance ↓ STAXI anger expression vs TAU, pre, 28.50; FU, 21.38, ES=.60, F=3.55, p=0.057 (interaction) Non-Significant Findings STAXI (4 subscales) NAS (3 subscales)	↓ **Seriousness of violence-related behaviours***** vs TAU, pre, 2.82; post, 1.33, F=8.05, p=0.00 (interaction) Non-Significant Findings Frequency of violence-related behaviours vs TAU	N/A	N/A	Not completing the programme Intervention group: 1/9 (11%) TAU: Not provided Dropouts not included in analysis

Study	Analysis	Outcomes (*all changes in score represent clinical improvement unless otherwise specified.*)				Drop Outs (definition; n (%); analysis)
		BPD Symptom-related	**Behaviour-related**	**Offence-related (including risk)**	**Mood & Overall Improvement**	
Gee et al. (2016)	WG	↓ **BSL**** pre, 50.0; post, 28.0; FU, 12.4, t=3.7, p=0.001 (pre to post treatment); t=3.3, p=0.004 (post treatment to follow up) ↑ **NMR**** pre, 83.6; post, 97.0, t=3.9, p=0.001 <u>Non-Significant Findings</u> NMR from post treatment to follow-up	↓ **Frequency of deliberate self-harm incidents**** pre, 3.5; post, 0.1, z= 2.9, p=0.003 ↓ **Number of days at active risk of self-harm and suicide**** pre, 8.1; post, 0.7, z=3.0, p=0.003 ↓ **MOAS***** pre, 17.4; post, 3.6; FU, 1.6, z=3.5, p<0.001 (pre to post treatment); z=2.1, p=0.032 (post treatment to follow up) <u>Non-Significant Findings</u> Frequency of deliberate self-harm incidents from post treatment to follow-up Number of days at active risk of self-harm and suicide from post treatment to follow-up Adjudication data	N/A	N/A	Not completing the programme (transferred to another prison or different therapy, excluded from programme for missing >2 unexcused sessions) 7/33 (21.2%) Dropouts not included in analysis

Study	Analysis	Outcomes (*all changes in score represent clinical improvement unless otherwise specified.*)				Drop Outs (definition; n (%); analysis)
		BPD Symptom-related	**Behaviour-related**	**Offence-related (including risk)**	**Mood & Overall Improvement**	
Low et al. (2001)		↓ **DES**** pre, 46.4; FU, 29.6, p<0.01 ↑ **RLI Coping Beliefs subscale*** pre, 2.1; FU, 4.3, p=0.01 ↓ **BSSI**** pre, 13.5; end of treatment, 3.8, p < 0.01 <u>Trends towards significance</u> ↓ EII pre, 15.3; 8 months into treatment, 12.2, p=0.05 <u>Non-Significant Findings</u> BHS RLI (5 subscales)	**Rates of self-harm*** for the second, third and fourth quarters of treatment were all significantly lower than pre-treatment rates (all p<0.05, numerical rates not provided). Rates of self-harm** for the second half of the 6-month follow-up period were significantly lower than pre-treatment rates (p<0.01) [All 10 patients showed a reduction in self-harm between pre-treatment and the final follow-up period.] <u>Non-Significant Findings</u> Rates of self-harm between pre-treatment and the first quarter of treatment, and between pre-treatment and the first half of the 6-month follow-up period.	N/A	↓ **IDAS-Depression subscale*** pre, 7.2; 8 months into treatment, 4.3, p<0.05 ↓ **BDI*** pre, 26.0, 8 months into treatment, 15.4, p<0.05) <u>Non-Significant Findings</u> IDAS (3 subscales)	Not completing a full year of therapy and follow-up 3 of the 13 participants initially recruited (23%) Dropouts not included in analysis

Nee & Farman (2005) *Phase 1 results* Nee & Farman (2008) *Phase 1 & 2 results*	WG and BG	*One-year programmes:* ↓**BSI**** pre 29.00; FU, 14.33, F(3,24)=6.98, p=0.002, ES=0.47 ↓**EII**** pre, 12.56; FU, 6.11, F(3,24)=6.29, p=0.003, ES=0.44 <u>Trend towards significance:</u> ↓STAXI pre, 38.67; FU, 29.33, F(3,24)=2.67, p=0.070, ES=0.25 2x ECQ subscales: Rehearsal, *(scores unreported)* F(3,24)=2.93, p=0.054, η2=0.27 Benign control, *(scores unreported)* F(3,24)=2.24, p=0.091, η2=0.23 RLI Survival and Coping Beliefs subscale, *(scores unreported)* F(3,21)=4.11, p=0.063, η2=0.37 <u>Unreported</u>: ECQ (2 subscales) RLI (5 subscales) Suicidal ideation **Mixed factorial ANOVAs comparing DBT participants with controls indicated no significant differences**	*One-year programmes:* Self-harming behaviour: No statistical analysis is reported. The authors interpret the data to indicate, 'to some extent', a general downturn in self-harm for the DBT participants, with an upturn towards the end and during the follow-up period. However, the authors acknowledge that the aggregate data on self-harm are misleading, being skewed by participants who experienced acute episodes of self-harm. <u>Unreported</u>: Adjudications data (the authors note that too few were recorded to detect a clear pattern) *16-week programmes* Self-harming behaviour: No statistical analysis is reported. The authors noted a reduction in the frequency of self-harm incidents from pre-DBT to during the programme (during which 'almost no incidents' were recorded). Lethality also reduced, with the most lethal incident rated 9 pre-DBT (death highly probable) falling to 5 during DBT (death 50:50).	*One-year and 16-week programmes:* <u>Unreported</u>: Reconviction. Note: *The authors state that reconviction statistics are unlikely to become available, owing to the very long sentences served by the majority of participants*	*One-year programmes:* ↑**LOCQ**** pre, 39; FU, 50.22, F(3,24)=7.96, p=0.005, ES=0.50 ↑**RSEI*** pre, 19.89; post, 27.56, F(3,24)=4.57, p=0.011, ES=0.36 <u>Unreported</u>: Quality of Life **Mixed factorial ANOVAs comparing DBT participants with controls indicated no significant differences between the groups on any test.** *16-week programmes* Statistically significant improvements are reported for the following measures (*scores unreported*). **LOCQ***, t(13)=-2.313, p=0.039 **RSEI****, t(12) =-3.796, p=0.003 **CAQ – Distress Scale****, t(13)=3.702, p=0.003	Not completing the programme, or transferred from research site Phase 1: 14/30 (46.6%) Phase 2: 1/17 (5.8%) dropped out voluntarily. Transfers not reported. Control group: 7/12 (58.3%) Dropouts not included in analysis

		between the groups on any test. *16-week programmes* Statistically significant improvements are reported for the following measures (*scores unreported*). BSI, t(13)=2.320 p=0.039 DES, t(13)=3.363 p=0.006 EII, t(13)=3.255 p=0.007 RLI – Survival & Coping Beliefs Scale, t(12)=-3.051 p=0.011 RLI – Moral Objections Scale, t(12)=-2.238 p=0.047 <u>Trends approaching significance</u> Improvements are reported for the following measures (*scores unreported*). ECQ – Emotional Inhibition Scale, t(13)=2.140 p=0.054				

Study	Analysis	Outcomes (*all changes in score represent clinical improvement unless otherwise specified.*)				Drop Outs (definition; n (%); analysis)
		BPD Symptom-related	**Behaviour-related**	**Offence-related (including risk)**	**Mood & Overall Improvement**	
		ECQ – Benign Control Scale, t(13)=-1.897 p=0.082 Personal Feelings Questionnaire – Shame Scale, t(12)=1.867 p=0.089 <u>Unreported</u>: ECQ (2 subscales) RLI (4 subscales)				

Study	Analysis	Outcomes (*all changes in score represent clinical improvement unless otherwise specified.*)				Drop Outs (definition; n (%); analysis)
		BPD Symptom-related	**Behaviour-related**	**Offence-related (including risk)**	**Mood & Overall Improvement**	
Santiste-ban et al. (2015)	WG & BG	<u>Non-significant findings</u> ↓ BP-MACI. 62% in IDC group and 76% in I-BAFT improved or recovered[1] (difference between groups was non-significant, p=0.683) Non-depressed adolescents in I-BAFT had greater odds (OR = 1.58) of recovering or improving compared with IDC. Depressed adolescents in I-BAFT had greater odds (OR = 5.72) of recovering or improving compared with IDC.	<u>Non-significant findings</u> ↓ Substance use. 23% in IDC group and 38% in I-BAFT improved or recovered[2] (difference between groups was non-significant, p=0.115) Non-depressed adolescents in I-BAFT had smaller odds (OR = 0.78) of recovering or improving compared with IDC. Depressed adolescents in I-BAFT had greater odds (OR = 11.38) of recovering or improving compared with IDC.	N/A	Intervention condition interacted significantly with comorbid depression**, B=-2.13, SE=0.72, p=0.003, 95% CI [-3.55, -0.71]. In I-BAFT, there was a small difference (Cohen's d=0.14) in residential days between <u>nondepressed</u> (M=20.50, SD=64.68) and depressed youths (M=28.00, SD=41.16). In IDC, there was a large difference (Cohen's d=0.75) in residential days between <u>nondepressed</u> (M =3.54, SD=10.21) and depressed youths (M=40.71, SD=69.55). <u>Non-significant findings</u> Overall, unplanned residential days of treatment was not related to intervention condition (p=0.473)	Not completing the programme, moved, in jail, in residential, not contactable 13/40 (32.5%) Dropouts included in analysis

[1] Improved = clinically significant improvement in behaviour from baseline to 12 months but functioning in the 'impaired' range at 12 months; Recovered = clinically significant improvement in behaviour from baseline to 12 months and functioning in the 'normal' range at 12 months.

Van den Broek et al. (2011)	WG & BG	↑ **MOS Healthy modes*** in the Arts therapy condition vs psychotherapy condition, T=7.00, z=-2.09, p=0.04, d=.80 ↑ **MOS Overcompensatory modes*** in psychotherapy sessions for TAU, and in Arts therapy sessions for ST (interaction, U=1.00, p=0.02, d=-1.67) Trends approaching significance ↑ **MOS Child modes** in the ST condition vs TAU, Z=-1.71, p=0.09, d=1.55 ↑ **MOS Avoidant/Compliant modes** in verbal psychotherapy condition vs Arts therapy condition (interaction, U=3.00, p=0.054, d=1.77) Non-Significant Findings *ST vs TAU:* Avoidant/compliant modes Parent modes Overcompensatory modes	N/A	N/A	N/A	Not defined None

Study	Analysis	Outcomes (*all changes in score represent clinical improvement unless otherwise specified.*)				Drop Outs (definition; n (%); analysis)
		BPD Symptom-related	**Behaviour-related**	**Offence-related (including risk)**	**Mood & Overall Improvement**	
		Healthy modes *Psychotherapy vs Arts therapy:* Child modes Avoidant/compliant modes Parent modes Overcompensatory modes *ST/TAU vs psychotherapy/Arts therapy:* Child modes Parent modes Healthy modes				

Notes:

↑↓ *direction of change in outcome measure;*

WG = within groups;
BG = between groups

*Levels of statistical significance: *=p<0.05, **=p<0.01, ***=p<0.001*

Effect sizes are only reported if they are reported in the original paper.

Measures: APQ = Anti-social Personality Questionnaire; BDHI = Buss Durkee Hostility Index; BDI = Beck Depression Inventory; BEST = Borderline Evaluation of Severity Over Time; BHS = Beck Hopelessness Scale; BIS-II = Barratt Impulsiveness Scale; BP-MACI = Borderline Personality Scale – Millon Adolescent Clinical Inventory; BPRS = Brief Psychiatric Rating Scale; BSI = Borderline Syndrome Index; BSL = Borderline Symptom List; BSSI = Beck Scale for Suicide Ideation; CALPAS = California Psychotherapy Alliance Scale; CAQ = Custodial Adjustment Questionnaire; CIRCLE = Chart of Interpersonal Reactions in Closed Living Environments; DES = Dissociative Experiences Scale; DPS = Diagnostic Interview Schedule for Children – Predictive Scales (depression measure); ECQ = Emotion Control Questionnaire; EII = Eysenck's Impulsivity Inventory; GAS = Global Assessment Scale; HCR-20 = Historical Clinical Risk - 20 items; IBRS = Institutional Behaviour Rating Scale; IPDE = International Personality Disorder Examination; IDAS = Irritability, Depression and Anxiety Scale; LOCQ = Locus of Control Questionnaire; MOAS = Modified Overt Aggression Scale; MOS = Mode Observation Scale; NAS = Novaco Anger Scale; NMR = Negative Mood Regulation scale; PAI = Personality Assessment Inventory; PANAS = Positive and Negative Affectivity Scale; PCL-R = Psychopathy Checklist Revised; RDIB: Revised Diagnostic Interview for Borderlines; RLI = Reasons for Living Inventory; RSEI = Rosenberg's Self-Esteem Inventory; RWCS = Revised Ways of Coping Scale; SCID-II = Structured Clinical Interview for DSM-IV Axis II; SCL-90 = Symptom Checklist-90; SIDP-IV = Structured Interview for DSM-IV Personality; SMI = Schema Mode Inventory; SNAP-I = Schedule for Nonadaptive and Adaptive Personality; START = Short Term Assessment of Risk and Treatability; STAS = State Trait Anxiety Scale; STAXI = State Trait Anger Expression Inventory; SVR-20 = Sexual Violence Risk Assessment; TAS = Toronto Alexithymia Scale; TLFB = Timeline Followback; VRS = Violence Risk Scale; YSQ = Young Schema Questionnaire

Treatments: CBT = Cognitive-Behavioural Therapy; DBT = Dialectical Behaviour Therapy; I-BAFT = Integrative BPD-oriented Adolescent Family Therapy; IDC = Individual Drug Counselling; STEPPS = Systems Training for Emotional Predictability and Problem Solving; ST = Schema therapy; TAU = treatment as usual

Note: ASPD = Antisocial personality disorder; FU = Follow-up; ITT = Intention to Treat; NPD = Narcissistic Personality Disorder; PPD = Paranoid Personality Disorder; TBS = *Ter Beschikking Stelling* (translates as 'At the disposal of (the Government)'. Specialised institutions for forensic psychiatric care in the Netherlands)

BPD symptom-related. Five studies included a global measure of *BPD symptoms*. Four of these studies reported findings on such a measure, and all of these reported overall improvements in BPD symptoms. Two of these (Nee & Farman, 2008; Santisteban et al., 2015) were controlled studies. Santisteban et al. (2015) conducted an RCT comparing I-BAFT and IDC interventions in adolescents referred by juvenile diversion programmes. Change in the BPD constellation of behaviours was measured using the Borderline Personality Scale – Millon Adolescent Clinical Inventory (BP-MACI). 62% of participants in IDC group and 76% in the I-BAFT group were judged to have improved or recovered at 12 months (using a cut-off score of 60); however, there was no significant difference between the two intervention groups (both active). Nee and Farman (2008) conducted a non-randomised controlled trial of DBT (one-year programme) with a waitlisted control group and found a significant improvement in BPD symptoms measured using the Borderline Syndrome Index (BSI) in the DBT group ($F(3,24)=6.98$, $p=0.002$, $ES=0.47$). However, again this change did not differ significantly from that recorded in the control group. The authors also reported an improvement on the same measure for their uncontrolled study of a 16-week DBT programme ($t(13)=2.320$, $p=0.039$).

Two uncontrolled studies also reported improvements on a *global BPD symptom measure*. Black et al. (2013) implemented a 20-week STEPPS programme, at the end of which an improvement in BPD symptoms was measured using the Borderline Evaluation of Severity Over Time scale (BEST) ($F=78.1$, $p<0.001$). The large effect size ($d=1.3$) is indicative of a clinically significant change. Re-analysis of the data (Black et al., 2016) found greater improvements in BEST scores among participants with comorbid ASPD compared with those with BPD alone (following which the authors concluded that a comorbid ASPD diagnosis should not be a barrier to treatment using STEPPS). Gee et al. (2016) implemented a 16-week forensically modified DBT programme ('Options') and found an improvement to BPD symptoms, measured using the Borderline Symptom List (BSL-23), from pre- to

post-treatment (t=3.7, p=0.001) with further improvement from post treatment to 32-week follow-up (t=3.3, p=0.004).

Other more specific measures related to BPD symptomatology included negative affect regulation, impulsivity, anger/irritability, dissociation, suicidality, negative cognitions/schemae and interpersonal style. Two studies reported improvements in *negative affect regulation* (Gee et al., 2016; Nee & Farman, 2008). Gee et al. (2016) found an improvement on the Negative Mood Regulation scale (NMR) from pre- to post-treatment (t=3.9, p=0.001) in their uncontrolled study, while Nee and Farman (2008) found trends towards improvement (i.e., $p<0.10$) on two of four subscales for the Emotion Control Questionnaire for both the year-long and 16-week DBT programmes; however, no between-group differences were recorded.

One study (Nee & Farman, 2008) reported significant improvements on *impulsiveness*, while two others (Doyle et al., 2016; Low et al., 2001) did not. Nee and Farman (2008) reported a reduction in impulsiveness as measured using Eysenck's Impulsivity Inventory (EII) from pre-treatment to follow-up ($F(3,24)=6.29$, p=0.003, ES=0.44) for the 12-month DBT programme and from pre- to post-treatment for their uncontrolled 16-week programme ($t(13)=3.255$ p=0.007).

Limited evidence was found for changes on *anger/irritability* scales. Evershed et al. (2003) found significant reductions on some subscales of the State Trait Anger Expression Inventory (STAXI) and Novaco Anger Scale (NAS) from pre-treatment to follow-up (24 months) in their controlled DBT study, but no significant changes on other subscales. Doyle et al. (2016) did not find changes on the NAS in their RCT of ST.

Two uncontrolled studies reported reductions in *dissociative experiences* as measured on the Dissociative Experiences Scale (DES). Low et al. (2001) reported a significant reduction in dissociative experiences from pre-treatment to follow-up (i.e., 18 months; $p<0.01$) in their pilot DBT study, while Nee and Farman (2008) reported a significant pre- to post-treatment reduction during their 16-week DBT programme ($t(13)=3.363$ p=0.006).

Two studies (Low et al., 2001; Nee & Farman, 2008) reported some within-group improvements on measures related to *suicidality*. Low et al. (2001) found a

significant reduction from pre- to post-treatment on the Beck Scale for Suicide Ideation (BSSI; $p<0.01$) and the coping beliefs subscale of the Reasons for Living Inventory (RLI), but no significant findings on the Beck Hopelessness Scale and the remaining five subscales of the RLI. Nee and Farman (2008) also found significant improvements on some subscales of the RLI but not on others.

Two studies (Doyle et al., 2016; van den Broek et al., 2011) reported findings for changes in *cognitions* that are relevant to BPD. Doyle et al. (2016) reported an increase in defectiveness/shame schema in the ST+TAU group compared with TAU alone on the Young Schema Questionnaire (YSQ; estimated treatment effect at 24 months = -2.47, $p=0.008$). The authors interpret this change (which would not normally be considered a desirable outcome of ST) as potentially important in a high-risk offender population with a high prevalence of psychopathy (in which lack of remorse and empathy are likely to be common). van den Broek et al. (2011) report a small RCT of arts therapies and ST. By measuring schema modes (similar to emotional self-states) using the Mode Observation Scale (MOS) during therapy sessions, the authors found that participants showed healthy modes significantly more frequently in arts therapy sessions than in verbal psychotherapy sessions. There was a trend towards a higher frequency of child modes in the ST condition versus TAU. The findings suggest that arts therapies and ST may be useful for evoking emotional states in forensic patients who may be difficult to reach emotionally (van den Broek et al., 2011). However, the study did not look at outcomes beyond these process factors.

Behaviour-related. Behaviour-related measures included suicidal behaviour/self-harm, aggression, disciplinary infractions, resocialisation, risk of violence and substance use. Encouraging findings were reported for *suicidal behaviour and self-harm*, although the only controlled study to report results in their domain (Nee & Farman, 2008) did not report a statistical analysis of findings. The authors interpreted the self-harm data for their one-year programme to indicate 'to some extent' a general downturn in the frequency of self-harm incidents for their DBT participants (although numerical data to support this claim were not reported), and there was also some evidence of a reduction in the lethality of self-harm incidents for the short-format (16-week) programme. However, the authors note that aggregate data on self-harm can be skewed by participants who experience acute self-harm episodes, an issue that is likely to be problematic for many studies conducted in forensic settings. Among the uncontrolled studies, Black et al. (2013) found that the number of suicidal and self-harm behaviours (pooled together as 'suicidal behaviour') reduced during their 20-week single-arm STEPPS programme ($t= -2.22$, $p=0.029$), while Gee et al. (2016) reported a reduction in frequency of deliberate self-harm incidents ($z= 2.9$, $p=0.003$) and number of days at active risk of self-harm and suicide ($z=3.0$, $p=0.003$) to treatment end. Low et al. (2001) report an encouraging overall trend of reductions in rates of self-harm, with an apparent post-treatment rebound effect (i.e., increased rate that subsequently decreased again). Overall, they note a reduction in self-harm in all 10 participants between pre-treatment and the final follow-up period.

Evidence of reductions in *violent behaviours* were found in one controlled and one uncontrolled trial. Evershed et al. (2003) reported a reduction in seriousness of violence-related behaviours in their DBT group versus TAU ($F=8.05$, $p=0.00$) but an equal reduction in frequency of violence-related behaviours in the two groups. Black et al. (2008) found a reduction in disciplinary infractions (occurring in prison) from pre- to post-treatment ($t=-2.06$, $p=0.043$) in their single-arm STEPPS study. Nee and Farman (2008) recorded too few adjudications to detect a clear pattern, while Gee et al. (2016) found no significant changes in adjudications between baseline and treatment end.

Substance use (measured using both self-report and urine toxicology) decreased in both the I-BAFT and IDC intervention groups in the study by Santisteban et al.

(2015), but differences in this change between the two intervention arms were not significant. Finally, Bernstein et al. (2012) examined changes in *resocialisation* (i.e., supervised and unsupervised leave) in their RCT of ST. Although the findings for the 30 participants included in the preliminary report were non-significant, the authors reported interesting trends in favour of the ST intervention: a greater proportion of participants in the ST group received both supervised and unsupervised leave compared with the TAU group, and they also received this leave more rapidly than in the TAU group. The authors interpret these findings as important clinical indications that participants in the ST group are being judged to have a lowered level of risk than TAU participants.

Offence-related. None of the included studies reported data on offending behaviour. *Recidivism* data is being collected for participants in the large ST RCT by Bernstein et al. (2012) and will be reported when the full results are available. Nee and Farman (2008) intended to collect reconviction data, but the authors noted that these data are unlikely to become available, owing to the long sentences served by most of the participants. Two studies included measures of *offending risk*. Bernstein et al. (2012) observed a non-significant trend for scores on the Historical Clinical Risk scale (HCR-20) to improve more rapidly in ST patients than in TAU patients in their preliminary data, while Tarrier et al. (2010) found no between-group differences on this measure.

Mood & Overall Improvement. A wide variety of measures of mood and overall improvement have been reported in studies, encompassing depressive symptoms, self-esteem, locus of control, quality of life, risk (not related to offending, e.g., self-harm/suicide), personality traits, affect regulation and global therapy outcomes. Very rarely has the same outcome measure been used in two studies, making it difficult to draw broad conclusions about how effectively any particular treatment can treat symptoms. Two studies measured *depressive symptoms* (Black et al., 2013; Low et al., 2001). Both of these uncontrolled studies reported significant improvements on the Beck Depression Inventory (BDI), while Low et al. (2001) also reported an improvement on the depression subscale of the Irritability, Depression and Anxiety Scale (IDAS). Considering other mood and overall improvement measures, none of the controlled studies reported greater improvement for intervention group participants in comparison with control group participants, although Bernstein et al. (2012) report a preliminary (non-significant) finding that ST patients showed fewer overall negative global therapy outcomes than TAU patients over 3 years of therapy. Within-group improvements for participants receiving an intervention were found for positive and negative affect, locus of control, self-esteem and need for emergency residential treatment (Black et al., 2008; Black et al., 2016; Nee & Farman, 2008; Santisteban et al., 2015).

Assessment of risk of bias of included studies

The full findings of the risk of bias analysis are provided in Appendix 1.2. The findings are summarised in Figures 1.2, 1.3, 1.4 and 1.5.

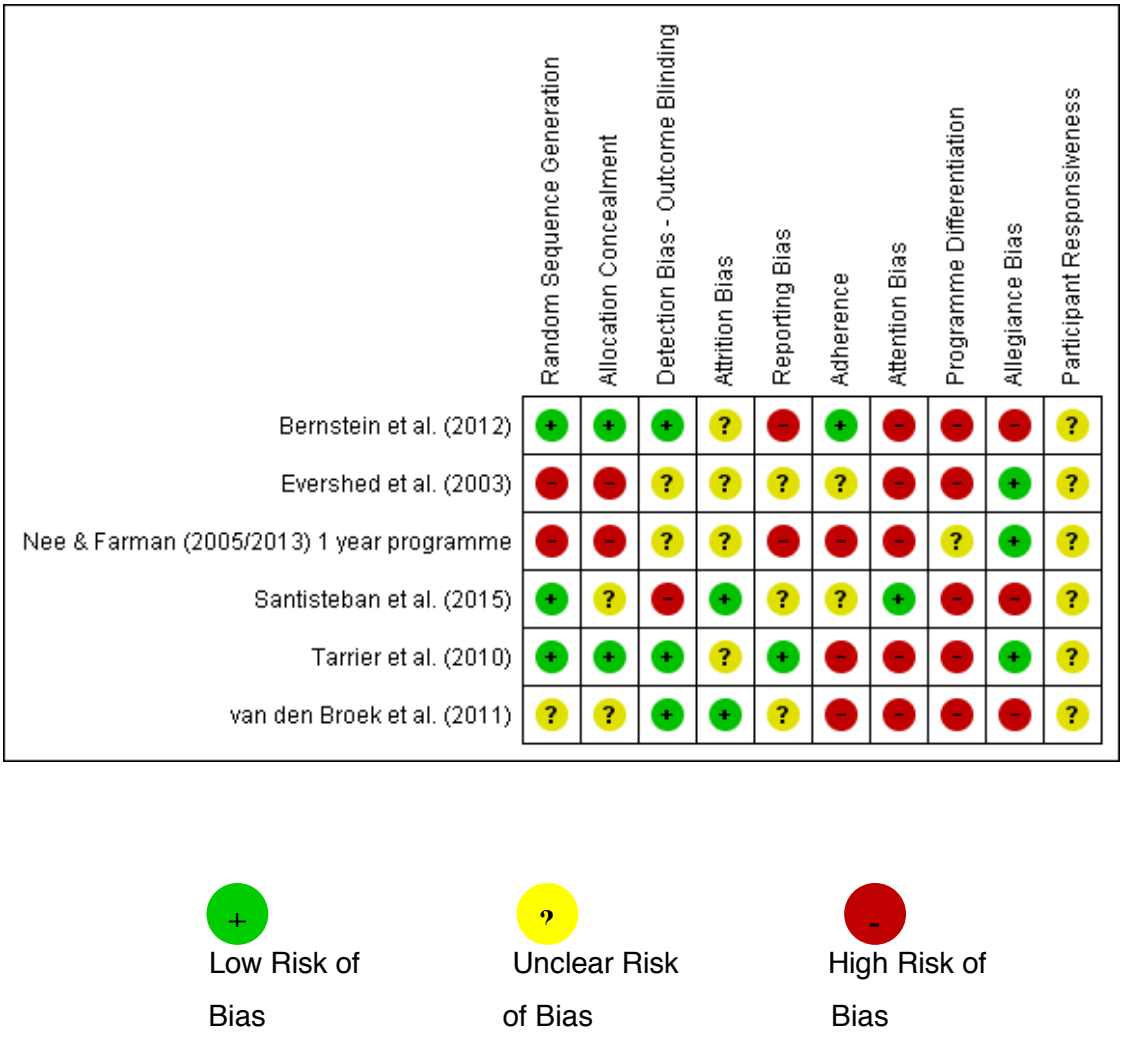

Figure 1.2. Risk of bias summary for controlled studies.

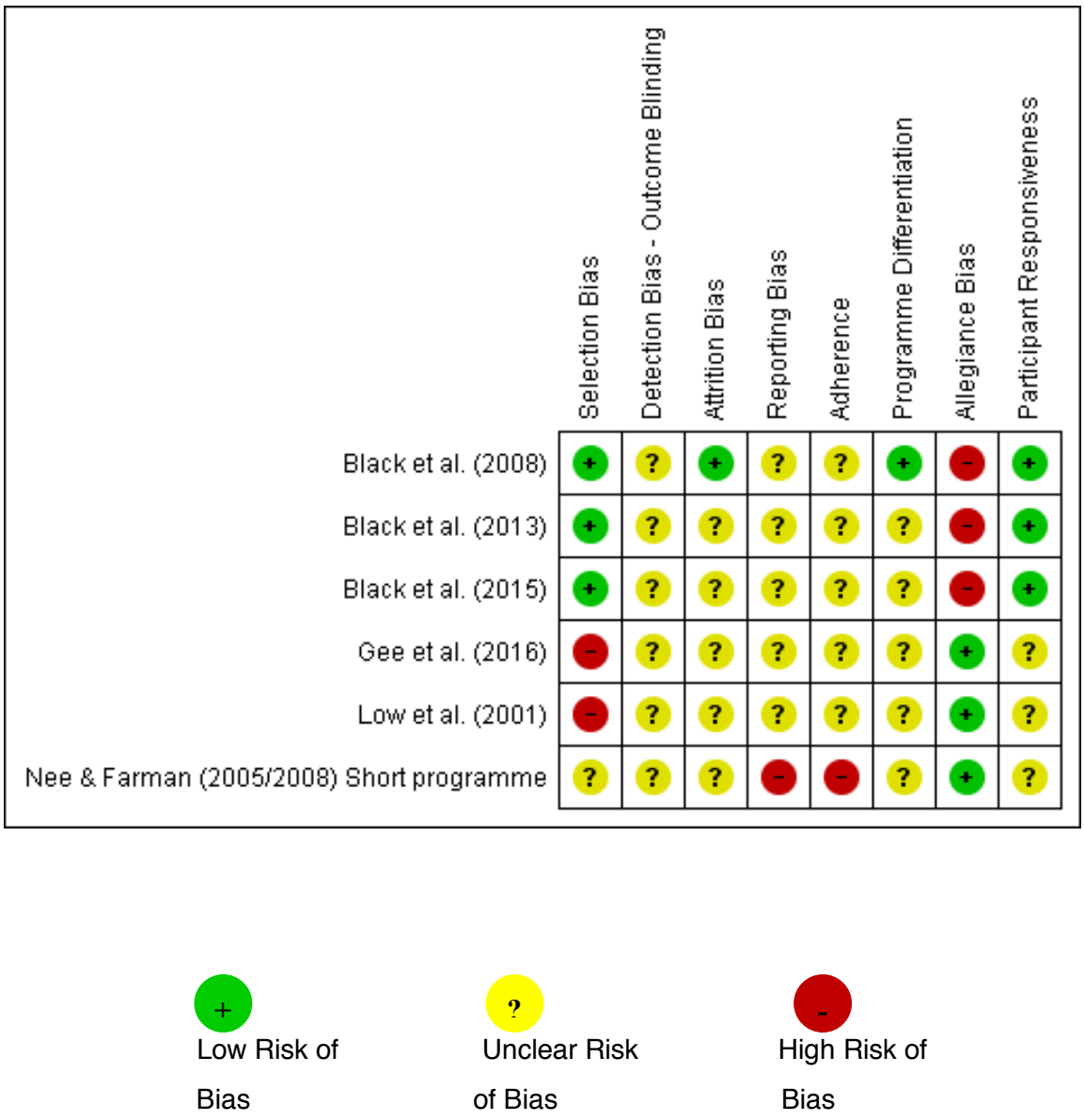

Figure 1.3. Risk of bias summary for uncontrolled studies.

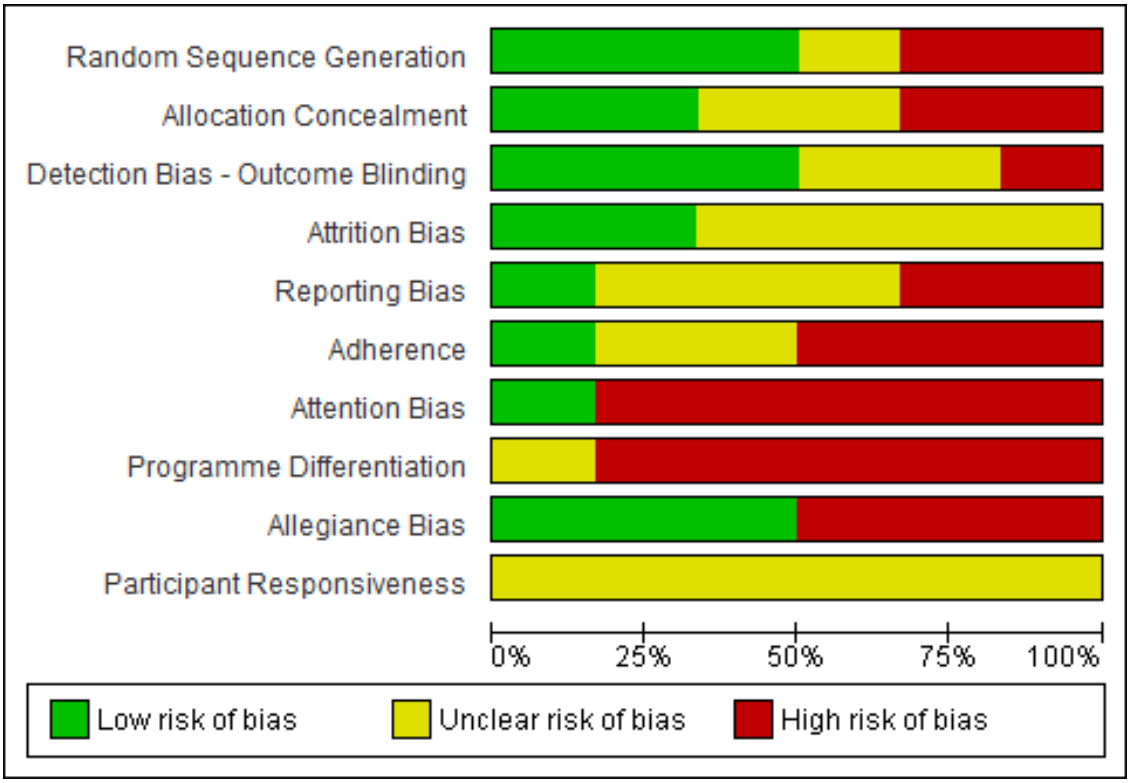

Figure 1.4. Risk of bias summary across controlled studies.

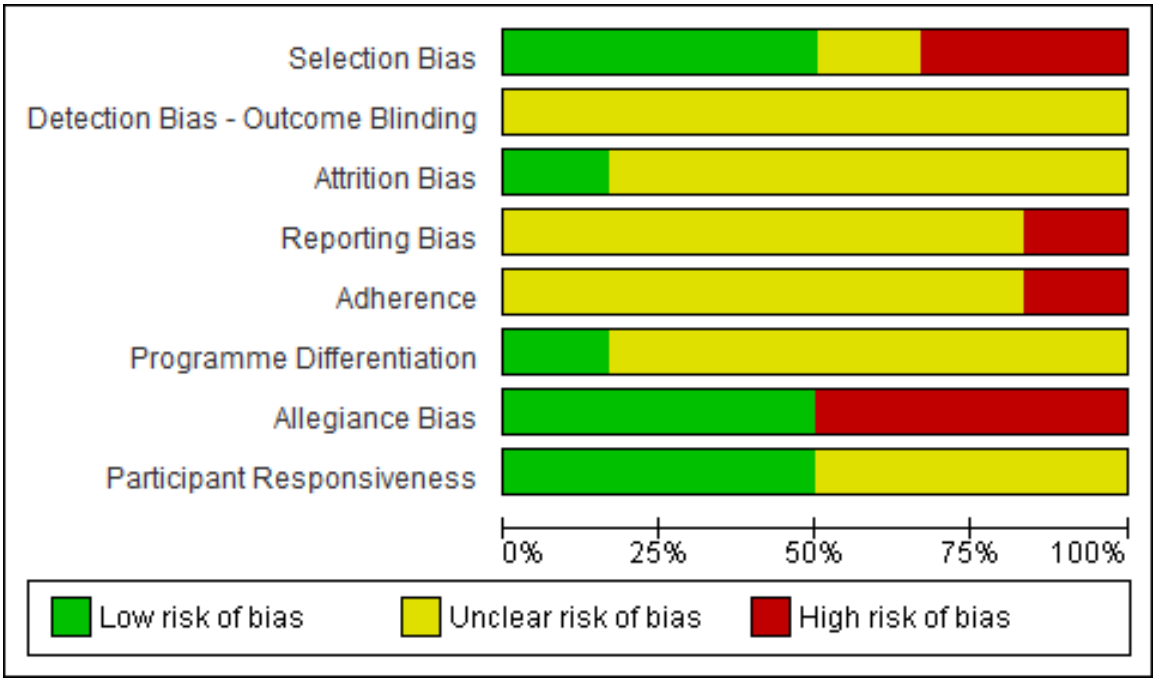

Figure 1.5. Risk of bias summary across uncontrolled studies.

Discussion

This systematic review aimed to synthesise existing research on psychological treatment for BPD and its associated clinical features in forensic settings. Borderline Personality Disorder is associated with traits such as impulsivity and emotional dysregulation that can make individuals with the diagnosis vulnerable to carrying out impulsive acts, including offending behaviour. Thus, in the forensic population BPD symptoms may create a vulnerability to reoffending in addition to the poor mental health outcomes. Therefore, such symptoms form an important target for treatment in institutions that aim to rehabilitate offenders. The current review aimed to provide healthcare professionals and researchers with an evidence base to justify the implementation of interventions for BPD within their services, and an indication of the gaps that should be addressed through further research.

Despite the relatively large number of papers identified through initial searches, a relatively small number of these met the inclusion criteria. Many studies (n=21) were excluded for the absence of appropriate participant diagnosis. Diagnosis is arguably not relevant to every study question, especially in forensic settings where individual formulation may be considered a more useful approach for working with complex cases with high levels of comorbidity. However, in the context of research, diagnosis is important for judging whether a study's findings are valid for the population in question. It also enables the outcomes of different studies to be compared with confidence. Thus, the absence of appropriate participant diagnosis may be considered a shortcoming of existing research in this area.

The papers that did meet the inclusion criteria demonstrate how a broad range of mainstream treatments developed for treating BPD have been adapted creatively to meet the specific demands of forensic settings. Encouraging improvements have been reported across a wide range of clinically relevant outcomes, and on some forensically relevant outcomes. Improvements have been reported on global measures of BPD symptomatology, specific BPD-related symptoms, mood and other indicators of positive mental health and functioning. In addition, reductions in

harmful behaviours such as suicide and self-harm have also been noted. Importantly, no intervention appears to cause participants harm.

However, the available research must be viewed in the context of its limitations. Existing studies are variable in quality and design, and most have relatively small sample sizes. Furthermore, there has been little consistency in the types of outcomes measured, or in the specific measures employed. Consequently, it is challenging to synthesise findings to date, and meta-analysis is impossible. Based on this limited evidence is not yet possible to draw conclusions about which types of psychological treatment for BPD may lead to a better outcome than any other, nor to recommend particular types of treatment for particular forensic settings.

A major limitation of the available evidence is the lack of well-designed controlled studies. Borderline symptoms, especially impulsive symptoms such as self-mutilation and suicide efforts, tend to improve over time (Zanarini, Frankenburg, Hennen, & Silk, 2003), so evidence of symptomatic improvements in uncontrolled studies must be interpreted with caution. Although most studies (n=6) reviewed here used control groups, only four of these were RCTs, the 'gold standard' design in outcomes research. One of these studies (Santisteban et al., 2015) compared two active forms of treatment, making it impossible to say what advantage either treatment may have had versus no treatment, or versus TAU. In many cases, while controlled studies found treatment effects over time (i.e., within-group differences), they failed to find differences in outcome between active treatments and TAU. Where improvements are observed in uncontrolled single arm studies, it is impossible to exclude the possibility that the improvements observed might have occurred in the absence of a BPD-specific intervention.

This review has revealed several potential sources of bias in existing research in this area. These include adherence bias, attention bias, programme differentiation bias and allegiance bias, each of which was especially evident in the controlled studies. In many cases, published papers include insufficient information to enable

researchers to judge whether bias could have been introduced, and addressing this issue would help to enable greater confidence in the quality of research.

Borderline Personality Disorder has been associated with an increased risk of reoffending (Black et al., 2007; Jamieson & Taylor, 2004). Yet only a small number of studies set out to measure recidivism and none of these studies has yet reported findings on this outcome. This presumably relates to the practical challenges of measuring recidivism (e.g., Nee & Farman, 2008). However, researchers in the field will need to make efforts to measure recidivism as an outcome if a key question for this field can be answered, i.e., can treating BPD reduce reoffending behaviour? That said, it is encouraging that most studies included behavioural measures in addition to psychometric measures, since these are likely to be the most meaningful outcomes to clinicians working in this field and could represent a reduction in offence-related behaviours.

Research Implications

Although interest in this area is not new, the evidence base available for treatment of BPD in forensic settings is still in its infancy. Results to date are sufficiently encouraging to merit testing on larger scale with more rigorous designs. New studies should make efforts to focus on a smaller number of meaningful outcomes, i.e., those that measure change in core aspects of BPD (e.g., the BEST, for which sensitivity to clinical change over time has been demonstrated; Pfohl, 2009), together with behaviour- and offence-related outcomes that are relevant to the problems encountered by offenders with BPD. Efforts should be made to align the specific measures employed, both for global BPD symptomatology and for specific symptoms (e.g., the BDI for depression) so that they can then be more readily compared. This would make meta-analysis of outcomes possible in the future.

Researchers in the field have been creative in adapting interventions such as DBT for forensic settings. A disadvantage of this approach is that it makes it more difficult to compare different studies that use variations of the same approach (e.g.,

DBT delivered in its 'pure' 12-month form versus 16-week programmes with adaptations). One way to mitigate against this problem would be for researchers to share treatment protocols to encourage adapted programmes to be replicated elsewhere. It would also be helpful for researchers to pay greater attention to therapeutic process effects in addition to overall outcomes, e.g., by taking measures weekly rather than only pre- and post-intervention, and by complementing traditional RCTs with single-case series designs. Such approaches would also be helpful for understanding, for example, how length of therapy affects outcomes, and the relative contributions of individual or group therapy to outcomes.

The relatively high dropout rates recorded in many studies reflects a formidable challenge for research in forensic settings. A frequent reason reported for this phenomenon is the transfer of participants to other sites. This poses a challenge not only for research, but for clinical intervention since standard protocols for treatments such as DBT take up to two years to implement. The promising results reported for shorter-term modifications of these interventions (Black et al., 2013; Gee et al., 2016; Nee & Farman, 2008) should provide impetus for further controlled studies of these adaptations.

Strengths and Limitations of These Findings

The search strategy used for this review was rigorous and comprehensive. The likelihood of publication bias was reduced by considering dissertations and conference abstracts and by hand searching reference lists and contacting authors to find out about unpublished manuscripts. Reliability checks and independent screening by two independent researchers were employed to ensure that the inclusion and exclusion criteria were applied with rigour. The risk of bias analysis will help individuals working in this field to judge the validity of the evidence currently available in this field.

There were several limitations. Foreign language studies were excluded owing to the absence of resources for translation. It is therefore possible that relevant studies have

been excluded. In addition, synthesis of the results relied upon qualitative analysis, since meta-analysis was precluded by the heterogeneity of studies included.

The relatively strict inclusion criterion around the diagnosis of participants led to the exclusion of studies that may have utility for practitioners in the field. The inclusion criteria privileged studies that used clinical diagnosis to select participants. It could be argued that studies that recruit based on partial diagnosis or merely on symptomatology (e.g., McCann et al., 2000) could better reflect clinical reality.

Conclusion

Research investigating whether BPD can be treated effectively in forensic settings has yielded promising findings. Clinicians have adapted a range of interventions creatively across a breadth of forensic settings, resulting in positive changes across a range of relevant symptoms and behaviours. However, a limited body of research, design limitations and a lack of reported between-group differences together make it difficult to assess what benefits may be afforded by treatments specifically designed for BPD over non-specific forms of intervention. It is also currently not possible to recommend any specific treatments over any other, nor to recommend a specific treatment for a particular forensic setting. It is hoped that this review will provide impetus and ideas for researchers in the field to add to the available evidence base, and so enable firmer conclusions to be drawn.

Acknowledgements

Thank you to Georgia Chambers for undertaking the risk of bias analysis and for checking the data extraction tables. Thank you to Cara Haines (Clinical Psychologist in Training) for acting as a second rater during study selection.

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Service Improvement Project

Evaluation of a brief educational intervention for clinical staff aimed at promoting trauma-informed approaches to care

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Word count: 3902

May 2018

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Proposed Journal: *Mental Health Review Journal*

The MHRJ highlights current thinking on the research, policy and practice of mental health service delivery, bringing together research and practice perspectives. The journal places particular attention on innovation, implementation and service user experience.

Evaluation of a brief educational intervention for clinical staff aimed at promoting trauma-informed approaches to care

Literature review

There is growing evidence that trauma plays an important role in the aetiology of severe and enduring mental health problems such as psychosis (e.g., Read, Fink, Rudegeair, Felitti, & Whitfield, 2008). In recognition of the links between violence, abuse and mental health diagnoses, the UK Department of Health has recommended that staff routinely ask all patients about such experiences at first contact, and also at subsequent assessments (NHS Confederation, 2008). In spite of this, many patients in mental health services have reported not being asked about experiences of abuse, despite believing these experiences to be connected to their mental health problems (Read, Hammersley, & Rudegeair, 2007). There is evidence that staff can be reluctant to ask patients about trauma for reasons including anxiety about harming patients and limited access to training (Read & Fraser, 1998; Toner, Daiches, & Larkin, 2013). Thus, it could be suggested that trauma is currently an 'elephant in the room' in the context of services for people with severe and complex mental health issues.

Post-traumatic stress disorder (PTSD) can develop in response to 'exposure to actual or threatened death, serious injury or sexual violence' (American Psychiatric Association, 2013). Individuals with the condition report re-experiencing symptoms,

avoidance of reminders of the event, negative alterations in cognitions and mood, and hyper-arousal (American Psychiatric Association, 2013). Complex PTSD (CPTSD) describes a cluster of symptoms seen in survivors of prolonged, repeated trauma (Herman, 1992). CPTSD occurs in response to repeated exposure to extreme external events (Herman, 1992) and has most commonly been associated with prolonged adverse events in childhood such as sexual abuse (Resick et al., 2012). CPTSD is associated with a unique symptom profile with several additional features to those observed in PTSD, i.e., affect dysregulation, negative self-concept and interpersonal disturbances (Cloitre, Garvert, Brewin, Bryant, & Maercker, 2013). For individuals with PTSD in the UK, the recommended treatments are trauma-focused cognitive-behavioural therapy (CBT), or eye movement desensitisation and reprocessing (EMDR) (NICE, 2005). Although there is currently no NICE recommendation on treatment for CPTSD, a phase-based treatment approach to treatment has been recommended (Courtois & Ford, 2013): achieving safety and stability (phase 1), remembering the past (phase 2) and reconnecting with society (phase 3).

Trauma-informed approaches (TIAs) have been proposed as a means towards improving mental health care (Sweeney, Clement, Filson, & Kennedy, 2016). TIAs give prominence to the complex and pervasive ways in which trauma affects an individual's world-view and relationships. A trauma-informed service recognises that it will be difficult for an individual who has experienced trauma to develop trusting relationships with providers of services, and will accordingly structure and deliver services in order to build safety and trust (Sweeney et al., 2016). Evidence has started to emerge that TIAs can lead to improved outcomes for patients (e.g., reduced PTSD symptoms, increased coping skills and shorter inpatient stays; for a review see Sweeney et al., 2016) and for staff (e.g., enhanced understanding of inpatient behaviour, and the building of collaborative relationships between staff and patients; Chandler, 2008). In order for a mental health service to be trauma-informed, all staff must understand how trauma affects the way in which individuals present to services. This includes a shift from thinking 'what's wrong with you' to 'what happened to you' (Harris & Fallot, 2001). Appropriate training and support for staff is essential for making TIAs possible (Sweeney et al., 2016).

The NHS trust provides services to over 31,000 individuals with mental health problems every year (NHS Trust, 2015). A survey of staff at the Trust revealed wide variation in the extent to which trauma is recognised in patients' histories (range 4-100%), despite an overall indication in the same survey that trauma could be present in 59% of cases (Chris Gillmore, personal communication, February 23, 2016). Previous research with an Early Intervention in Psychosis team (Walters, Hogg, & Gillmore, 2016) highlighted several barriers to assessing and treating trauma. There was variation in beliefs about the causal role of trauma in the development of psychosis, and evidence was found of a lack of knowledge and confidence among staff with regard to working with trauma. In addition, staff worried that talking about trauma might cause distress to clients, and themselves.

In this context, the present study aims to improve staff knowledge and confidence with regard to asking patients[1] about trauma. Specifically, a new educational video was created to introduce key concepts around trauma, including the potential impact of CPTSD on patients' lives and why it is important to ask patients about trauma. The resource was developed in recognition of current pressures on NHS clinical staff, which can in turn curtail the time that individuals are able to make available for non-mandatory training. Thus, it was intended that the resource would be:

a) brief
b) contemporary and engaging
c) accessible using any electronic device, meaning that it could be watched anywhere, played repeatedly, and digested at the individual's convenience (differentiating the resource from other forms of training).

The target audience was any clinician who has contact with patients who may have experienced trauma, including psychiatrists, psychologists, mental health nurses, allied health professionals and support staff (e.g., mental health workers). It was hypothesised that watching the resource would lead to improvements in knowledge about trauma and CPTSD, an increase in confidence to ask patients about trauma,

[1] Although it is recognised that 'service user' is a preferable term to 'patient' in many ways, 'patient' was used throughout the research study as this is the term most commonly used in the lead author's service.

and a reduction in worries about doing so. It was further hypothesised that the magnitude of these changes would be greatest in those who knew the least about trauma at baseline.

Method

Procedure

This project was planned and delivered in four stages, following a model for service improvement recommended by the NHS Institute (NHS Improvement, 2012). The model describes a cyclical process of Planning (i.e., planning a change), Doing (i.e., implementing changes), Studying (i.e., evaluating the effects of a change) and Acting (i.e., making decisions based on the outcome of the evaluation).

Plan

A qualitative needs assessment was conducted in two stages:

(1) Relevant literature was reviewed (see literature review above)
(2) Meetings were held with Dr Chris Gillmore, Principal Clinical Psychologist at the Trust, to identify current gaps in the provision of trauma-related education in the Trust.

Do

The content of the video resource was based on a set of PowerPoint presentations previously developed and used in the Trust for trauma-related training. The lead author and Dr Gillmore met to prioritise the key messages for the resource (see Box 2.1). These messages were then used to create a storyboard that could be 'user-tested' with several clinicians and service users. Input was sought from two clinical psychologists, an assistant psychologist, a trainee psychologist and two people with personal experience of complex trauma. The comments and suggestions made during this stage are summarised in Appendix 2.1. Each of the comments was considered, and appropriate amendments were made to the storyboard.

The lead author then used the storyboard to create an animated video, prioritising images over text to make it as engaging as possible. The presentation was produced using public-domain software called VideoScribe (https://www.videoscribe.co/en/). Recommendations for further sources of information were included at the end of the video, to help interested users to find out more about trauma (e.g., links to training courses, information about the trust trauma network, and links to appropriate third-party resources).

The animated video can be viewed at the URL https://youtu.be/1MXJOhPY4UE, and screen shots of the resource are available in Appendix 2.2.

Box 2.1. Key messages carried in the video resource.

- Trauma is common among people who use Trust services, across all settings and across the lifespan
- Traumatic events can have a lasting impact on people's mental, physical, emotional and social well-being
    - Traumatic events are common in the histories of people with a wide range of mental health problems
- For people who experience more specific responses to trauma (i.e., PTSD and Complex PTSD), interventions are currently offered by therapists trained in trauma-focused approaches.
- Staff should regularly ask patients about trauma, drawing on their clinical skills and experience to do so.
- A trauma-informed approach to mental health care can help to validate patients' experiences:

Study

The video was piloted with clinicians in the Trust. The pilot study was approved by the Trust R&D (Reference: E2017.022) and by the University of Bath Psychology Ethics Committee (Reference Number: 17-309) (see Appendix 2.3). Clinicians were

invited to take part via an email invitation circulated through team managers across a range of Trust services. A minimum sample of 34 participants was sought, powering the study to detect medium-sized effects[2]. Participants provided informed consent to take part (see Appendix 2.4 for information sheet, consent form and debriefing sheet).

Participants completed an online questionnaire (see below) before (T_1) and after (T_2) watching the video, enabling changes in knowledge, confidence and worries to be evaluated. Participants were given the option of watching the video with or without an audio soundtrack. At the end of the survey, participants were given the option to receive an email copy of the list of trauma-related resources provided at the end of the video (see Appendix 2.4). A follow-up questionnaire will be sent to participants six weeks after watching the video to evaluate any subsequent changes in behaviour (data pending).

Act

Recommended actions following this project are made in the Discussion section below.

Measures

Trauma Knowledge, Confidence and Worry Questionnaire (TKCWQ)

A questionnaire developed by Walters et al. (2016) was adapted to assess knowledge, confidence and worries with regard to trauma and CPTSD (i.e., the TKCWQ). The adapted questionnaire consists of 13 statements that individuals endorse on a 5-point Likert scale (i.e., 0= *Strongly disagree* to 4= *Strongly agree*) to indicate how closely each statement corresponds to their experience. The questionnaire contains three subscales: *Knowledge* (five items; e.g., 'I know about

[2] GPower was used for this calculation; settings: d = 0.5, beta = .80, and alpha = .05.

links between trauma and certain mental health problems'); *Confidence* (two items; e.g., 'if a client's referral indicated trauma I would feel confident to ask about it'), and *Worries* (six items; e.g., 'I often feel anxious to ask about trauma in case I upset the client'). Although the questionnaire has not been validated, the internal consistency of subscales was checked. In the context of the present study the *Knowledge* subscale was found to have questionable to good internal consistency (T_1 α = .61; T_2 α = .83) and the *Worries* subscale was found to have good internal consistency (T_1 α = .86; T_2 α = .85) [3].

Idiographic measures

Participants were asked to describe their current practice in relation to trauma using a percentage scale, i.e., (1) awareness of the incidence of trauma in their caseload, (2) what proportion of patients in their current caseload they had asked about trauma, and (3) the proportion of patients with whom they were directly working with traumatic experiences or the symptoms of trauma. They were then asked about any past opportunities to learn about trauma, PTSD or CPTSD since joining the Trust. Free text boxes enabled participants to provide additional comments on personal barriers to asking patients about trauma, and to say what would help them to feel more confident in this regard.

After watching the video, participants were asked about their experience of it (i.e., by responding to statements and by adding free text), and were invited to indicate what, if anything, they planned to do differently afterwards (i.e., by responding to statements). See Appendix 2.4 for the full questionnaire).

Data analysis

T_1 and T_2 scores from the TKCWQ were compared using paired samples t-tests. Data distributions were examined to check for violations of the assumption of normality, with non-parametric tests conducted where necessary. Mixed ANOVAs

[3] It was not possible to calculate α for the *Confidence* subscale as there were only two items.

were conducted to test the second hypothesis, i.e., that baseline (T_1) trauma knowledge would affect the magnitude of any changes in scores observed between T_1 and T_2. Free text responses were grouped and coded by the lead author, with the aid of a Text Analysis tool provided by the online survey platform used for the study (i.e., Qualtrics).

Results

Participant characteristics

Forty-one participants took part, including 10 (24%) clinical/counselling psychologists (including trainees); eight (20%) mental health nurses; eight (20%) therapists (including psychotherapists, CBT therapists and psychological wellbeing practitioners); five (12%) support/mental health workers; three (7%) assistant psychologists; three (7%) occupational therapists; three (7%) social workers and one (2%) psychiatrist. Participants represented a variety of settings, including Working Age Adults (63%), Primary Care (including IAPT; 10%), Older Adults (10%) and Forensic Services (2%). Other settings represented included Social Care (one participant). Participants' Agenda for Change pay bandings are summarised in Figure 2.1.

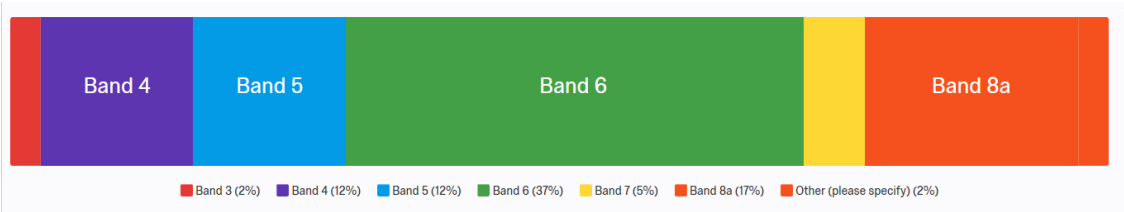

Figure 2.1. Agenda for Change pay bandings represented by participants.

Many staff reported having taken part in previous trauma-related learning opportunities. Fifty-four per cent (n= 22) had taken part in training focused specifically on trauma, PTSD and/or CPTSD; 32% (n= 13) had taken part in trauma-related continuing professional development (CPD), 10% (n= 4) were members of the Trust Trauma Clinical Network, 7% (n= 3) had taken part in trauma-related e-learning, and 17% (n= 7) reported having taken part in other trauma-related learning opportunities (including self-learning, clinical supervision, and attending a session run by the Trust staff trauma service). Twenty per cent (n=8) of participants said that they had not taken part in any previous trauma-related learning opportunities, five of whom said that they were not aware that such opportunities existed.

Current practice in relation to trauma

Participants on average estimated that around two-thirds of clients on their caseload had a history of trauma (M= 65%; SD= 28.34; Range = 6-100) and said that they had asked a similar proportion of clients about traumatic experiences (M= 61%; SD= 32.82; Range = 3-100). Participants said that they were working directly on traumatic experiences or symptoms of trauma with around a third of their caseload (M= 38%; SD= 27.39; Range = 0-90). Thirty-two per cent (n= 13) said that they felt very confident or extremely confident to carry out a trauma assessment.

Personal barriers to asking patients about trauma included lack of skills and knowledge (n=7), lack of confidence to have a conversation about trauma, or to manage the consequences of such a conversation (n=6), perceiving that either the participant's profession (n=3) or the client's situation (n=3) made such a conversation inappropriate, concerns about the client's reaction to the conversation (n=2), the need to focus on current crisis (n=2) and lack of time/resources to provide the necessary next steps (n=2). Changes that could help participants to feel more confident in relation to trauma included specific training on trauma (n=15), further experience of working with trauma (n=8), improved knowledge/skills (n=7), supervision (n=5), and clarity on the pathways available for patients with trauma (n=3).

Trauma Knowledge, Confidence and Worry Questionnaire

Mean subscale scores from the TKCWQ are provided in Table 2.1. Paired-samples t-tests revealed significant increases in mean scores for the *Knowledge* ($t(40) = -4.32$, $p<0.01$, $d= 0.59$) and *Confidence* ($t(40) = -5.15$, $p<0.01$, $d = 0.62$) subscales from pre- to post-intervention. Mean scores for the *Worry* subscale decreased from pre- to post-intervention ($t(40) = 5.66$, $p<0.01$, $d = 0.56$). Because there were instances of non-normality in the data, Wilcoxon Signed-Rank tests were also conducted. All of the differences observed above remained statistically significant at $p<0.001$.

Table 2.1.

Means and standard deviations of questionnaire subscales measured pre- and post-intervention

Subscale	Pre-intervention (T_1)		Post-intervention (T_2)	
	M	SD	M	SD
Knowledge	3.10	0.52	3.41	0.54
Confidence	2.90	0.78	3.33	0.59
Worries	1.50	0.93	1.00	0.82

Participants were then placed in two groups based on their score on the *Knowledge* subtest at T_1, creating a Low Knowledge group (with scores at or below the median total score of 15; n= 22) and a High Knowledge group (with scores above 15; n=19). Mixed ANOVAs (Group x Time) revealed no significant interactions for *Knowledge* ($F(1,39) = 3.65$, $p = 0.064$, $\eta_p^2 = .09$), *Confidence* ($F(1,39) = 0.13$, $p= 0.72$) or *Worry*

($F(1,39) = 0.42$, $p = 0.52$). This indicates that the effect of the intervention on *Knowledge*, *Confidence* and *Worry* scores did not differ according to baseline trauma knowledge.

Planned action after viewing the resource

Sixty-one per cent (n= 25) of participants indicated that they planned to do something differently after viewing the resource (i.e., agreed or strongly agreed with the statement), while 10% (n= 4) indicated that they did not plan to do anything differently (i.e., disagreed with the statement). Thirty-seven per cent (n= 15) said that they would enrol in further education/CPD on trauma and CPTSD, and 34% (n= 14) said that they would ask one or more patients about possible traumatic experiences who they would probably not have asked otherwise. Twenty-four per cent (n= 10) of all participants said that they would talk to their supervisor about trauma and CPTSD and how they might be relevant to their work, while 15% (n= 6) said that they would reflect on the possibility that trauma is relevant in one or more patients in whom they had not considered this possibility before. Fifteen per cent (n= 6) of participants selected the 'Other' option, with responses including: joining the Trust Trauma Clinical Network (n=2), seeking to share the new video with colleagues (n= 2), attending to self-care (n=1), and seeking references relating to the differentiation of CPTSD and Borderline Personality Disorder (n= 1). Eighty-five per cent (n=35) of participants opted to have an email summary of trauma-related resources sent to them.

Ratings of the video provided by participants are summarised in Figure 2.2. In free text, participants commented that it was concise and easy to understand (n= 19), it confirmed the importance of trauma (n= 8), it improved participants' confidence with regard to trauma (n= 5), it encouraged the individual to make changes to their practice or to seek new information (n= 5), it would be useful to show to teams/new starters (n= 5), it was a helpful refresher/recap (n= 4), it was interesting/informative (n= 4), it was a good introduction (n= 3), and it was made specific to the Trust (n= 1). Several participants commented that the video was missing information (n= 6) i.e., more evidence on efficacy of treatments, more explanation of how treatment for trauma works, further explanation about possible risks of re-traumatising an

individual by asking them about trauma, and reference to iatrogenic trauma. One participant commented that the video was too fast and another that it was too slow. Example quotes relating to these themes are provided in Appendix 2.5.

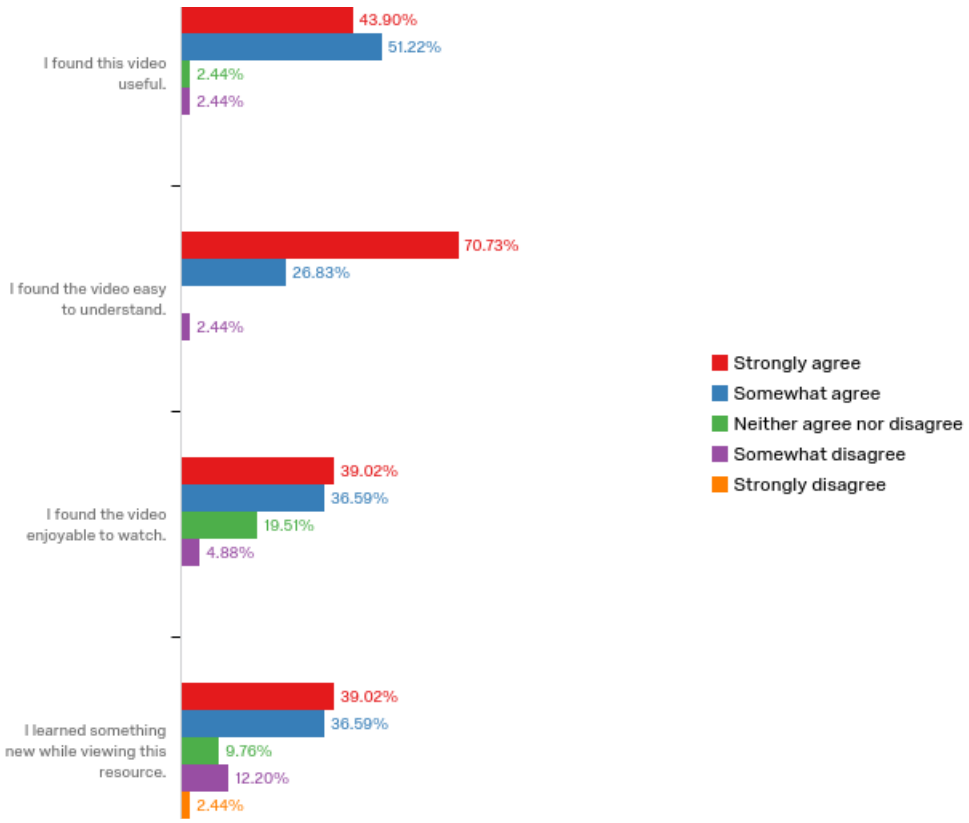

Figure 2.2. Ratings provided by participants in response to watching the video.

After watching the video, participants were asked what additional forms of support would help to feel more confident about talking to clients about trauma. Participants mentioned further training (n=8), interventions/practical tools for when people disclose trauma or experience trauma-related symptoms (n=6), sharing experience/expertise with colleagues, including role-play and CPD (n=6), further understanding of trauma (n=5), examples from patients of how clinical staff have best helped them (n=4), supervision (n=4), better understanding of support/resources available for patients with trauma (n=2) and the right questions to ask (n=2).

Sixty-eight per cent (n= 28) indicated that they had listened to the audio soundtrack while watching the video. The majority of these said that it helped to hold their engagement in the video (n=12) or that they generally found it helpful (n=7). A minority said that the voiceover did not add to the video (n=2) or found that the voiceover did not capture all of the words on the screen or could have been more lively (n=3), while two participants were unsure whether the voiceover helped or not.

Discussion

This study asked whether a brief educational video could help raise awareness of the clinical importance of trauma, PTSD and Complex PTSD among staff at a UK mental health trust. The primary hypothesis was confirmed: staff who watched the video reported improvements in their knowledge of trauma and CPTSD, greater confidence in asking patients about traumatic experiences and a reduction in worries about talking to patients about such experiences. Improvements were seen regardless of participants' prior knowledge in relation to trauma. The medium effect sizes observed in the changes on the TKCWQ subscales are very encouraging, especially in the context of a short video designed to offer a 'taster' of trauma-related learning. Additionally, nearly two-thirds of participants planned to take some form of action to further their understanding of trauma, and a third of participants said that they would ask one or more patients about trauma who they would not have asked previously. These findings indicate that a brief intervention of this nature could make an important contribution towards embedding trauma-informed ways of working at the Trust.

The finding that baseline knowledge did not appear to affect the improvements observed was unexpected. The mixed ANOVA finding for the *Knowledge* subscale approached significance (with a small to medium effect size), providing some indication that participants with lower baseline knowledge may have learned more by watching the video, as one might expect. However, there are other possible

explanations for this finding. Up to four-fifths of the sample had taken part in previous trauma-related training; thus it could be argued that individuals with a prior knowledge of trauma were attracted to take part in this study. If this is true, greater gains may have been observed had more individuals with little prior knowledge of (or interest in) trauma been recruited. Alternatively, perhaps the equal gains seen across all participants is evidence that the resource was helpful for individuals with any level of knowledge, whether providing new information or helping individuals to consolidate prior knowledge on this complex topic.

Feedback on the video itself indicated that participants found it to be enjoyable, understandable and informative (whether the information was new or a refresher). The resource appeared to 'whet the appetites' of participants who plan to seek opportunities to increase their knowledge about trauma. The list of activities that participants felt would be helpful after watching the video is interesting (i.e., further training, interventions for helping people when they disclose trauma, practical tools to help individuals who experience trauma-related symptoms while in a service, sharing experience with colleagues, role-plays, CPD, and hearing directly from patients how they have been helped to speak about trauma). Although no formal qualitative analysis was conducted as part of this study, this list hints at a desire among practitioners that they want practical skills and approaches, in addition to theoretical knowledge. Those designing trauma-related educational programmes should consider offering practical hands-on training and skill-sharing workshops as a way to improve the confidence of individuals for working with trauma.

The recommended next step for this resource will be to investigate where it can best sit within the Trust's existing educational provision on trauma. One possibility would be for the video to be used as an introduction to the Trust's core trauma-awareness training, as this would enable data to be collected from staff representing all settings, including those new to the Trust. This would enable data to be gathered from a larger number of participants, enabling the video's value to different groups to be evaluated (e.g., in settings that are under-represented in this study, such as older adults, learning disabilities and services for children and young people). By taking the resource through further cycles of the Plan, Do, Study, Act model, iterative changes can be made to ensure that the intervention can deliver demonstrable improvements for services.

This study had several limitations. Firstly, although the sample represented a good range of clinical staff (i.e., a variety of roles and settings), staff at lower bandings were under-represented. In addition, many roles and settings were under-represented, making it impossible to draw specific conclusions about the impact of this intervention for specific types of clinical staff. As mentioned previously, the majority of participants reported previous exposure to trauma training, so it is not possible to say how staff new to the Trust or to their discipline would have responded to the resource. Secondly, follow-up data are not yet available, making it impossible to know at this stage whether participants will change their practice in the way they have indicated. Furthermore, this study relies on self-reported data, and future studies should seek to capture other types of data to back up conclusions (e.g., number of referrals for trauma-focused therapy and enrolment in relevant training courses).

In conclusion, a brief video intervention was well received by staff at an NHS mental health trust, and led to improvements in self-reported knowledge and confidence, and a decrease in worries with regard to asking patients about trauma. Participants indicated that they planned to do things differently after viewing the resource, such as pursuing further training and asking patients about possible trauma. The new resource would appear to be a helpful introduction to this important topic, and, as such, could constitute an important first step towards trauma-informed practice, the evidence base for which continues to grow.

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Main Research Project

The Role of Intrusive Imagery in Hoarding Disorder

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Word count: 5618

May 2018

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Proposed Journal: *Journal of Anxiety Disorders*

The Journal of Anxiety Disorders is an interdisciplinary journal that publishes research papers dealing with all aspects of anxiety disorders (including conditions formerly categorised as anxiety disorders). The journal welcomes theoretical articles that contribute substantially to current knowledge in the field. The JAD frequently carries articles on Hoarding Disorder.

The Role of Intrusive Imagery in Hoarding Disorder

Introduction

The cardinal feature of Hoarding Disorder (HD) is 'persistent difficulty discarding or parting with possessions' resulting in 'the accumulation of a large number of possessions that congest and clutter active living areas to the extent that their intended use is substantially compromised' (American Psychiatric Association, 2013). Hoarding Disorder is a significant mental health problem that results in substantial distress for the individual, and can lead to impairments in social, occupational and other areas of functioning (Mataix-Cols, 2014). Negative consequences of HD include family conflict, eviction, and a level of work impairment equivalent to that reported by people with severe and enduring mental health problems (Tolin, Frost, Steketee, Gray, & Fitch, 2008). In severe cases, risks arise, including fire, falling and death (Frost, Steketee, & Williams, 2000). The lifetime prevalence of clinically significant hoarding has been estimated at between 2 and 6% (Pertusa et al., 2010).

In their model, Frost & Hartl (1996; see Figure 3.1) described HD as a multifaceted problem that stems from: (1) information processing deficits; (2) problems in forming emotional attachments; (3) behavioural avoidance; and (4) erroneous beliefs about the nature of possessions. Possessions come to be greatly valued, perceived as sources of comfort and security (Frost, Hartl, Christian, & Williams, 1995) and can become fused with an individual's self-concept (Kings, Moulding, & Knight, 2017). The emotions implicated in hoarding behaviour are driven by specific beliefs about objects (i.e., utility, beauty and sentimental value) and about the self (e.g., as vulnerable or responsible). Negative emotions (e.g., grief, anxiety, shame) can lead to the avoidance of potential negative outcomes such as emotional upset that might

result from discarding items (i.e., negative reinforcement), although positive emotions have also been implicated in decisions not to discard items (Steketee & Frost, 2003). This frequently leads to 'churning', i.e., moving objects from one pile to another because of difficulties making discarding decisions (Frost & Hartl, 1996).

Although psychological treatments have shown promise for HD, a recent meta-analysis of results from cognitive-behavioural therapy (CBT) interventions found that patients' post-treatment scores remained closer to the HD range than to the normal range (Tolin, Frost, Steketee, & Muroff, 2015). Thus, treatment for HD remains in its infancy for HD compared to other anxiety disorders such as OCD (Williams & Viscusi, 2016). A better understanding of the aetiology and maintaining factors involved in hoarding could highlight further therapeutic targets, potentially enabling more effective interventions to be developed and tested.

Traumatic histories and their sequelae are highly relevant both to the aetiology of mental health problems, and to their maintenance (e.g., via intrusive memories; e.g., Courtois & Ford, 2013; Ehlers & Clark, 2000; Williams, 2006). Traumatic histories are common in individuals with HD (e.g., Landau et al., 2011; Przeworski, Cain, & Dunbeck, 2014). Furthermore, a positive association has been found between hoarding severity and the number of traumatic events that occurred prior to the onset of symptoms, implicating cumulative trauma in the aetiology of hoarding (Przeworski et al., 2014). A parallel in this regard may be drawn with OCD, which has historically been linked to HD on account of overlapping symptoms (Steketee, Frost, & Kyrios, 2003). Trauma is also common in the histories of individuals with OCD (e.g., Cromer, Schmidt, & Murphy, 2007) and the possible role of traumatic experiences in the genesis of OCD has also been highlighted (de Silva & Marks, 1999; Marks & De Silva, 2001).

Recurrent or intrusive mental imagery, often linked to past events, is a feature of a broad range of mental health disorders (Brewin, Gregory, Lipton, & Burgess, 2010) and involuntary images are included in the diagnostic criteria for a number of conditions (American Psychiatric Association, 2013). Phenomenological studies of

mental imagery have illuminated variations between conditions, for example in image type (e.g., memories versus imagined scenes) and prevalence (0-100%) (Brewin et al., 2009). Mental imagery has been shown to have a special relationship with emotion (e.g., Hackmann, 2011; Holmes & Mathews, 2005) and, as such, already constitutes a therapeutic target in cognitive-behavioural treatment protocols for some conditions, such as post-traumatic stress disorder (PTSD; Ehlers & Clark, 2000), social anxiety (Wild, Hackmann, & Clark, 2008) and depression (Brewin et al., 2009).

To date no empirical studies have examined whether imagery is a feature of HD. Lipton, Brewin, Linke, and Halperin (2010) found that intrusive images were more common in OCD in comparison with other anxiety disorders, and reflected themes of 'unacceptable ideas of harm' and a 'dangerous self'. Speckens, Hackmann, Ehlers, and Cuthbert (2007) found that 78% of an inpatient sample experienced recurrent images that were distressing and vivid. Experiences of imagery tended to precede OCD symptoms, and participants frequently made connections between the images and memories of events they had experienced as aversive. There is evidence that individuals who hoard are even more likely than those with OCD to have experienced trauma (Frost, Steketee, & Tolin, 2011); thus, people who hoard might reasonably also be expected to experience negative images that relate to negative past experiences. However, it is currently unclear whether such experiences are common in individuals with HD, and also whether they might occur in the context of situations that are experienced as distressing in HD, such as attempts to discard objects.

This present study aimed to investigate whether people with HD experience intrusive imagery, and, if so, to describe the characteristics of these images in comparison with a community control (CC) sample. Across psychological disorders, intrusive images tend to be more common, more frequent and more distressing in affected individuals when compared to healthy controls (Brewin et al., 2010). For these reasons it was hypothesised (1) that the imagery experienced by HD participants would differ from that experienced by the CC group in frequency, how

it was experienced (i.e., vividness, emotional valence, link to identity), and how it was responded to (i.e., interference with everyday life and the extent to which attempts were made to avoid the imagery); and (2) that HD participants would report having had more negative experiences of intrusive imagery in comparison with CCs during recent episodes of discarding objects, and that this difference would be accentuated when the object had a relatively high subjective value, reflecting the strong emotional attachments to objects reported by people with HD, and their distress when parting with them.

Figure removed for copyright reasons

Figure 3.1. Cognitive-behavioural model of hoarding disorder (Steketee & Frost, 2006).

Method

Participants

The study received approval from the University of Bath Psychology Ethics Committee (Reference Number: 17-123). Opportunity sampling was employed. Fifty-seven individuals were recruited from the community, using a range of

traditional and digital methods (e.g., posters in community venues and social media). Potential participants were screened by telephone. The inclusion criteria were: (a) aged 18 or over; (b) absence of any organic brain injury or neurological disorder; (c) absence of current or past diagnosis of psychosis or bipolar disorder; (d) absence of current substance dependence. To be eligible for the HD group, participants had to meet the DSM-5 criteria for HD (American Psychiatric Association, 2013), which was assessed using the Structured Interview for Hoarding Disorder (SIHD; Nordsletten et al., 2013). If a participant in the HD group reported mental health problem in addition to hoarding, it was stipulated that HD had to be the primary problem. To be eligible for the CC group, participants needed to report no current mental health difficulties (assessed using the SCID-5-CV; First, Williams, Karg, & Spitzer, 2015).

Two participants were excluded: one for not meeting the DSM-5 criteria for HD, and a potential CC participant because they were taking medication for depression. Therefore 55 participants (27 HD, 28 CC) completed the study.

Measures

Structured Interview for Hoarding Disorder (SIDH)

The SIHD (Nordsletten et al., 2013) is a semi-structured interview designed to assist with the diagnosis of HD. Open and closed questions are used to evaluate each of the six core features of HD, together with the two DSM-5 specifiers: ‘with excessive acquisition (yes/no) and ‘level of insight’ (good/fair, poor, or absent/delusional) (American Psychiatric Association, 2013). Excellent convergent and discriminant validity have been demonstrated for the SIHD (Nordsletten et al., 2013).

Structured Clinical Interview for DSM-5 Clinician Version (SCID-5-CV)

The SCID-5 (First et al., 2015) is a semi-structured interview guide for making the major DSM-5 diagnoses. Interview questions enable each of the DSM-5 criteria for a condition to be rated as either present or absent. The instrument is considered to be suitable for use with both patients and community samples (First et al., 2015). All participants were initially screened for comorbidities using the SCID-I/P Screening Module for DSM-IV-TR (First, Spitzer, Gibbon, & Williams, 2002). Positive responses to the screening questions were followed up with the relevant SCID-5-CV interview and any comorbidities were recorded.

Savings Inventory Revised (SI-R)

The SI-R (Frost, Steketee, & Grisham, 2004) is a validated tool for measuring severity of hoarding symptoms. It consists of 23 statements (e.g., 'How much of your home is difficult to walk through because of clutter?') that an individual endorses on a 5-point Likert scale (e.g., 0 = *None* to 4 = *Almost all*) to indicate how closely the statement corresponds to their experience during the past week. Reliability, validity (convergent and divergent) and specificity have been established for the SI-R (Frost et al., 2004). The recommended cut-off for significant hoarding symptoms is a total SI-R score of 41 or above (Tolin, Meunier, Frost, & Steketee, 2011). In the present study, this scale was found to be internally consistent ($\alpha = .95$).

Generalised Anxiety Disorder Assessment-7 (GAD-7)

The GAD-7 (Spitzer, Kroenke, Williams, & Lowe, 2006) is a screening and severity measure for anxiety disorders. Respondents are asked to rate how much they have been bothered by each of seven problems (e.g., 'Not being able to stop or control

worrying') over the last two weeks on a Likert scale (0 = *Not at all* to 3 = *Nearly every day*). The GAD-7 has been shown to be valid, reliable and efficient both for screening GAD and assessing its severity (Spitzer et al., 2006). Caseness (i.e., clinically significant symptoms of anxiety) has been defined as 8 and above (National IAPT Programme Team, 2011). In the present study, this scale was found to be internally consistent (α = .83).

Patient Health Questionnaire-9 (PHQ-9)

The PHQ-9 (Kroenke, Spitzer, & Williams, 2001) is a screening and severity measure for depression. Respondents are asked to rate how much they have been bothered by each of seven problems (e.g., 'Feeling down, depressed, or hopeless') over the last two weeks on a Likert scale (0 = *Not at all* to 3 = *Nearly every day*). The PHQ-9 has been shown to be a reliable and valid diagnostic measure (Kroenke et al., 2001). Caseness has been defined as 10 and above (National IAPT Programme Team, 2011). In the present study, this scale was found to be internally consistent (α = .92).

Spontaneous Use of Imagery Scale (SUIS)

The SUIS (Reisberg, Pearson, & Kosslyn, 2003) is a tool used to evaluate a participant's general use of imagery in everyday life. Participants are asked to read 12 statements (e.g., 'When I think about visiting a relative, I almost always have a clear mental picture of him or her') and indicate the degree to which each is appropriate for them on a 5-point Likert scale (5 = *Always completely appropriate*, 1 = *Never appropriate*). The instrument has acceptable reliability and convergent validity (Nelis, Holmes, Griffith, & Raes, 2014). In the present study, this scale was found to be internally consistent (α = .83).

Imagery interview

A semi-structured interview was developed to investigate the presence and characteristics of intrusive visual memories and other images (see Appendix 3.1). The interview was developed using items taken from interviews used in similar research studies (e.g., Gregory, Brewin, Mansell, & Donaldson, 2010; Speckens et al., 2007). The interview has two parts:

(1) *Everyday imagery*. Participants were asked to report on everyday intrusive memories and images from the previous week, and to estimate their frequency. They were told that the images could relate to events that had actually happened (i.e., memories), or they could relate to things they had imagined (i.e., images). Prompts were used to aid discussion about intrusive images. Participants were then asked to focus on a particular image that had reoccurred during the week (or, if no image reoccurred, the image that gave the strongest emotion or felt most important). After describing the image and reporting its frequency, participants rated the emotional valence of each image (-50 = *Extremely negative* to +50 = *Extremely positive*) and indicated the extent to which it elicited several common emotions (i.e., anger, sadness, guilt, happiness, grief, fear, excitement, disgust; from 0 = *Not at all* to 100 = *Extremely*). Participants also rated the image for vividness (0 = *Not at all vivid (hazy)* to 100 = *Extremely (almost as if happening right now))*, to what extent they felt the image reflected their identity (based on Berntsen & Rubin, 2006; 0 = *Not at all* to 100 = *Extremely*), to what extent they tried to avoid the image (0 = *Never* to 100 = *Always*), how much the image interfered with their everyday life (0 = *Not at all* to 100 = *All of the time*).

Participants were also asked whether the image was linked to an earlier memory from their past, and were given the opportunity to comment on whether they thought there was any connection between the image or memory they described and their hoarding problem.

(2) *Cued scenarios*. Participants were asked to recall two recent events in their lives: the last time they discarded (or tried to discard) an object (1) that had low value to them ('perhaps even thrown away without a second thought'), and (2) that had high value to them and was very difficult to throw away. The order in which the scenarios were presented was counterbalanced. Participants were asked to describe the object and to rate its subjective value (monetary, memories, usefulness; 0 = *Not at all valuable* to 100 = *Extremely valuable*), enabling the researcher to check whether the item was appropriate to the value condition (i.e., low or high) and whether HD and CC participants were selecting items of similar value. Participants were then asked if any images or memories popped into their head while they were discarding the object. If an image was identified, identical questions from Section 1 were repeated.

Procedure

After providing consent, HD participants completed the SIHD and all participants completed the SCID-5-CV, either by telephone or face-to-face. The Imagery Interview was then administered, after which participants were asked to complete an online questionnaire containing the psychometric measures. Participants received a small voucher for an online retailer to compensate them for their time. All screening telephone calls and interviews were carried out by the lead author (NS).

Statistics

A mixed cross-sectional and experimental design was employed. Outliers were found in the data for frequency of images, therefore data points more than 3 SDs from the mean were excluded. Where variables were non-normally distributed Mann-Whitney tests were used. A series of mixed ANOVAs, Condition (Low Value, High Value) x Group (HD, CC), were conducted to compare cued imagery across the two groups for the low and high value object scenarios (Hypothesis 2). In cases of non-normal data, ANOVAs were run again using ranks in place of raw

scores (i.e., a non-parametric analysis of variance; Conover & Iman, 1981) as an extra check. Bonferroni corrections were used to reduce the risk of Type 1 errors. All tests were two-tailed, setting α at 0.05.

Narrative descriptions of images were coded independently by two research assistants to classify the descriptions into themes. The coders agreed on themes in 90% of cases. Where there was disagreement, a final decision was made by NS in consultation with JG.

Results

Participant characteristics

The characteristics of the study participants are summarised in Table 3.1. The groups did not differ significantly from each other in gender balance, X^2 (1, N=55) =0.34, p=0.56, but HD participants were older than CC participants, t(53) =2.55, p=0.014.

HD participants scored higher for hoarding symptoms (SI-R) than CC participants, t(52) =13.84, p<0.001. HD participants were more depressed (PHQ-9) than CC participants, t(30.40) =6.05, p<0.001), and more anxious (GAD-7) than CC participants, t(35.65) =5.53, p<0.001). Participants did not differ significantly from each other in tendency to use visual mental imagery in daily life (SUIS), t(52) =0.65, p=0.52.

In the HD group, 10 participants (37%) had no comorbidities and 17 (63%) had at least one comorbidity. The following comorbidities were recorded: generalised anxiety disorder (GAD; n=12), social anxiety disorder (n=7), major depressive disorder (MDD; n=6), Attention Deficit Hyperactivity Disorder (ADHD; n=5), panic disorder (n=4), binge-eating disorder (n=3), agoraphobia (n=2), specific phobia

(n=2), OCD (n=2) and anorexia nervosa (n=1). These comorbidities are consistent with previous HD research (e.g., Frost et al., 2011).

Table 3.1

Participant characteristics

Variable	Hoarding Disorder n = 27 Mean (SD) or %	Community Control n = 28 Mean (SD) or %
Males	18.5%	25.0%
Age (years)	57.19 (10.89)	48.59 (13.9)
Married	40.7%	35.7%
Educated to degree level	48.1%	75.0%
Living alone	40.7%	39.3%
Number of medications taken	2.41 (2.85)	0.64 (1.03)
PHQ-9	9.88 (6.62)	1.61 (2.27)
GAD-7	8.27 (5.53)	1.64 (2.70)
SUIS	37.31 (9.69)	35.57 (10.07)
SIR	53.58 (10.50)	18.04 (8.32)
Five or more comorbidities	11%	-
Hoarding with excessive acquisition[1]	89%	-

Note. [1] DSM-5 specifier, assessed as part of the SIHD.

Everyday imagery (Hypothesis 1)

Ninety-six per cent of HD participants and 86% of CC participants said that they experienced everyday intrusive images. The frequency of everyday intrusive images appeared to be higher in the hoarding group (Mdn=17.50; IQR= 3.50-40.00) compared with the control group (Mdn=10.00; IQR= 1.50-28.00), however this difference did not reach statistical significance, U= 286.00, z= -1.36, p=0.174.

Data relating to a specific recent example of everyday images were then analysed. The frequencies of these example images did not differ significantly between the HD group (Mdn=2.00; IQR= 1.00-6.50) and the CC group (Mdn=1.00; IQR= 1.00-3.00), U= 269.00, z= -1.471, p=0.141.

The emotional valence of the example images was significantly more negative in HD participants (Mdn= -20.00; *IQR*= -45.00–30.00) than in CC participants (Mdn= 30.00; *IQR*= 4.25–43.75), U= 435.00, z= 2.710, p=0.007, r=0.39. The most strongly endorsed image-related emotions in the HD group were grief (M=40.20, SD=36.73, Range 0-100), sadness (M=30.20, SD=34.66, Range 0-100), guilt (M=28.00, SD=37.42, Range 0-100) and fear (M=26.00, SD=39.26, Range 0-100). The most strongly endorsed emotions in the CC group were happiness (M=58.33, SD=38.41, Range 0-100), grief (M=32.50, SD=32.90, Range 0-100), sadness (M=27.50, SD=31.66, Range 0-100) and excitement (M=24.17, SD=33.32, Range 0-90). The only emotions that differed significantly between the two groups were guilt and happiness, with guilt more strongly endorsed in the HD group (M=28.00, SD=37.42, Range 0-100) than the CC group (M=6.04, SD=14.06, Range 0-50), U= 203.00, z= -2.28, p=0.02, r= -0.33, and happiness more strongly endorsed in the CC group (M=58.33, SD=38.41, Range 0-100) than the HD group (M=24.00, SD=35.62, Range 0-95), U= 449.50, z= 3.119, p=0.002, r= 0.45.

Vividness scores did not differ significantly between HD participants (Mdn=75.00; *IQR*= 55.00-90.00) and CC participants (Mdn=70.00; *IQR*= 61.25-83.75), U=

276.00, z= -0.482, *p*=0.630. Identity scores (i.e., the extent to which participants felt that images reflected their identity) did not differ significantly between HD participants (Mdn=55.00, *IQR*= 27.50-75.00) compared to CC participants (Mdn=62.50, *IQR*= 40.00-87.50), U= 350.00, z= 1.003, *p*=0.316.

HD participants were more likely to report that their everyday images interfered with their lives (Mdn=10.00; *IQR*= 0.00-45.00) compared to CC participants (Mdn=0.00, *IQR*= 0.00-1.13), U= 150.00, z= -3.29, *p*=0.001, r= -0.47. HD participants were also more likely to report that they tried to avoid their everyday intrusive images (Mdn=30.00, *IQR*= 0.00-72.50) compared to CC participants (Mdn=0.00, *IQR*= 0.00-0.00), U= 155.00, z= -3.357, *p*=0.001, r= -0.48.

Themes

The everyday images reported by HD participants reflected themes of illness or death to other (n=8), reminiscence (n=7), danger/illness/death to participant (n=4), clutter (n=2), neutral everyday memories (n=2), waste/harm to environment (n=1) and negative interpersonal memories (n=1). The everyday images reported by CC participants reflected themes of reminiscence (n=16), neutral everyday memories (n=5), illness or death to other (n=2) and danger to participant (n=1). Examples of the images reported by HD participants are provided in Table 3.2.

Table 3.2

Themes in everyday intrusive memories and images reported by participants, with examples

Theme	Example(s)
HD participants	
Illness or death to other	*'Suffering in an abattoir. Lambs, or any creature, taken for slaughter. Animals being forcibly taken and frightened. The will be stunned and killed. The animals know it.'*
Reminiscence	*'I can see my eldest daughter's features from when she was a small child. It made me think of the fun we had doing things together, like making salt dough, pasta shapes, children's craft. [The image was] prompted by seeing my daughter playing with her own daughter.'*
Danger/illness/death to participant	*'I can see the bow of this huge ship. I'm getting swept towards it… to where the people that I'm diving with are. It's almost kinaesthetic - a sense of being swept and the fear associated with it.'*
Clutter	*'I see my pile of papers that I need to look at… I see the junk around the papers. The image is to do with the admin I need to do.'*
Neutral/everyday image/memory	*'A stack of champagne glasses in a pyramid. The top one is being filled from a champagne bottle… and the champagne is filling the glasses from the top down… Mainly visual, but perhaps a sense of but perhaps a sense of warmth and hope from it also.'*

Waste / harm to environment	*'A still image of plastic islands in the sea. I see these images occasionally on the internet. It's a bunch of plastic that's found its way together in the ocean.'*
Negative interpersonal memory	*'I'm in the dining area of my friend's kitchen. There's clutter everywhere (I consider her to be worse than me). We were talking about something bad that happened the previous evening. Things got emotional. I got upset. We had an argument. The image is of the whole scene in detail.'*
CC participants	
Reminiscence	*'[A] memory of a fishing trip with my father. We're in a rowing boat. We were on a loch. It's a fairly bright day.'*
Neutral everyday memories	*'It was as if my former colleague's face popped into my head. Like a profile picture [of him].'*
Illness or death to other	*'My mum in the future. An image of my mum being very poorly. My mum at end stage of cancer. At home. In bed. It's a reminder that mum will never be an old, old lady.'*
Danger to participant	*I recalled a previous incident when [someone] pulled a knife on me. An image of the two of us near the door with him holding a knife. I can see us both standing there. I see it kind of from outside, so I can see two people, me and him.*

Imagery in response to discard scenarios (Hypothesis 2)

The raw scores for each dependent variable by group and condition can be found in Table 3.3. Participants selected objects of significantly higher subjective value in the High Value condition compared with the Low Value condition, in both the HD and CC groups. The items selected by HD and CC participants were similar in value to each other in both the Low Value condition ($t(46.18)= 0.45$, $p=0.654$) and the High Value condition ($t(53)= 1.24$, $p=0.222$). Results of two-way mixed ANOVAs for each study variable are reported below.

Image frequency

There was a significant main effect of value condition, $F(1, 51)= 23.68$, $p<0.001$, $\eta^2=.32$, whereby imagery was more frequent in the High Value condition compared with the Low Value condition. There was no significant main effect of group, $F(1, 51)= 2.35$, $p=0.132$, and no significant interaction between condition and group, $F(1, 51)= 0.58$, $p=0.45$.

Valence

There was no significant main effect of value condition on valence scores, $F(1,31)= 2.83$, $p=0.103$, whereby valence scores did not differ between the low and high value conditions. There was no significant main effect of group on valence scores, $F(1,31)= 1.07$, $p=0.308$, whereby valence scores in the HD and CC groups did not differ from each other. However, a significant crossover interaction, $F(1,31)= 7.36$, $p=0.011$, $\eta^2=.192$, indicated that the differences in valence scores in the High Value condition compared with the Low Value condition was different for HD and CC participants (see Figure 3.2)[4]. Simple main effects analysis showed that valence scores for HD participants were higher in the High Value condition compared with

[4] These interactions remained significant when non-parametric tests were run.

the Low Value condition, but scores did not differ between the conditions for CC participants.

Vividness

There was a significant main effect of value condition, $F(1,32)= 12.21$, $p=0.001$, $\eta^2=.28$, whereby imagery was more vivid in the High Value condition compared with the Low Value condition. There was no significant main effect of group on image vividness, $F(1, 32)= 0.059$, $p=0.809$, and no significant interaction between group and condition, $F(1, 32)= 0.44$, $p=0.514$.

Link between image and identity

There was a significant main effect for value condition for link with identity scores, $F(1, 31)= 16.77$, $p<0.001$, $\eta^2=.351$, whereby scores were higher in the High Value condition compared with the Low Value condition. There was no significant main effect for group, $F(1, 31)= 0.71$, $p=0.407$ and no significant interaction between group and condition, $F(1, 31)= 2.38$, $p=0.133$.

Interference of images in everyday life

There was no significant main effect for value condition, $F(1,32)= 2.95$, $p=0.095$, whereby interference scores did not differ between the low and high value conditions. There was a significant main effect of group, $F(1,32)= 10.87$, $p=0.002$, $\eta^2=.254$, whereby interference scores were higher in the HD group compared with the CC group. There was no significant interaction between group and value, $F(1,32)= 0.827$, $p=0.370$.

Avoidance of image

There was no significant main effect of value condition on avoidance scores, $F(1, 32)= 0.39$, $p=0.536$, whereby avoidance scores in the High Value condition and the Low Value condition did not differ. There was no significant main effect of group, $F(1,32)= 1.816$, $p=0.187$, indicating that avoidance scores in the HD and CC groups

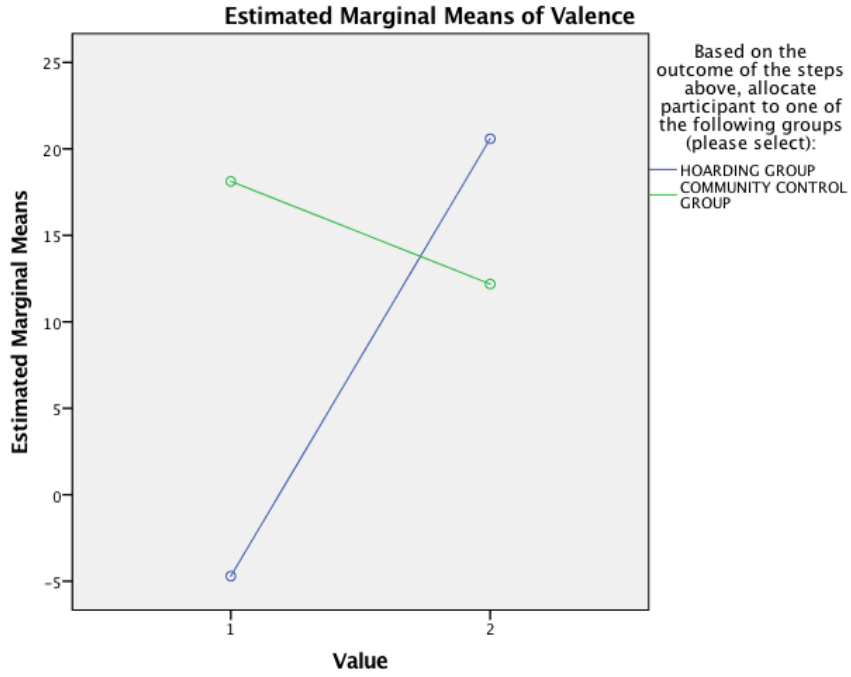
did not differ from each other. However, there was a significant crossover interaction between condition and group, $F(1, 32)= 5.56$, $p=0.025$, $\eta^2=.148$, indicating that the differences in avoidance scores in the High Value condition compared with the Low Value condition was different for HD and CC participants (see Figure 3.2)[4]. Simple main effects analysis showed that avoidance scores for CC participants were higher in the High Value condition compared with the Low Value condition, but scores did not differ between the conditions for HD participants.

Table 3.3

Means (and standard deviations) for all dependent variables by group and experimental condition (discard scenarios)

Variable	Condition		p [a]
Group			
	Low Value Object	High Value Object	
Value of object			
HD	11.62 (14.77)	51.37 (16.93)	$p < .001$
CC	10.07 (10.26)	45.06 (20.68)	$p < .001$
Image frequency			
HD	1.44 (1.76)	4.65 (5.92)	$p < .001$
CC	0.71 (0.88)	3.06 (3.06)	$p < .01$
Image vividness			
HD	53.33 (26.01)	74.03 (20.92)	$p < .01$
CC	54.94 (26.09)	69.06 (25.96)	$p > .05$ (0.060)
Image valence[†]			
HD	-4.67 (24.81)	20.59 (29.94)	$p < .01$
CC	18.13 (21.73)	12.19 (23.87)	$p > .05$
Image link to identity			
HD	45.41 (36.99)	59.71 (30.13)	$p > .05$ (0.076)
CC	28.75 (28.67)	60.31 (30.41)	$p < .001$
Interference of image			
HD	9.00 (18.39)	16.11 (16.14)	$p > .05$ (0.064)
CC	0.00 (0.00)	2.19 (4.82)	$p < .05$
Avoidance of image[†]			
HD	22.78 (34.78)	13.89 (29.53)	$p > .05$
CC	0.63 (2.50)	15.94 (24.44)	$p < .05$

Note. [a] p values taken from simple main effects analysis, comparing within-participant scores across experimental conditions; [†] indicates that a significant interaction between group and experimental condition was observed (see text); n=18 (HD group) and n=16 (CC group) CC for mixed ANOVAs.



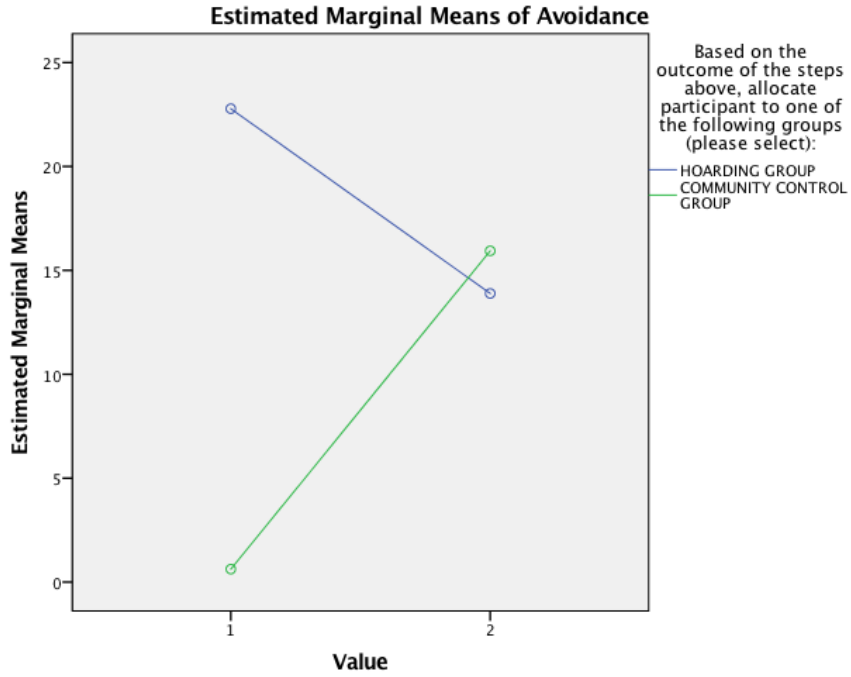


Figure 3.2. Plots showing significant interactions following Mixed ANOVA, Condition (Low Value Object, High Value Object) x Group (HD, CC) for image valence and image avoidance. Note: On X axis: 1= Low Value Object condition, 2= High Value Object condition.

Imagery Themes

The images reported by HD participants in the Low Value condition reflected themes of neutral image/memory relating to object (n=7), positive memories relating to object (n=4), negative image/memory relating to object (n=3), acquisition of object (n=2), possible future use of object (n=2), waste/harm to the environment (n=1) and clutter (n=1). The images reported by CC participants in the Low Value condition reflected themes of neutral image/memory relating to object (n=6), positive memories relating to object (n=5), possible future use of object (n=2), negative image/memory relating to object (n=2), acquisition of object (n=1). The images reported by HD and CC participants in the High Value condition are summarised in Table 3.4.

Table 3.4

Themes and examples of objects and images described by HD and CC participants during recent experiences of discarding, or trying to discard, an object of high subjective value (i.e., High Value Object condition)

Theme (*n*)	Example	
	Object, and description of experience of discard or attempted discard	Image
HD participants		
Positive memories relating to the object (15)	*'A doll's wooden high chair. I gave it to my god-daughter.'*	*'My mum's face as it lit up at her achievement at having bought the doll's chair for me. She didn't have much money.'*
Memory of acquisition of object (2)	*'Yarn and wool, for knitting and crochet. I was going through a box of stuff – getting rid of stuff… I went through the balls of wool one by one, thinking about what I had bought them for.'* [object not discarded]	*I remembered buying [the balls of wool and yarn], in a warehouse abroad, and how I had felt when I first saw, smelt and touched the wool.*
Waste/harm to the environment (2)	*'A carved elephant's tusk… the tip is a carved crocodile and there are antelopes, lions and other animals on it. I have sent pictures of it to an auction house, but they don't think it's*	*'[An image of] someone having the tusk up on their wall, and a feeling of revulsion… about the way human and animal life was not respected in those colonial days.'*

	valuable enough.' [object not discarded]	
Negative image/memory relating to the object (2)	*'A lollypop, still in its wrapper. Something my girlfriend left behind [in my flat]. I considered the possibility of throwing the lollypop away. Then thought no I actually can't. Even though I don't eat lollypops.'* [object not discarded]	*An image of finding the lollypop in my flat. I was sweeping up and found it where it had dropped down. This was shortly after [my girlfriend] left, and I was in a state about the whole business.*
Neutral image/memory relating to the object (1)	*'Books that I acquired while doing my degree. I found the books and thought 'they've been [here] ages and I've not looked for them'. I was going to the library to return some borrowed books anyway, so I donated them to the library.'*	*'[Me] sitting in my room in my flat, as a student. It's 3-4am. I'm trying to keep myself going with tea. I'm looking at the books, looking for information.'*
Nostalgic memory relating to object (1)	*An owl doorstop. I thought I would give [the collection of owls] away to mum's friend from church. She had it in her bag, and was about to walk out the door and I said 'I can't, can I have it back please!' So I kept the big one.'* [object not discarded]	*'[I] saw my mother talking to me, I could actually see her saying 'don't give that away!' Thought of my mum and her joy at acquiring that particular owl.'*

Clutter (1)	*'Plastic picnic bowls, bought so I would have something to eat out of at home [because of clutter affecting the kitchen]. I have lots of bowls, so I said I would throw these out… I put them from one place to another to another – then eventually sent them off in a charity bag.'*	*'An overflowing bowl of washing up that was still to be done. A mound of stuff, dirty dishes.'*
CC Participants		
Positive memories relating to the object (18)	*'A grey cashmere hoodie. I gave it to a charity shop with another bag of things. I have a clear-out monthly.'*	*'I am in a clearing in a forest, with a view of redwood trees in the background [wearing the hoodie]. I have my arms outstretched.'*
Nostalgic memory relating to object (3)	*'My mother's yellow suitcase. She brought it from Canada when she came to live in this country. I took it to the dump and threw out all of the contents, but couldn't get rid of the suitcase. Then one day I managed to give it away.'*	*'[A memory of] being with my mum in the airport, checking in for the flight. She had the suitcase and her pet budgie with her.'*
Neutral image/memory relating to the object (3)	*'A throw. I wrap it around myself. It's ugly, grey and a bit miserable. I had a fleeting thought I might get rid of it. But it's not broken so I decided to keep it.'* [object not discarded]	*My ex-boyfriend's sister [who the throw belonged to previously]. An image of her. Her whole body. Almost on a white background.*

Possible future use of object (1)	*'A campervan. It [had been] off the road and sat on the drive for three years.*	*'An image of what could have been if the campervan had been on the road… a live moving image. The campervan on the road, and next to the sea.'*
Acquisition of object (1)	*'A copper etching of a cat's head that I had as a child. Wondered if I should take a picture of it… but I decided the picture in my mind was quite clear enough. Took it to charity shop.'*	*'The moment I bought the picture… in a cosy shop. I remember the picture on the wall. I can vaguely see someone behind the counter, but the picture itself is much clearer.'*

Among the HD participants, 52% (n=14) in the Low Value condition and 67% (n=18) in the High Value condition identified a possible connection between the image/memory they reported (or the event it was linked to) and their hoarding problem (see Table 3.5).

Table 3.5

Themes, with examples, taken from answers to the question 'do you think there is a connection between the image/memory (or event it is linked to) and your hoarding problem?' (HD participants only)

Themes	*n*	*Examples* (object)
Low Value Condition		
Images of how an object might be used (or otherwise go to waste) encourage acquisition/saving	5	*'Now that I think about it, if an object has value to me I might go back to thinking about how I might use the object again, and sometimes this happens in images.'* (microwave oven)
Images of clutter encourage discard	4	*'The image and the event [linked to it] have urged me into action, to avoid car boot sales, eBay and charity shops and to get rid of stuff.'* (unused jigsaw puzzles)
Memories associated with objects impede discard	2	*'Images can give me a brain freeze while I am making the [discarding] decision.'* (broken casserole dish)

Negative memory associated with object encourages discard	2	*'The image helped me throw [the paper] out – it was like throwing out a bad feeling. So bad memories are good for [dealing with] hoarding!'* (old paperwork)
Object required as memory aid, impeding discard	1	*'I relate newspapers to knowledge, so then I want to hold on to them.'* (a newspaper)
High Value Condition		
Memories associated with objects impede discard	12	*'It's hanging onto the past, if I let go of [the objects relating to her] I might lose the past. It can feel disrespectful to get rid of the objects. Keeping them is like honouring her memory. What if there's nothing left on this planet to remember such a lovely person? I went to her grave recently and her gravestone had been ruined by the weather, it was like she'd been forgotten.'* (grandmother's scarf)
Image reinforces positive emotion associated with object, impeding discard.	3	*'The image [of the painting] gives me pleasure, making it more likely that I'll keep it... [I remember] the pleasure I got from painting the painting… It's part of me.'* (artwork created by participant)

Images of how an object might be used (or otherwise be go to waste) encourage acquisition/saving	2	*'If I think that [objects I like] would go to an unloved pile of things, that stops me from throwing my things out.'* (coffee making machine)
Object required as memory aid, impeding discard	1	*'My identity is sort of shrivelling away, I can't rely on my memory. I forgot things. I need external cues to jog my memory. [If I let go of my stuff] I'll be like a leaf in the wind, blowing like you don't know who you are any more.'* (toys that belonged to the participant's child)

Discussion

This study is the first to ask whether people with HD experience intrusive imagery. It described the phenomenology of intrusive images in people who hoard, compared with a healthy sample (Hypothesis 1). It also asked how experiences of discarding objects might affect intrusive imagery (Hypothesis 2). Evidence was found to support many of the predictions made within Hypothesis 1, indicating that people with HD regularly experience intrusive mental imagery that has negative emotional valence in comparison with the typical population. Hoarding Disorder participants were also comparatively more likely to report that the imagery interfered with their everyday lives, and that they tried to avoid the imagery. Hypothesis 2 was partly confirmed; HD participants reported more negative experiences of intrusive imagery in comparison with CCs during recent episodes of discarding objects of low subjective value. However, there was also a surprise finding: HD participants experienced positive imagery when discarding, or trying to discard, high value objects. Taken together, these findings show for the first time that images are important mental events that could play an important role in the maintenance of HD.

The findings in relation to Hypothesis 1 are consistent with research on intrusive imagery in the context of other mental health problems (Brewin et al., 2010; Hackmann, Ehlers, Speckens, & Clark, 2004), and add to growing evidence that images are important cognitions that can be highly relevant to the aetiology and maintenance of psychopathology. In common with individuals with other mental health problems (see Brewin et al., 2010), the content of images and memories experienced by HD participants tended to be more distressing than those in the CC group, and were often associated with specific adverse past events. Also, some of the themes of everyday images reported by HD participants (e.g., reminiscence) appeared to reflect, to an extent, themes of verbal thoughts reported by people who hoard (e.g., beliefs about the sentimental value of objects), although these possible links are subtler than in certain other conditions such as social anxiety and agoraphobia (Wells & Papageorgiou, 1999).

No cases of PTSD were recorded in the HD sample, despite frequent accounts of traumatic events in the HD population (Landau et al., 2011; Przeworski et al., 2014). This is consistent with previous HD research that has found PTSD to be uncommon in HD (e.g., Frost et al., 2011). In addition, although negative past events were commonly referenced in images in the HD group, there was no statistically significant difference in the overall frequency of intrusions in the HD compared with the CC group. This contrasts with previous research has found intrusions to be more frequent in populations with psychopathology (Brewin et al., 2010). These observations raise an important question: are individuals with HD able to avoid intrusions relating to past events more effectively than individuals with other conditions? Associations have previously been found between hoarding and lower tolerance of intense emotions (Timpano, Shaw, Cougle, & Fitch, 2014) and experiential avoidance (Ayers, Castriotta, Dozier, Espejo, & Porter, 2014). Functional avoidance of memory retrieval (J. M. G. Williams, 2006) is one possible mechanism that could enable the suppression of intrusive images in HD. Although this idea is speculative, it would be worthy of investigation in future research.

The findings in relation to Hypothesis 2 (discard scenarios) suggest that autobiographical memories may play an important role in saving and discarding in hoarding. The only instance during this study when HD participants tended to report positive imagery was when they reported on a recent experience of trying to discard an object of high subjective value. In around two-thirds of HD participants this imagery reflected positive memories relating to the object or its acquisition. It had been hypothesised that HD participants would experience negative imagery in the High Value Object condition, perhaps reflecting reactivated memories relating to past losses and traumatic events. However, when this finding is viewed in the context of research that has shown the high degree of comfort and security that people with HD derive from their possessions (e.g., Frost et al., 1995), it is perhaps unsurprising that someone who hoards should be flooded with positive imagery when handling a valued object. This finding may add important detail to the cognitive-behavioural model of hoarding (Frost & Hartl, 1996; Steketee & Frost, 2003), by highlighting a role for positive mental imagery in maintaining saving behaviour, either through positive reinforcement (i.e., repeated indulgence in positive memories relating to objects, leading to saving objects), and/or negative reinforcement (i.e., acting on their positive memories to avoid the distress of

discarding an object). The findings may also be helpful for understanding the cognitive barriers to discarding observed in people who hoard. Frost et al. (1998) observed that people with HD can more easily provide reasons to save an item than reasons to discard it; perhaps positive mental imagery helps to elaborate these 'reasons to save' when individuals are handling an object.

These findings have implications for understanding how individuals without HD manage to declutter. In the High Value condition, CC participants experienced imagery that was more frequent, more fused with identity and more likely to interfere with everyday life compared with the Low Value condition. They also reported attempts to avoid this imagery, and one might surmise that avoiding images in this way serves a function in allowing the individual to get on with the task of discarding the object. Hoarding Disorder participants reported more frequent, vivid and positive imagery in the High Value condition compared with the Low Value condition, but the observed interaction indicated that, unlike CCs, their avoidance behaviour did not change between conditions. Images have been linked to goals (Conway, Meares, & Standart, 2004), and when an individual simulates an event in their imagination they are more likely to act on it than if they think about it verbally (Libby, Shaeffer, Eibach, & Slemmer, 2007). Therefore positive imagery relating to objects in the absence of increased avoidance may increase the likelihood that people who hoard will save those objects in favour of discarding them, leading them to 'churn' objects.

Strengths of this study include the use of a clinical sample and a well-matched CC group. However, the findings should be viewed in the context of several limitations. The experimental part of the interview asked participants to recall a time when they discarded, or tried to discard, an item; thus, some of the differences in dependent variables observed may reflect differences in the outcomes of specific discarding scenarios (i.e., the decisions made), rather than group differences *per se*. However, it could equally be argued that the scenarios reflected appropriately the reality of discarding situations for individuals with and without hoarding. No standardised interview for intrusive imagery is currently available, which resulted in a reliance on

idiographic scales to test hypotheses. This limitation also makes it difficult to compare these findings directly with those of studies on intrusive imagery in other disorders, each of which has used a different interview schedule. The study design relied on retrospective self-report, which may have been subject to difficulties and biases in recall, although there is no reason to believe that this limitation would affect comparisons between groups or across conditions. Longitudinal research would be the obvious antidote to this problem, and future studies should seek to ask participants to monitor and record intrusive images and memories in real time. Comparisons between experimental conditions were only possible if a participant reported intrusive images in both conditions; this limited the sample size for this part of the study. Finally, the inclusion of an additional clinical group (e.g., OCD) would have enabled stronger conclusions regarding the specificity of the findings reported to HD.

Clinical implications

Although this study was not designed to test clinical hypotheses, there are several potential implications for clinicians who work with people with HD. The model on which most clinical interventions are based (Frost & Hartl, 1996) emphasises the importance of distorted cognitions about the meaning and utility of possessions. However, the relationship between these cognitions and hoarding behaviour is mediated by emotion, and this study provides novel evidence that mental imagery – especially memories associated with specific objects – may play an important role in shaping these emotions and moderating their intensity. Thus, it would be wise for clinicians to inquire about mental imagery when undertaking discard practice with clients and to consider how strong, positive, visual memories may be blocking discarding decisions.

If positive images and memories are acting as barriers to discard when people with HD make difficult decisions about discarding valued objects (which may describe

many or most possessions in HD; Frost et al., 1995), this points towards an important new avenue for research in this field. A parallel could be drawn with research on craving. The Elaborated Intrusion (EI) theory of craving proposes that pleasurable mental images of a desired substance enhance an individual's awareness of deficit (Kavanagh, Andrade, & May, 2005). The result is a vicious circle of imagery, desire, and planned satisfaction of desire, resulting in greater articulation of imagery that in turn amplifies emotional response. If the experience of people with HD is similar, it could theoretically be useful to help them to suppress these positive images (Gagnepain, Henson, & Anderson, 2014; Hu, Bergström, Gagnepain, & Anderson, 2017). Future experimental research could investigate whether inhibiting object-related memories could improve an individual's ability to make discarding decisions. Equally, imagery rescripting techniques (Arntz, Tiesema, & Kindt, 2007; Brewin et al., 2009; Hackmann, 2011; Hackmann et al., 2004) may be helpful as a way to focus on the contents of an image and to rehearse an alternative, more adaptive outcome, e.g., by incorporating negative elements to inhibit inappropriate approach behaviours (Brewin et al., 2010).

In conclusion, this study has demonstrated that intrusive images are a valid construct in HD. The nature of the images described, and how individuals report responding to those images, are consistent with several phenomena described in the cognitive-behavioural model of hoarding. Further research may add to our understanding of the interplay of intrusive imagery and positive and negative reinforcement in creating and maintaining hoarding behaviour.

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Executive Summary

People with Hoarding Disorder (HD) find it extremely difficult to discard possessions. This results in clutter that substantially compromises the intended use of living spaces. Negative consequences of HD include family conflict, eviction, and a level of work impairment equivalent to that reported by people with psychotic disorders. With a lifetime prevalence of between two and six per cent, effective treatment options for HD are a clinical priority.

My research is part of a wider effort, at Bath and beyond, aimed at understanding why people with HD hold onto possessions, even when it impinges on their well-being. One possibility is that the desire to hold onto possessions is related to the traumatic life histories that people with HD report. A marker of trauma found across many mental health problems is spontaneous images of past negative experiences that 'pop' into people's minds. We currently know nothing about such images in people who hoard. Do negative images drive people towards comfort by hoarding? Or do positive memories mean that hoarded objects give comfort?

I interviewed 55 participants (27 with HD and 28 control participants), sourced using posters, social media posts and at a car boot sale. Firstly, I asked participants about everyday images. People with HD reported comparatively negative imagery that frequently reflected themes such as illness and death. This is the first time this has been demonstrated in HD.

In a second experimental phase, I asked participants about the images they experienced during recent real-life experiences of trying to discard objects. In keeping with a priori hypotheses, experiences of discarding low value objects were accompanied by negative imagery that individuals often tried to ignore. Although I expected the attempted discard of high value objects to be accompanied by even more negative imagery (reflecting the past experiences of loss that are very common

in people who hoard), participants reported predominately positive images, accompanied by positive emotions.

This research adds an important new dimension to the dominant cognitive-behavioural model of hoarding (Frost and Hartl, 1996), which sees failure to discard in hoarding as the consequence of verbal beliefs about the utility, beauty and sentimental value of objects (e.g., 'this might come in handy one day'). The potential role of emotive imagery in driving these processes has so far been unexplored.

I hope that future research will be able to test a new hypothesis: that positive imagery inhibits thoughts about the negative long-term consequences of clutter, thus (unhelpfully) saving objects from the recycling bin. If confirmed, clinical interventions could be developed aimed at helping people with HD to suppress such positive images to enable them to discard effectively.

This research is part of a team effort, alongside a growing group of DClinPsy trainees working on hoarding projects with Dr James Gregory. On a practical level, we have been collaborating to give our hoarding participants – who have traditionally been difficult to recruit – the opportunity to participate in each other's studies. Together we are working to shed light on all aspects of hoarding behaviour, including the acquisition of new objects, the failure to discard old objects, and difficulty sorting everything in between.

Connecting Narrative

I have found research to be a highlight of the D.Clin.Psy. Designing and delivering research on three separate topics within a limited time frame has been a formidable challenge. However, I am confident that each research project has given me skills that will prove very valuable throughout my career, however many opportunities I get to engage in 'proper' research again as a qualified clinical psychologist.

My pre-training work experience proved helpful during the process of choosing research topics. I found that I had some sense of how long the work might take (though some of these predictions proved more accurate than others). Given the likely scale of competing research demands I tried to be strategic in my choices. If any first-year trainees are reading this I would advise you to keep things simple as far as possible, in part by keeping an eye on the number of 'complicating factors' that might present in any particular project, e.g., recruiting children, needing NHS ethics, doing face-to-face or telephone interviews with people (versus online), or trying to get time in a busy supervisor's diary. I deliberately tried to keep my SIP simple, as this seemed like the most 'scalable' of the three projects. Finally, I looked for supervisors I knew I could work well with, since I knew that an accessible, supportive and invested supervisor would be a battle half won. In reality of course, no project was as straightforward as it seemed, as I'll describe below.

Systematic Review of the Literature

Can Borderline Personality Disorder be treated effectively in forensic settings?

Study selection and development

The road to identifying a literature review topic is rarely smooth. That is the experience of most trainees I have spoken to, most of whom have spent a lot of time exploring alleys that turned out to be blind. *If a topic is interesting enough to review, someone has probably done it already*. This is the conundrum. I flirted with several avenues, including complementing my MRP with a narrative review on a hoarding-related topic. However, I opted instead for variety. I initially shied away from my chosen topic (psychological treatments for Borderline Personality Disorder (BPD) in forensic settings) because I feared it wouldn't be very interesting: there was every indication that the conclusion could be written before starting the review, i.e., *there's not much research out there, and what is available is inconclusive*. However, in retrospect I think that I had missed the point. Despite the 'bottom line' the literature review was a great opportunity to get under the skin of research papers and to hone my critical evaluation skills.

Challenges and personal learning

I had been told that a systematic review was time consuming, but that didn't fully prepare me for the beast ahead. Reviewing nearly 3000 abstracts on Covidence was strangely cathartic at times (and mind-numbing at others). Another trainee and I then second-rated a selection of each other's abstracts, which was a useful learning exercise and added variety to the work. I realised that I was fortunate that my review focused on clinical outcomes (trainees who have looked at mediators and moderators seem to have had a trickier time during the screening phase). However, the biggest challenge was data extraction. My studies reported nearly 50 different outcome measures, each of which I diligently picked out and placed in tables.

The process of conducting this review taught me several important skills. I learned to be more critical when reading literature. It is surprising (sometimes shocking) to see the extent of selective reporting of outcomes in published papers. I also find that

I am more likely now to read the methods and results sections of papers rather than skipping to the abstract, introduction and discussion.

Process

I conducted a Risk of Bias analysis as part of this project. I knew that this was an 'optional extra' (the type that I have advised other trainees to skip). However, Megan found me an ambitious undergraduate (Georgia Chambers) who was keen to work as my research assistant in return for the experience and for joint authorship. Working with Georgia was a great experience; she was enthusiastic, committed and took on what proved to be a considerable challenge with aplomb. However, I had underestimated what a large piece of work a RoB analysis is, even for a team of two. On balance I am glad that I took on this extra piece of work (and hope it helps to get the paper published) but I would urge caution to members of future cohorts with regard to optional extras.

Outcome

I am proud of this piece of work and look forward to getting it published. I sometimes worry that the review might already be out of date (or that someone else has published a similar review first) – but that will give me impetus to get my review submitted to a journal.

Service Improvement Project (SIP)

Evaluation of a brief educational intervention for clinical staff aimed at promoting trauma-informed approaches to care

Study selection and development

My SIP involved creating a new educational video on trauma, PTSD and Complex PTSD for staff at an NHS trust. I chose the project because it seemed like a great way to combine the skills I developed in my previous career (public relations and

marketing) with my new skills as a psychologist. I was also attracted by the idea of creating a resource that might actually be used by clinicians in the future. Furthermore, trauma appealed to me as a topic since it appears to lie at the heart of so many problems.

I was fortunate to have an excellent external supervisor, Dr Chris Gillmore, who struck a good balance between ambition for the project and recognising the competing demands faced by Bath trainees. That said, ambition won in the first proposal I drafted. I had planned an extensive consultation period, a focus group with staff to understand their needs, development of the resource itself, a pilot with several staff, ending with a Trust-wide launch. Thankfully I received feedback at my project approval session that simply developing the resource and piloting it would be sufficient. This advice saved me from biting off what would have been a lot more than I could chew. I think that my experience of the course as a whole has been enhanced by this brutal pruning of my SIP proposal.

Process and ethical approval

Chris and I planned the video over several cups of coffee. Chris brought ideas from his extensive clinical and leadership experience, and I brought expertise from my experience as a communicator. We wanted to create something different from the usual e-learning resources that NHS staff have access to, i.e., an engaging animation that would pique the user's curiosity (perhaps during a lunch break) and encourage them to find out more about trauma and why it was relevant to their work. We later met to decide the key messages that we wanted to convey and then ran the draft storyboard by several Trust clinical staff and two service users. I knew from my previous career how difficult it is to make changes to an animation once it has been created, so gaining feedback at this stage was essential. By meeting Geraldine Jones (e-learning officer at the university) I found out about VideoScribe, software that enables users to create animated videos with relative ease, and used this to create the animation. Piloting the video did not require NHS ethical approval.

Challenges and personal learning

I developed my SIP over more than two years. I deliberately *deprioritised* the SIP in the knowledge that it was the most straightforward of my three projects. Two barriers I had to contend with while creating the video were (a) how much fun it was to put together, and (b) my occasional perfectionist tendencies. However, I was passionate about the project, so I did not mind devoting personal time to the video. Other course demands meant that I reached the piloting stage relatively late (April 2018, with thesis hand-in due the following month). By this point I was on my elective placement in the Trust (working with Chris), which made data collection relatively straightforward. A final challenge was that the piloting phase was delayed pending final R&D approval (the staff member who had reviewed my original application had left the Trust, resulting in the revised application being passed to a senior, and very busy, member of staff). Although this created some anxiety, I had plenty to get on with on my other projects.

Outcome

I am proud of this piece of work, since it combined high quality service-level research with creating a practical learning tool that I hope will have longevity in the Trust. I look forward to publishing the report based on the work, and also to sharing the video (e.g., at conferences and through online forums) in the hope that the video can be adapted and used more widely. I am aware that many projects that get evaluated in the NHS ultimately do not get used, and it is my hope that this will not be one of them.

Main Research Project (MRP)

The Role of Intrusive Imagery in Hoarding Disorder

Study selection and development

When Dr James Gregory introduced his research on hoarding at the first-year research fair, I was struck that this was an area that still felt ‘fresh’ (hoarding is relatively under-researched). This potentially meant that finding a new ‘angle’ to

approach this diagnosis would be easier than in OCD or psychosis, for example. Because people who hoard are most easily recruited outside the NHS, there was no need for IRAS, which I saw as a bonus. I also had a personal interest in hoarding.

James guided me through the fairly lengthy process of finding a suitable research question. It was helpful that he provided appropriate scaffolding to find my own research question, rather than 'spoon-feeding' me a research topic. I was very happy with my final topic: intrusive imagery in hoarding. I have long been surprised at the relative neglect in psychological research of mental imagery in favour of verbal thoughts. When I later conducted my interviews, it was fascinating to see how mental imagery tends to go unnoticed among the experiences of most people; yet when given time, people describe very vivid and powerful images and recognise that these images often guide their action. Discarding decisions are highly emotive events for people who hoard, so imagery in this context felt like a very important area to explore.

Ethical approval

The university ethics process is relatively quick, enabling me to get up and running with recruitment and data collection by the summer of second year. The university ethics system also enabled me to respond to recruitment challenges by making changes to my protocol and having these approved quickly. These changes included gaining approvals to recruit participants in the US (not necessary in the end, but a good backup plan) and to recruit in a public place (see below). I also got approval to recruit collaboratively with another trainee, Alice Kilvert. We asked our participants if they wanted to take part in each other's research studies, and then requested their permission to share their screening information, saving time for both participants and researchers.

Challenges and personal learning

My MRP was huge in two ways. Firstly, I recruited and interviewed 55 people. Recruiting participants took considerable effort. The interviews, which included

screening for comorbidities using the SCID-5, could take up to 2.5 hours (although they were usually shorter). That said, I enjoyed the process. I was able to put my PR skills to good use. For example, I recruited at a car boot sale. This didn't lead directly to many participants (people who hoard can be embarrassed to talk about their difficulties, so 'signing up' for research on a Sunday morning is perhaps somewhat unrealistic) – however, it was a great opportunity to meet people with direct and indirect personal experience of hoarding and to learn about their experiences in an informal setting. The power dynamic also felt more balanced in this setting compared with the process of conducting research interviews. I also took part in radio and television interviews jointly with James and Alice. Again, these interviews did not lead directly to many participants, but I firmly believe that the public (who have indirectly funded my research) have a right to know about it.

Recruitment drive at Ashton car boot sale. I wanted to speak to potential participants more than they wanted to speak to me.

Secondly, there was the dataset itself. I collected a large amount of data, both quantitative and qualitative. Although this project was not conceived as a mixed-method study, it has come to feel like one. This project has confirmed my sense that these two types of data are different sides of the same coin. Although the quantitative data I collected about people's images yielded some interesting findings, it left me wondering '*what was actually in the images?*'. Fortunately, I had written down people's descriptions and was able to code these with the aid of two research assistants that James found for me. I am very pleased with the end product and feel that the triangulation of quantitative and qualitative findings has yielded a very rounded answer to an important and novel research question. However, navigating through a large set of data has been really hard work, and I wonder in retrospect if a more focused question could have led to more focused analysis.

I gained indirect service user input on this project (via James) but did not meet any people who hoard directly until I started data collection. I was able to incorporate constructive feedback on the wording of specific questions that I received from some of my first participants and incorporated these into the prompts within the

semi-structured section of my interview. With hindsight, this was perhaps a risky strategy and in future I would want to meet one or two service users (even if they didn't hoard) face-to-face to pilot my interview. However, the time pressures of the course made this difficult.

Contributions to the literature and dissemination

I believe that this project has made an important contribution to both the hoarding and intrusive imagery literature. I am passionate about disseminating research findings (and used to do this for a living). I enjoyed writing the dissemination document for my MRP, and always find that the process of trying to explain my research to a lay audience succinctly helps me to make further sense of the data. In addition, I used my study to create an entry in the university Images of Research competition (see below) and I look forward to giving an oral presentation on the study at the BABCP conference later this year.

Creature comforts

Molly seems to find comfort in gathering all her (and my) things around her. Dogs aren't the only animals to hoard objects. Humans do it too.

While Molly will never be able to tell me what drives her behaviour, I'm hoping to learn more about why humans gather possessions – even when it impinges on their home life. Hoarding is unusual among 'anxiety disorders' because it's driven by both positive and negative emotions. People who hoard often say that their objects give them a profound sense of comfort.

Emotion (and consequent action) is often driven by 'intrusive memories' or fleeting mental pictures. We currently know nothing about such images in people who hoard. Do positive memories mean that hoarded objects give comfort? Or do negative images drive people towards comfort by hoarding?

By speaking to people who hoard I hope to build a new picture of the condition.

Nick Stewart
Department of Psychology

Entry in the University of Bath Images of Research competition, 2018.

Case studies

Case studies can feel burdensome at times (especially as the deadlines for them inevitably fall during the busy end-of-placement period) but writing them has been a very valuable experience. Linking theory and practice lies at the core of our profession, but I find that keeping these links alive in a busy NHS environment can be challenging. The case studies are an opportunity to take a step back from a piece of clinical work and to really think about what you have done, and why. I have found that the case studies have helped to engender a mental discipline in my work, encouraging me to consider what outcome measures might be useful (balanced against the demands that these place on clients), what formulation model is most appropriate, what aspects of an assessment I may have prioritised at the expense of others, and whether I am subjecting my ongoing work to constant evaluation (e.g., questioning whether the formulation is still fit for purpose in the light of any new information gathered). Case studies have also helped me to reflect on the complexity of the work we tend to undertake as clinical psychologists; few cases are straightforward, and the intersectionality of problems and contexts requires us to draw on our knowledge of psychological theory and also to apply ourselves to problems as scientist-practitioners (as well as therapists). Case studies have also required me to reflect on what could have gone better during a piece of work; not always an easy process, but essential to our ongoing learning.

Overall reflection

Although my three projects represent three quite distinct areas of focus, they have been complementary to each other in several ways. Each involved finding a research question that hadn't been addressed previously, and yet built on previous work in an incremental way. This part of the process can easily be rushed in favour of 'getting on with it'; however, I have learned that the planning stage is when the success or failure of any project is determined. Secondly, each of the projects required creativity, not only in the design phase but also when I had to troubleshoot the inevitable obstacles that came up during the work (see above). Finally, I have learned the importance of teamwork in research. Although research can look, and

feel, like a very solitary endeavour, I believe that research questions are best tackled by several brains working together.

Future involvement in research

I have enjoyed conducting research more than I expected to while on this course. I would very much like to see myself in a 'traditional' clinical psychologist role, combining clinical work with a day or two a week of research. However, I know that this is increasingly unrealistic. My SIP has been helpful for highlighting the very valuable role that psychologists play in conducting service-level research, and I very much hope that I can put these skills to good use in the future. I also plan to look out for other research opportunities, e.g., post-doctoral research roles and opportunities to participate in larger research projects. In particular, I would like to find an opportunity to conduct qualitative research, since this is not an opportunity I have had while on this course.

Appendix 1.1

Search Strategy

Category	Search Terms
Context/Setting (anywhere)	("Correctional" OR "Correctional Institution*" OR "Crime*" OR "Criminal Behavio*" OR "Criminal Conviction" OR "Criminal Justice" OR "Criminal Rehabilitation" OR "Criminal*" OR "Delinquency" OR "Female Delinquen*" OR "Forensic" OR "Forensic Psychiatry" OR "Forensic Psychology" OR "Insanity Defense" OR "insanity defence" OR "insane automatism" OR "Juvenile Delinquen*" OR "Juvenile Justice" OR "Low secure" OR "Male Delinquen*" OR "Medium secure" OR "Mentally Ill Offender*" OR "Offender*" OR "Parole" OR "Perpetrator*" OR "Prison*" OR "Prison nursing" OR "Probation" OR "Probation system") *AND*
Diagnosis (in abstract or abstact/tite)	("Borderline Personality Disorder" OR "BPD" OR "emotionally unstable personality disorder" OR "EUPD" OR "Borderline state" OR "Emerging Personality Disorder" OR "Personality Disorder*") *AND*

Intervention (anywhere)	(“Adolescent Psychotherapy” OR “Behavior Modification” OR “Behaviour Modification” OR “Behavior Therapy” OR “Behaviour Therapy” OR “Brief Psychotherapy” OR “Brief Relational Therapy” OR “Cognitive analytic therapy” OR “Cognitive Behavior Therapy” OR “Cognitive Behavioral Therapy” OR “Cognitive Behaviour Therapy” OR “Cognitive Behavioural Therapy” OR “Cognitive Therapy” OR “CBT” OR “Cognitive behavioral stress management” OR “Cognitive behavioural stress management” OR “Control Group*” OR “Delinquent rehabilitation” OR “Dialectical Behavior Therapy” OR “Dialectical Behaviour Therapy” OR “DBT” OR “DBT-CM” OR “Emotion Focussed Therapy” OR “Emotion Focused Therapy” OR “Emotionally focused therapy” OR “Evidence Based Practice” OR “Experimental Design” OR “Family therapy” OR “Group Intervention” OR “Group Psychotherapy” OR “Group therapy” OR “Individual Psychotherapy” OR “Integrative Psychotherapy” OR “Interpersonal Psychotherapy” OR “Intervention” OR “Intervention study” OR “Mentalization” OR “Mentalization based therapy” OR “Mentalisation based therapy” OR “Mindfulness” OR “Outpatient treatment” OR “Psychiatric Rehabilitation” OR “Psychodynamic Psychotherapy” OR “Psychodynamic*” OR “Psychosocial rehabilitation” OR “Psychotherapeutic Processes” OR “Psychotherapeutic Technique*” OR “Psychotherapy” OR “Psychotherapy, Group” OR “Randomized controlled trial” OR “Randomised controlled trial” OR “Random Sampling” OR “Rehabilitation” OR “Rational-Emotive Psychotherapy” OR “Research Design” OR “Schema Therapy” OR “Schema Modal Therapy” OR “Schema-focussed therapy” OR “Schema-focused therapy” OR “Service evaluation” OR “Social rehabilitation” OR “Systemic psychotherapy” OR “STEPPS” OR “Systems Training for Emotional Predictability and Problem Solving” OR “Therapeutic Community” OR “Therapeutic group*” OR “Therapy” OR “Therapeutic*” OR “Transference focused psychotherapy” OR “Treatment” OR “Treatment Effectiveness Evaluation”)

Appendix 1.2

Risk of Bias Analysis

Method

The extent to which a review can draw conclusions about the effects of an intervention depends on the validity of the included studies (Higgins, Altman & Sterne, 2011). Therefore, risk of bias was assessed for each of the papers included within this review. This assessment was conducted using the Cochrane Collaboration's risk of bias tool, which assesses the risk of a study outcome being an underestimation or overestimation of the true effect due to certain methodological flaws (Higgins et al., 2011). Because the risk of bias tool was designed for use on randomised controlled trials, some items (e.g., selection bias) were adapted so that they could also be applied to non-randomised and uncontrolled studies. These adaptations are described in the relevant section of the Results section.

In addition to assessing the five risk of bias items detailed in the Cochrane Collaboration's tool, i.e., selection bias (random sequence generation and allocation concealment), detection bias (blinding of outcome assessment), attrition bias and reporting bias, the researchers also assessed each study against five additional items relating to intervention integrity, described by Dane and Schneider (1998), since these were felt to be highly relevant for assessing methodological strengths and weaknesses of psychological interventions. These items were adherence bias, attention bias, programme differentiation, quality of delivery (allegiance effect) and participant responsiveness. Because no standardised guidance is available for

assessing these additional sources of bias, the researchers created a document outlining agreed criteria to be used when making judgements on these items, replicating the format of the Cochrane Collaboration's tool (Higgins et al., 2011) (see Appendix 1.3). Reference was made to appropriate literature to define these criteria [e.g., Carroll et al. (2007), Dallimore (2015), Dane & Schneider (1988) and Higgins & Green (2011)]. Risk of bias was assessed independently by one researcher (GC) and then second-scored by another researcher (NS). Any discrepancies were discussed with the lead supervisor (MWT) before the final judgements were recorded.

Results

Selection bias

Controlled studies were judged according to whether or not a sequence generation process with adequately randomisation was used, as well as whether the allocation sequence was adequately concealed from the investigators involved in enrolling participants. 50% of the controlled studies described adequate randomisation, for example by using a remote telephone randomisation service (Tarrier et al., 2010). Two of the studies were given a high risk of bias rating as they either described participants being 'selected' (Evershed et al., 2003) or 'referred' from different establishments (Nee & Farman, 2005; 2008). One study was rated as unclear, as it had an atypical study design whereby the intervention was given to all participants regardless of allocation (van den Broek et al., 2011).

For uncontrolled studies, selection bias was judged by considering whether the researchers used a random mechanism to decide which patients to include as participants, or whether confounding factors could have influenced who was selected and who was not. 50% of the uncontrolled studies were given a low risk of bias rating as they were secondary analyses of data routinely collected in clinical settings where the intervention is offered to all offenders (Black et al., 2008; 2013;

2015). Two of the studies were rated as high (Gee et al., 2016; Low et al., 2001), as participants were referred by staff, which is a possible confounding factor. The remaining study (Nee & Farman, 2005; 2008) did not provide sufficient information to allow a judgement to be made.

Detection bias – blinding of outcome assessment

One of the Cochrane criteria items describes detection bias that can arise on account of inadequate blinding of patients and personnel. However, this type of blinding is unfeasible in in psychotherapy outcome research, since both patients and personal need to be informed about the nature of the intervention being delivered in order to fully engage (Stoffers et al., 2012). Therefore this item was not assessed.

Detection bias was judged according to whether or not those assessing participant outcomes were blinded to which intervention the participant had received, or, in uncontrolled studies, whether a participant had received an intervention at all. Twenty-five percent of studies were rated as having a low risk of detection bias, two of which because the researchers described adequate blinding of outcome assessors and another one because there was good agreement between the outcome assessors and blinded second-scorers. One study was judged to have a high risk of detection bias (Santisteban et al., 2015), as it was explicitly stated that outcome assessors were not blinded to which intervention each participant had received. The remaining two-thirds of the studies, including all of the uncontrolled studies, received unclear ratings, as they did not give sufficient information about outcome assessment to allow a judgement to be made.

Attrition bias

Judgements regarding attrition bias were based on whether, firstly, there was any missing outcome data, and, secondly, whether the reason for any missing outcome data was likely to be related to the intervention outcome. The majority of studies (67% of controlled studies and 83% of uncontrolled studies) received an unclear rating. In most cases, this was primarily because insufficient information was provided about the reasons for participant drop-out; therefore, it is possible that participants dropped out because the intervention was ineffective, which would bias

the estimation of the effect in favour of the intervention. Two controlled studies (Santisteban et al., 2015 and van den Broek et al., 2011) received a low rating; the former because there were similar numbers of dropouts in each group, and similar reasons for dropout, and the latter because there were no missing outcome data. One uncontrolled study (Black et al., 2008) also received a low rating as there was a low dropout rate and the reasons recorded for dropout were not related to the intervention outcome.

Reporting bias

An assessment of reporting bias was made based on whether there was evidence of selective outcome reporting, evidenced either by inconsistency between a study protocol and the outcomes reported in the published paper, or through omission of expected outcome variables in the results. One quarter of the studies were judged to have a high risk of reporting bias. Although no protocol was found for these studies (Bernstein et al., 2012; Nee & Farman, 2005; 2013, both one-year and short programmes), outcomes were mentioned in the method section which were then not fully reported in the results. Only one study (Tarrier et al., 2010) received a low rating, as this was the only study with a protocol (published retrospectively) and all of the pre-specified measures were reported. The remaining two thirds of studies received an unclear rating: although all outcome measures specified in the method were reported in the results, either no study protocol existed or none could be found.

Intervention integrity

Adherence

Only one study (Bernstein et al., 2012) detailed an objective method of assessing adherence to the intervention protocol, which appeared to be good. Half of the controlled studies (Tarrier et al., 2010, van den Broek et al., 2011 and Nee & Farman, 2005; 2013) and one of the uncontrolled studies received high ratings (Nee & Farman, 2005; 2013); for the former two this was because although an objective method of assessing adherence was specified, adherence was found to be poor, and for the latter, because it was suggested that adherence was poor. The remaining studies were rated as unclear, either because there was no method of assessing

adherence, or the reported method was deemed to be insufficiently objective, or because the outcome of the assessment of adherence was not reported.

Attention bias

Of the controlled studies, all but one (i.e., n=5) were rated as having a high risk of attention bias, because an unequal amount of attention was provided to each treatment group, and no attempt was made to control for this in data analysis. In 4 of these studies, more attention was given to the intervention group than to the control group. In only one study (Santisteban et al., 2015) was an equal amount of attention given to each treatment group, justifying a low risk of bias rating.

Programme differentiation

In five of the 12 studies, participants continued to receive interventions additional to the intervention under investigation during the study period. Because the extent of this was not measured or controlled for, these studies received a high risk of bias rating. Only one study (Black et al., 2008) received a low risk of bias rating, having specified that participants did not receive any psychosocial interventions other than the intervention under investigation. The remaining 50% of studies did not provide sufficient information for a judgement to be made, resulting in unclear ratings.

Allegiance bias

Fifty per cent of the studies were judged to have a high risk of allegiance bias because one or more of the researchers either developed or made a significant adaptation to the treatment, and the potential influence of this was not considered. The other 50% of studies were conducted by researchers who were understood not to have developed the treatment, justifying a low risk of bias rating. Notably, none of the studies considered the impact of implementer enthusiasm, whether conducted by researchers who had developed the treatment or not.

Participant responsiveness

Three-quarters of the studies included no mention of formal measures of responsiveness, enthusiasm, participation or satisfaction, and were therefore given unclear ratings. The remaining quarter of studies (Black et al., 2008; 2013; 2015) received a low risk of bias rating, as formal measures of attendance and satisfaction indicated positive levels of participant responsiveness in each of these uncontrolled studies.

Appendix 1.3

Risk of Bias Analysis: Intervention Integrity Criteria

Adherence

Dane and Schneider (1988), cited by Higgins and Green (2011) in the Cochrane Handbook, describe adherence as the extent to which specified intervention components were delivered as prescribed.

Criteria for a judgement of 'Low risk' of bias.	The investigators describe an objective method of assessing adherence and there is reason to believe that adherence is high, as the implemented intervention adheres to the content, frequency, duration and coverage prescribed by its designers (Carroll et al., 2007), Dane & Schneider (1988) suggest that such an assessment will often involve trained observers to supply evaluations of adherence.
Criteria for a judgement of 'High risk' of bias.	An objective method of assessing adherence reveals that adherence was inadequate, or it is stated that there was no method of assessing adherence.

Criteria for a judgement of 'Unclear risk' of bias.	Insufficient information about adherence assessment to permit judgement of 'Low risk' or 'High risk'. Alternatively, there was an attempt to measure adherence, but this was not conducted using an objective method, or adherence was assessed but the outcome of the assessment was not reported.

Exposure/Attention

Criteria for a judgement of 'Low risk' of bias.	Equal attention, i.e., number, length and frequency of implementation of intervention components (see Dane and Schneider, 1988), must be paid to each group, or analyses are conducted controlling for number of treatment contacts, determining that increased attention did not affect the outcome.
Criteria for a judgement of 'High risk' of bias.	Unequal attention, i.e., number, length and frequency of implementation of intervention components (see Dane and Schneider, 1988), paid to each group, with no analyses conducted to control for any discrepancy in attention received by each group.
Criteria for a judgement of 'Unclear risk' of bias.	Insufficient information about attention to permit judgement of 'Low risk' or 'High risk', or this was not considered/addressed.

Program differentiation

Criteria for a judgement of 'Low risk' of bias.	Safeguards were employed to ensure that the participants in each experimental group received only the planned intervention (Dane and Schneider, 1988) (i.e. no other psycho-social interventions received), or, if participants did receive other interventions, the extent of this was measured or controlled for.
Criteria for a judgement of 'High risk' of bias.	Participants in the study continued to receive other interventions during the study period and the extent of this was not measured or controlled for.
Criteria for a judgement of 'Unclear risk' of bias.	Insufficient information about program differentiation to permit judgement of 'Low risk' or 'High risk', or this was not considered/addressed.

Quality of Delivery – Allegiance Bias

The attitude of the researchers delivering the intervention may also influence the response of those receiving the intervention. If the researchers are not committed to an intervention, or are too committed to an intervention, then the responsiveness of individuals may be affected (Carroll et al., 2007), which could affect outcomes.

Criteria for a judgement of 'Low risk' of bias.	None of the study authors are known to have developed the treatment under investigation, or investigators have considered the implications of clinician enthusiasm towards each of the treatment groups.
Criteria for a judgement of 'High risk' of bias.	Treatment/s used in study have been developed by one or more of the main investigators, and this has not been considered or any attempt made to mitigate against the effect of this. No consideration of implementer enthusiasm.
Criteria for a judgement of 'Unclear risk' of bias.	Insufficient information about allegiance to permit judgement of 'Low risk' or 'High risk', or this was not considered/addressed.

Participant Responsiveness

Measures how far participants respond to, or are engaged by, an intervention (Carroll et al., 2007).

Criteria for a judgement of 'Low risk' of bias.	Investigators have formally measured participant response to the intervention, which may include indicators such as levels of participation and enthusiasm (Dane and Schneider, 1988) and these were found to be high in both treatment and control groups.

Criteria for a judgement of ‘High risk’ of bias.	Investigators have formally measured participant response to the intervention, which may include indicators such as levels of participation and enthusiasm (Dane and Schneider, 1988) and these were found to be low in the treatment group, the control group, or both.
Criteria for a judgement of ‘Unclear risk’ of bias.	Insufficient information about participation to permit judgement of ‘Low risk’ or ‘High risk’, or this was not considered/addressed.

Appendix 1.4

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- Should be no more than 5000 words, inclusive of the abstract, tables, figure captions, footnotes, endnotes.
- Should contain an unstructured abstract of 200 words.
- Between 3 and 6 **keywords**. Read making your article more discoverable, including information on choosing a title and search engine optimization. Please include a word count.

case reports

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- Should contain an unstructured abstract of 200 words.
- Between 3 and 6 **keywords**. Read making your article more discoverable, including information on choosing a title and search engine optimization. Case reports should be accompanied by the written consent of the subject. If a subject is not competent to give consent the report should be accompanied by the written consent of an authorized person. Please include a word count.

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- Should contain a structured abstract of 200 words.
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Appendix 2.1

Feedback gathered during user-testing phase

- Adding top-line advice on *how* to ask service users about traumatic experiences, and emphasising that all staff can have a role in Phase 1 treatments (i.e., stabilisation) (clinician comment)
- Clarifying that PTSD can occur long after the traumatic event itself (clinician comment)
- Emphasising that staff may also have had traumatic experiences, and including information on how to access the Trust staff trauma service (clinician comment)
- Emphasising that service users may not see a connection between their PTSD symptoms and traumatic experiences, so staff have an important role in helping people to see these links (PPE[5] comment)
- Emphasise that SUs may not disclose trauma immediately, so it is important to revisit the question once rapport has been built (PPE comment)
- Reducing the amount of text of certain screens (clinician comment)

[5] PPE = Person with Personal Experience (i.e., of Complex Trauma)

Appendix 2.2

Screen shots of video

Trauma: What do I need to know?

... in 10 minutes

NHS
Avon and Wiltshire
Mental Health Partnership NHS Trust

This video is for anyone in AWP
who has contact with service users.

We're going to look at
what we mean by trauma,
why it is relevant to our work,
and what we can do to help.

... in 10 minutes

Trauma refers to events or circumstances
that a person experiences as harmful
or life-threatening.

Traumatic events can have a lasting impact on people's mental, physical, emotional and social well-being.

TRAUMATIC EVENTS CAN INCLUDE:

Neglect Sexual, physical, emotional or psychological abuse
Domestic abuse Accidents Sexual assault
Witnessing violence War Childbirth
Separation or abandonment Sudden job loss
Life threatening illness Surgery
Community violence such as bullying, gang culture, homicide
Sudden homelessness Slavery genocide
Social trauma such as inequality, marginalisation, racism and poverty

Trauma can be one event,
such as a serious accident or a sexual assault.

This is sometimes
known as ‘Type 1’ trauma.

Or trauma can be multiple events over time,
such as sexual or physical abuse.

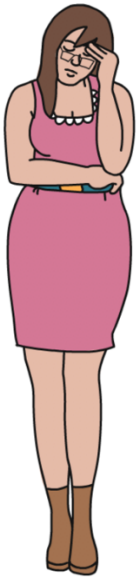
This is sometimes known as ‘Type 2’ trauma.

TRAUMA IS MORE COMMON THAN PEOPLE OFTEN THINK

25%

of 18 to 24 year olds in the UK
said they had experienced
severe maltreatment in childhood (NSPCC)

... and around 11 per cent of young adults
said that they had experienced
contact sexual abuse during their childhood.



The more traumatic experiences a person has in childhood,
the greater their risk of mental health problems later in life.

"There is now a large body of research demonstrating that child abuse and neglect are significant causal factors for psychosis." (Read et al, 2008)

SO HOW COMMON IS TRAUMA AMONG THE PEOPLE WE WORK WITH?

A survey of AWP caseloads across recovery, intensive and inpatient settings found that

59%

of patients had experienced adverse or traumatic events.

The percentage was highest in inpatient units.

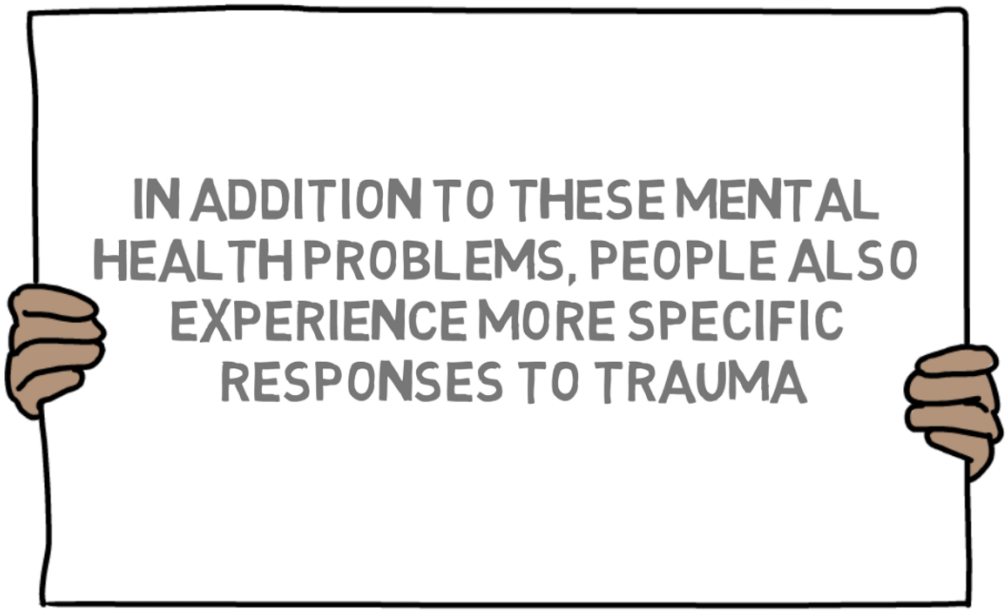
You are likely to encounter people who have experienced trauma in whatever setting you work in:

- mental health services across the lifespan
- substance use services
- learning disability services
- forensic services

Equally, staff working for AWP may have had traumatic experiences.

Trauma is common in the histories of people
with a wide range of mental health problems, including:

Psychosis
Personality Disorders
OCD
Depression
Eating Disorders
Substance use problems
Suicide attempts
Anxiety, agoraphobia and panic



Post-Traumatic Stress Disorder (PTSD)
is common among people who have
experienced a traumatic event ('Type 1 trauma').

Complex Post-Traumatic Stress Disorder (CPTSD)
may occur in response to repeated exposure
to extreme external events ('Type 2 trauma').

People who develop PTSD tend
to experience certain reactions
to the trauma:

Re-living the trauma in the mind or body

Avoiding reminders of the trauma

Feeling more tense, irritable or over-alert than usual

Feeling depressed and crying

A person can develop these reactions
at any time in their life,
even long after the traumatic event itself.

A person who develops Complex PTSD
may experience similar reactions,
but in addition they may encounter:

Difficulties managing their feelings

Negative beliefs about themselves

Problems relating to others, or difficulty trusting people

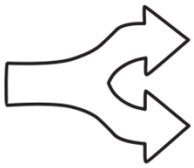
They may also feel disconnected in some way from
the world around them or from themselves (dissociation).

Most people who have had a traumatic experience
will not go on to develop PTSD or Complex PTSD.

However, for people who do develop
these problems,
interventions for PTSD and Complex PTSD
are currently offered by therapists trained
in trauma-focused approaches within AWP.

NICE National Institute for Health and Care Excellence

If people appear to have PTSD,
the NICE guidelines recommend:



Trauma-focused cognitive-behavioural therapy (CBT), OR

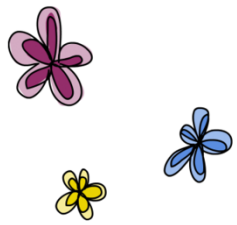
Eye movement desensitisation and reprocessing (EMDR)

These are relatively brief treatments
and are currently available through
both primary and secondary care services
(although some treatments may not be
available in all areas of the Trust).

At present there is no NICE recommendation
on treatment for people with Complex PTSD.

However, the general consensus is that
treatment for Complex PTSD should consist
of three phases, known as the 'phase-based approach'.

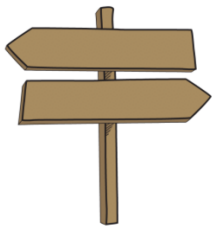
1. Safety and Stability.
Ensuring the person is no longer in danger,
and teaching skills to manage distressing
trauma responses (e.g. flashbacks).



All staff can contribute to phase 1,
for example by teaching skills
such as relaxation or grounding techniques.

2. Remembering.
This could include trauma-focused CBT, EMDR,
art therapy or narrative therapy.

3. Reconnecting.
Helping the person to find purpose
and meaning and to reclaim their life.



SHOULD I ASK SERVICE USERS ABOUT TRAUMA?

YES

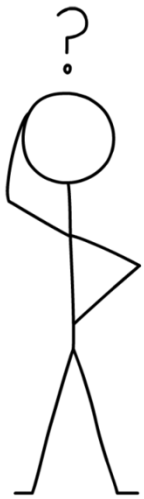
Department of Health & Social Care

The Department of Health & Social Care recommends that staff routinely ask all patients about abuse at first contact, and also at subsequent assessments.

However, many people who use mental health services say that they have not been asked about their experiences of trauma.

Staff can be reluctant to ask service users about trauma, sometimes because of anxiety that this might harm the service user.

HOW DO I ASK A SERVICE USER ABOUT TRAUMA?



You can draw on your clinical skills and experience to ask service users about trauma.

In addition, L&D provide specific training in how to have these conversations.

A service user may not disclose past trauma immediately.

So once rapport and trust have been built, it is important to ask about trauma again.

Bear in mind that a service user may not know that the reactions and symptoms we learned about earlier could be connected to a past trauma.

We have an important role to play in helping service users to recognise these links where they exist.

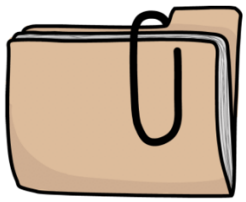
BY TAKING A TRAUMA-INFORMED APPROACH TO OUR WORK AND ASKING THE PEOPLE WE HELP ABOUT TRAUMA, WE CAN HELP TO VALIDATE THEIR EXPERIENCES

INSTEAD OF 'WHAT'S WRONG WITH YOU'

WE CAN ASK

WHAT SHOULD I DO IF SOMEONE DISCLOSES TRAUMA?

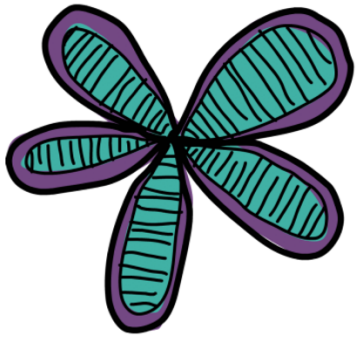
Once someone has disclosed trauma,
it is important to check that they
and others are no longer in danger,
following the appropriate safeguarding process.



Knowledge about the person's history of trauma should then be used to inform and shape their care plan.

This might include recommending
the appropriate PTSD or
Complex PTSD treatment pathway.

LOOKING AFTER YOURSELF



Trauma-informed care means looking after our staff as well as our service users.

Hearing traumatic stories can be difficult.

So it is important that you have a balanced caseload and don't work solely with trauma.

You will also need to use supervision to help you to manage difficult feelings that arise during your work.

We also need to look after our own health and wellbeing using whatever we find helpful:

work-life balance

mindfulness

hobbies

spending time with people who are important to us

SO, WHAT HAVE WE LEARNED?

Trauma is common among people who use AWP services.

Trauma is often relevant to people's mental health problems.

This video highlights ways in which we can move towards a trauma-informed approach to mental health care.

We can help people more effectively and maximise their chances of recovery by:

Asking people about any traumatic experiences they might have had.

Incorporating this knowledge into care plans.

Ensuring that people have access to trauma-focused treatment.

Looking after ourselves.

WHERE CAN I FIND OUT MORE?

Trauma-related training is available in the Trust.

Learning & Development provide Trauma Awareness Training.

Check with L&D to find out what other trauma-related training is available to you.

Localities may also offer their own training.

You could also join the AWP Trauma Clinical Network.
For more information, find us on OurSpace.

At the end of this video, you will find links
to further resources you may find helpful.

THANK YOU FOR WATCHING

Written and produced by:

- Nick Stewart, Clinical Psychologist in Training
- Dr Chris Gillmore, Clinical Psychologist

with input from members of the AWP Trauma Clinical Network.

Appendix 2.3

Ethical Approval

Avon and Wiltshire NHS
Mental Health Partnership NHS Trust

Avon and Wiltshire Mental Health Partnership AWP Trust
AWP Quality Academy
Fromeside- East Wing
Manor Road
Fishponds
BS16 2EW

0117 378 4217

Date: 20th April 2018

Dear Nick,

A brief educational intervention to help multi-disciplinary clinical staff to understand trauma and Complex Post-Traumatic Stress Disorder (CPTSD) and why it is relevant to their clinical work

AWP Reference: E2017.022

This letter is to confirm that the amendments to your evaluation have been accepted and the revised project is now approved and also provides you with our reference number.

In essence, you have adjusted the title of the study, clarified withdrawal procedures and made minor adjustments to make the text clearer.

If you do need any further support or information, please contact us using the contact details above, quoting our reference number for your study.

The importance of disseminating all evaluation work cannot be over emphasised. It is only by sharing our learning that we can improve services across AWP. For this reason, the findings of all evaluation work should be reported to the Evaluation team via email. The team will champion the results of service evaluations, and work with evaluators to ensure those results are disseminated and acted upon, and that the results of evaluations are reflected in future service delivery. The team will also work with evaluators to produce publications for the public domain.

Please also remember that all service evaluation work must be represented as such in future publications or presentations.

I very much look forward to receiving the results of your evaluation in due course.

Yours sincerely,

Dr Julian Walker
R&D Director, AWP

University ethical approval

From: psychology-ethics
Sent: 12 April 2018 11:54
To: Nick Stewart
Subject: Ethics 17-309 Approved

Dear Nick,

Thank you for taking the time to make these amendments and clarifications. I am happy to confirm that you have full ethical approval for this amended application. Please use the code 17-309 as proof of ethical approval on all internal documents. Very nice and informative video.

Best of luck with your research,
Dr. Nathalia Gjersoe
Chair, Psychology Ethics Committee

Appendix 2.4

Information Sheet, Questionnaire and Debrief Sheet

INFORMATION SHEET

Trauma: What do I need to know? in 10 minutes
A brief educational intervention to help multi-disciplinary clinical staff to understand trauma, PTSD and Complex PTSD and why they are relevant to their clinical work

You are invited to take part in a service improvement project, which aims to help multi-disciplinary clinical staff to understand trauma, post-traumatic stress disorder (PTSD) and Complex PTSD and why they are relevant to their clinical work. The following information sheet gives details about the project and explains what will be involved if you choose to participate. Please read this sheet carefully before deciding whether you would like to take part. If you have any questions, please contact the project coordinator, Nick Stewart, at n.stewart@bath.ac.uk

What is the purpose of this study?
Previous service improvement projects at the Trust have successfully helped to improve the knowledge and confidence of clinical staff with regard to the assessment and treatment of complex trauma presentations in patients. This project aims to build on the success of this previous work by developing a brief online intervention (video) that will equip clinical staff to ask patients about traumatic experiences they may have had.

What will I be asked to do if I take part? You will be invited to **view a new animated video resource** on your computer (note that the video has an optional soundtrack. If you wish to have access to the sound, you will need to access a computer with speakers or a headset). The resource will take 10 minutes to view. Before viewing the video resource you will be asked to fill out a **short questionnaire**, which is expected to take a maximum of 5 minutes to complete. This

will include questions about your confidence, knowledge and current practice with regard to asking patients about past trauma. You will be asked to repeat this questionnaire immediately after viewing the resource, and again 2 months later with some additional questions relating to any changes in your behaviour/practice since viewing the resource.

Are there any risks to taking part?

There are no foreseen risks of taking part in this study. You are free to withdraw from the study up until the data are anonymised and analysed in April/May 2018, without giving a reason. You can also request for your data to be removed from any analyses up until this point.

Are there any benefits to taking part?

This project hopes to improve staff confidence in asking patients about trauma and therefore, if successful, ultimately increase the number of appropriate referrals for patients who have experienced PTSD or Complex PTSD for psychological support.

Will my responses be kept confidential?

This study will not involve the disclosure of any personal information. All questionnaire data will be anonymised and kept confidential.

Participants' identifying information (e.g. names, email addresses) will be kept on a separate, password protected database. Each participant will be allocated a unique identification number, which will link their questionnaire data with their personal information.

Should any of the information you provide potentially identify you as an individual (e.g. if you were the only person with a particular job title at your service) the data would be analysed and presented in a way to avoid you being identifiable (e.g. the data would not be reported at the level of individual job titles).

Please note that the study personnel would be required to break confidentiality if you provided information in your responses that indicated a risk to you or to others.

Under these circumstances, we would attempt to contact you in the first instance (this would involve de-anonymising your data). If necessary, we would also make someone else (e.g. a colleague) aware of the potential risk.

What happens to my responses after the study?

Data will be stored in accordance with the Data Protection Act (1998). This information will be stored for a maximum of 10 years after completion of the study. During this time you can withdraw from the study and request your responses to be returned to you. After this time all paper information will be shredded and only anonymous numerical data will be retained.

What happens to the results of the study?

When the results of this study are available we will prepare a short newsletter explaining what we have found out. Once you have completed the study, you will have the opportunity to request a copy of this newsletter.
This project will also be written up and submitted to an academic journal for peer review and publication.

Who can I contact if I have questions?

The project coordinator should be the first point of contact:
Email: Nick Stewart n.stewart@bath.ac.uk
The second project coordinators can also be contacted:
Email Dr Chris Gillmore at Chris.Gillmore@nhs.net or Dr Anna Strudwick at A.Strudwick@bath.ac.uk

If you have any queries or concerns regarding this research and would rather speak to someone who is not directly involved in the research, please contact Dr Catherine Hamilton-Giachritsis, Acting Programme Director, Doctorate in Clinical Psychology, University of Bath (C.Hamilton-Giachritsis@bath.ac.uk).

Ethical Approval This study has been approved by the Trust R&D (Reference:

E2017.022) and by the University of Bath Psychology Ethics Committee (Reference Number: 17-309).

CONSENT FORM

I confirm that I have read and understand the information sheet (please click the 'back' button if you wish to read this again). (1)	○
I confirm that I have had the opportunity to ask any questions relating to the study. (2)	○
I understand that my participation is voluntary and that I am free to withdraw at any time up until the data are analysed (planned to take place in April/May 2018), without giving a reason and without my medical care or legal rights being affected. (3)	○
I understand that my data will be anonymised and securely stored in accordance with the Data Protection Act (1998). (4)	○
I understand that the data I provide will be written up into an anonymised report that will be submitted to a peer reviewed journal for publication. (5)	○
I give my permission for the results of this study to be verified by other researchers at the University of Bath, which would require them to access my anonymised data. (6)	○
I agree to take part in the above study. (7)	○

QUESTIONNAIRE

Please provide your name:

_____

Please provide an email address to enable us to send you a follow-up questionnaire in approximately two-months' time:

_____

Please note that any identifying information you have provided on this page (i.e. name and email address) will be stored separately from the information you provide from this point forward. The responses you provide will be analysed anonymously.

Names of project coordinators:

Nick Stewart, University of Bath

Dr Chris Gillmore, NHS House, Bath

Dr Anna Strudwick, University of Bath

Ethical Approval *This study has been approved by the Trust R&D (Reference: E2017.022) and by the University of Bath Psychology Ethics Committee (Reference Number: 17-309).*

End of Block: Introduction and Consent

Start of Block: Questionnaire A - Background

In a few minutes you will be asked to view a new resource that focuses on trauma, PTSD and Complex PTSD. Before you view the resource, we would like to record your current experience and perceptions of this area. Please take the time to read and complete the following questions. Please answer as honestly as possible. Your answers will be analysed anonymously.

Firstly, we would like to know more about your current role at the Trust and about any opportunities you may already have had to learn about trauma, PTSD and Complex PTSD.

Please select your current role(s):

- [ ] Psychiatrist (1)
- [ ] Clinical/Counselling Psychologist (2)
- [ ] Trainee Psychologist (3)
- [ ] Mental Health Nurse (4)
- [ ] Assistant Psychologist (5)
- [ ] Occupational Therapist (6)
- [ ] Speech and Language Therapist (7)
- [ ] Support Worker/Mental Health Worker (8)
- [ ] Psychotherapist (9)
- [ ] Social Worker (11)
- [ ] Other (Please specify) (10)

_____

Please select your current grade/banding. This is to give us an idea of how much clinical experience you may have.

- ○ Band 3 (1)
- ○ Band 4 (2)
- ○ Band 5 (3)
- ○ Band 6 (4)
- ○ Band 7 (5)
- ○ Band 8a (6)
- ○ Band 8b (7)
- ○ Band 8c (8)
- ○ Band 8d or higher (9)
- ○ CT1 (10)
- ○ CT2 (11)
- ○ Consultant (12)
- ○ Locum psychiatrist (13)
- ○ Other (please specify) (14)

_____

In which setting do you currently work?

- ○ Primary care (including IAPT) (1)
- ○ Working age adults (2)
- ○ Older adults (3)
- ○ Learning disabilities (4)
- ○ Children/Young People/CAMHS (5)
- ○ Forensic service (6)
- ○ Other specialism (please specify) (8)

_____

Page Break

Which of the following opportunities have you taken part in to learn about trauma, PTSD or Complex PTSD since you joined the Trust? (*Please tick all that apply)*

- ☐ I have taken part in a training session/programme focused specifically on trauma, PTSD and/or Complex PTSD (1)
- ☐ I have completed e-learning on trauma, PTSD and/or Complex PTSD (2)
- ☐ I am a member of the Trust Trauma Clinical Network (3)
- ☐ CPD (please specify) (4)

  _____
- ☐ Other (please specify) (5)

  _____
- ☐ I have not taken part in any of the opportunities above (6)
- ☐ I am not aware of any of the learning opportunities above (7)

Please consider your current caseload to answer the following questions.

Please use the 0-100 sliding scale to provide an **approximate** estimated percentage in response to each question.

To your knowledge, roughly what percentage (%) of the clients on your current caseload **have a history of trauma**? (1)	
To your knowledge, roughly what percentage (%) of the clients on your current caseload **have you asked about traumatic experiences**? (2)	
With roughly what percentage (%) of the clients on your caseload are you **directly working with their traumatic experiences or the symptoms of trauma**? (3)	

Please indicate your impressions of your current knowledge and confidence with regard to the following items:

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
I know about links between trauma and certain mental health problems. (1)	○	○	○	○	○
I would know how to recognise signs of trauma in a client. (2)	○	○	○	○	○
If I suspected trauma may be linked to symptoms I would know how to ask about this. (3)	○	○	○	○	○

If a client's referral indicated trauma I would feel confident to ask about it. (4)	○	○	○	○	○
I am confident that I could identify a Complex PTSD presentation in clients. (5)	○	○	○	○	○
I often feel anxious to ask about trauma in case I upset the client. (6)	○	○	○	○	○
I am worried about asking about trauma in case I can't deal with it. (7)	○	○	○	○	○

I worry that I could feel traumatised by the traumatic experiences of patients (vicarious traumatisation) and this worries me about working with trauma. (8)	○	○	○	○	○
I worry about opening up a 'can of worms' and not knowing how to contain it (with regard to asking about trauma). (9)	○	○	○	○	○
I worry I could make someone worse by asking about their trauma experiences. (10)	○	○	○	○	○

My worries stop me asking about trauma. (11)	○	○	○	○	○
I know what PTSD is and would feel confident explaining it to someone else. (12)	○	○	○	○	○
I know what Complex PTSD is and would feel confident explaining it to someone else. (13)	○	○	○	○	○

Overall, how confident do you feel to carry out trauma assessment?

- ○ Extremely confident (1)
- ○ Very confident (2)
- ○ Neutral (3)
- ○ Not very confident (4)
- ○ Not at all confident (5)

What, if any, are your personal barriers to asking about trauma with your clients?

_____

_____

_____

_____

_____

What would help you to feel more confident in this area of work?

_____

_____

_____

_____

_____

Any other comments?

_____

_____

_____

_____

_____

End of Block: Questionnaire B - Knowledge

Start of Block: Video

You will now see the video.

Please note that an optional soundtrack is available. To hear the soundtrack, you will need a computer with speakers or a headset.

You can pause and rewind the video at any point.

It is recommended that you watch the video in 'full screen' mode. You can do this by clicking on the box in the bottom right hand corner of the video after it starts playing.

Page Break

Please press the 'play' button in the middle of the screen to start the video.

When the video ends, please click on the blue box at the bottom right corner of this page to proceed.

Page Break

Where can I find out more?

At the end of this questionnaire you will be provided with information about trauma-related training that is available in the Trust, together with links to resources that you may find helpful.

We can also provide you with a summary of this information by email after you have completed this study. Please tick the box below if you would like to receive this information by email.

☐ Please send me an email summary of information relating to trauma (including links) (1)

Please click on the blue box at the bottom right hand corner of this page to continue.

Page Break

Thank you for viewing the new video resource. Now please answer the following questions as honestly as possible. Your answers will be analysed anonymously.

Having viewed the resource, please indicate your impressions of your current knowledge and confidence with regard to the following items:

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
I know about links between trauma and certain mental health problems. (1)	○	○	○	○	○
I would know how to recognise signs of trauma in a client. (2)	○	○	○	○	○
If I suspected trauma may be linked to symptoms I would know how to ask about this. (3)	○	○	○	○	○

If a client's referral indicated trauma I would feel confident to ask about it. (4)	○	○	○	○	○
I am confident that I could identify a Complex PTSD presentation in clients. (5)	○	○	○	○	○
I feel anxious to ask about trauma in case I upset the client. (6)	○	○	○	○	○
I am worried about asking about trauma in case I can't deal with it. (7)	○	○	○	○	○

I worry that I could feel traumatised by the traumatic experiences of patients (vicarious traumatisation) and this worries me about working with trauma. (8)	○	○	○	○	○
I worry about opening up a 'can of worms' and not knowing how to contain it (with regard to asking about trauma). (9)	○	○	○	○	○
I worry I could make someone worse by asking about their trauma experiences. (10)	○	○	○	○	○

My worries stop me asking about trauma. (11)	○	○	○	○	○
I know what PTSD is and would feel confident explaining it to someone else. (12)	○	○	○	○	○
I know what Complex PTSD is and would feel confident explaining it to someone else. (13)	○	○	○	○	○
I found this video useful. (14)	○	○	○	○	○
I found the video easy to understand. (15)	○	○	○	○	○

I found the video enjoyable to watch. (16)	○	○	○	○	○
I learned something new while viewing this resource. (17)	○	○	○	○	○

Page Break

I plan to do something differently after viewing this resource.

- ○ Strongly agree (1)
- ○ Somewhat agree (2)
- ○ Neither agree nor disagree (3)
- ○ Somewhat disagree (4)
- ○ Strongly disagree (5)

If you said that you plan to do something differently after viewing this resource, what will you do? (*Please select all that apply)*

- [ ] I will reflect on the possibility that trauma is relevant in one or more of my patients in whom I had not considered this before (1)
- [ ] I will ask one or more of my patients about possible traumatic experiences who I probably would not have asked otherwise (2)
- [ ] I will enrol in further training/CPD on trauma and Complex PTSD (3)
- [ ] I will talk to my supervisor about trauma and Complex PTSD and how it might be relevant to my work (4)
- [ ] Other (5) _____

Please provide any comments regarding your experience of watching the video.

_____

_____

_____

_____

_____

Did you listen to the audio soundtrack?

- ○ Yes (1)
- ○ No (2)

Please comment on whether or not you found the audio soundtrack to be helpful.

_____

_____

_____

_____

_____

Please comment on whether or not you think an audio soundtrack would have been helpful while watching this video.

_____

_____

_____

_____

_____

Please provide any comments regarding your experience of taking part in this study.

_____

_____

_____

_____

_____

What other forms of support would help you to feel more confident about talking to patients about trauma?

_____

_____

_____

_____

_____

Finally, when the results of this study are available we will prepare a short newsletter explaining what we have found out. If you would like to receive a copy of this newsletter, please tick this box.

○ Yes please (1)

○ No thank you (2)

Page Break

To submit your responses, please click the blue box at the bottom of this page.

DEBRIEF SHEET

Thank you for taking part in this study, which aims to help multi-disciplinary clinical staff to understand trauma, post-traumatic stress disorder (PTSD) and complex PTSD and why they are relevant to their clinical work.

Your contribution is very much appreciated.

Further support

We are aware that some of the questions you answered during the study may have been distressing for you, especially if you have encountered trauma in your personal or professional life. If you finding things difficult and would like to talk to someone, here are some recommendations:

You can speak to a member of the research team (our contact details are below)

Support can be accessed through the Trust Traumatic Stress Service. Please visit [link] or contact Chris Gillmore for further information about this.

If you're really struggling or are worried about your safely please contact:

Your GP

Samaritans http://www.samaritans.org/ Telephone 116 123 (freephone number)

Will my information be kept confidential?

Yes. All information which is collected about you during the course of the research will be kept confidential and will conform to the Data Protection Act of 1998. This means that all paper-based and electronic information will be securely stored in a locked cupboard and password protected, with access restricted to study personnel. Your name and other details that could identify you will be removed from the information you have provided when it is analysed. Your contact details will be

stored separately from your interview data so that the two cannot be linked.
Should any of the information you provide potentially identify you as an individual (e.g. if you were the only person with a particular job title at your service) the data would be analysed and presented in a way to avoid you being identifiable (e.g. the data would not be reported at the level of individual job titles).
Please note that the study personnel would be required to break confidentiality if you provided information in your responses that indicated a risk to you or to others. Under these circumstances, we would attempt to contact you in the first instance (this would involve de-anonymising your data). If necessary, we would also make someone else (e.g. a colleague) aware of the potential risk.

Can I find out about the results?

Yes. When the results are available we will make a short newsletter available explaining what we have found out. You will receive this newsletter if you ticked the relevant box on the last page of the questionnaire. If you did not tick the box but would like to receive the newsletter, please email n.stewart@bath.ac.uk
We hope to report our findings in academic/health related journals and present them to relevant health professionals at meetings and conferences. The findings will also contribute to Nick Stewart's Doctorate in Clinical Psychology.

What if I feel there is a problem?

If you have any concerns or wish to complain about any aspect of the way you have been approached or treated during this study, you should initially contact the researchers, Nick Stewart, Dr Chris Gillmore or Dr Anna Strudwick, who will do their best to answer your questions. All contact details are provided at the end of this information sheet.

Ethical Approval This study has been approved by the Trust R&D (Reference: E2017.022) and by the University of Bath Psychology Ethics Committee (Reference Number: 17-309).
If you have questions about your rights as a participant in this research, you can

contact the Chair of the Ethics Committee, Department of Psychology, University of Bath, Claverton Down, Bath, BA2 7AY, phone: (01225) 383061.

Thank you for taking time to read this information.

Nick Stewart
Clinical Psychologist in Training
University of Bath

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY. YOUR RESPONSE HAS BEEN RECORDED.

If you think that any of your Trust colleagues might like to take part in this study, please send them the following link: bathpsychology.eu.qualtrics.com/jfe/form/SV_73RJ2mXQsCcFwa1

WHERE CAN I FIND OUT MORE?

Trauma-related training is available in the Trust

- Learning & Development provide Trauma Awareness Training, the aim of which is to help staff to develop professional skills and confidence in exploring the impact of trauma on recovery from a mental health need
- Check with L&D to find out what other trauma-related training is available to you
- Localities may also offer their own training

You could also join the Trust Trauma Clinical Network. For more information, find us on [link]

LINKS AND RESOURCES

- Learning & Development website [link]
- Trust Trauma clinical network [link]
- The Trust Traumatic Stress Service can provide support for staff who have experienced a distressing event or trauma, in work or outside work [link]
- Trust library trauma subject guide [link]
- UK Psychological Trauma Society [link]

- Cardiff self-help trauma resources [link]
- Post traumatic stress self-help guide (produced by Pennine Care NHS Foundation Trust) [link]
- Self-help guide for adults who have been physically, emotionally or sexually abused as children (produced by Northumberland, Tyne and Wear NHS Foundation Trust) [link]
- NICE guideline for PTSD [link]

IF YOU REQUESTED A SUMMARY OF THE INFORMATION ABOVE, YOU WILL SOON RECEIVE AN EMAIL. IF YOU DID NOT REQUEST THIS INFORMATION BUT WOULD NOW LIKE A COPY, PLEASE EMAIL n.stewart@bath.ac.uk

Appendix 2.5

Example quotes

The following responses were provided in response to the question 'Please provide any comments regarding your experience of watching the video'.

Concise/Easy to understand

"It was well paced and gave just enough info without being overwhelming. It was useful having a few statistics to back up the claims made. I thought the hand-drawn element was engaging."

"It was straight forward and common sense. It was good that the wellbeing of staff as well as clients was talked about."

"A very thoughtful and well-presented informational video that will help staff consider the impact of trauma and (hopefully) feel more able to ask questions. Although directed at staff, I wonder if the video/a video could be used/developed for service users."

Confirmed importance of trauma

"Trauma isn't part of stat man [sic] training though considering the research indicates that a large proportion of service users have a history of trauma shouldn't we all be trained in it? Video was great - easy to watch and understand."

"Thank you - this was clear, succinct, and watchable. I hope that this will continue to develop the Trust's capacity as a trauma-informed service."

Information was missing

"I still feel that asking questions about trauma needs strong containment and needs to be relevant to the referral. This has not been stressed in this video. I guess this is open for debate."

"I think that it would be helpful to expand the section on asking service users about their experiences of trauma."

"Presentation needs more evidence on efficacy of treatments. No treatment is ever benign and I am sure if trauma is recent then opinion is decided on the best approach."

"Would have liked at least some reference to iatrogenic trauma from services and how we might want to watch out for that in our practice and that of our colleagues."

"…I would have liked more explicit explanation as to why I would not be risking re-traumatising someone by asking them to speak about it."

"There still feels that there is a gap in the releasing of the trauma from the client and how to process this to decrease the effects in PTSD. It mentions re-connecting in phase 3 but how do the effects/symptoms stop or decrease - is it just through the telling and processing of the narrative?"

Confidence

"This was really helpful in putting some current experiences with [an individual with personal connection to participant undergoing treatment for PTSD] into perspective. I had, I believe, subconsciously avoided investigating the subject in depth because of this. The video has reassured me to the extent that I want to learn more. Thank you."

"Boosted my confidence in my knowledge, reminded me of the importance of asking clients. It's worse for their experiences not to be heard. When thinking about

responding when clients bring up trauma, I feel more confident in my ability to respond helpfully: people just want to be heard."

Useful for teams/new starters

"This was a really great video; it was well put together, concise and easy to understand. As a clinical psychologist working with many traumatised adults, I wouldn't say I personally learnt anything new, but I would like to show it to staff on the ward where I work as I think they'd get a lot from it and could start a discussion about how we deliver trauma-informed care on the ward."

Helpful refresher/recap

"The video was clear and informative. It was a good length and provided both a refresher of previous knowledge that I have learned in lectures/training and some additional knowledge. It has helped my confidence somewhat. It will be a good resource to look over now and then throughout training/work to refresh my memory."

Interesting/informative

"It was helpful to see the treatment for complex trauma broken down into the three stages of: stabilisation; remembering; and reconnecting. This is a nice simple way of describing an often complicated process."

Plans to make changes

"It was easy to follow and informative, I think that I would benefit more from being able to talk to someone who specialises in this kind of work."

"Made me realise have been engaging in trauma work but not recognising this re stabilisation and reassured working along the right tracks. Would be good to do further training to work on the other interventions/feel more confident."

Specific to the Trust

"This feels like a very helpful summary for mental health staff. I expect this will be a valuable tool, especially as it feels specific to us having been made by the Trust for the Trust."

Appendix 2.6

Instructions to Authors

Manuscript requirements

Please prepare your manuscript before submission, using the following guidelines:

FORMAT	Article files should be provided in Microsoft Word format. LaTex files can be used if an accompanying PDF document is provided. PDF as a sole file type is not accepted, a PDF must be accompanied by the source file. Acceptable figure file types are listed further below.
ARTICLE LENGTH	Articles should be between 4000 and 7000 words in length, except for literature reviews or review articles which have no word limit. This includes all text including references and appendices. Please allow 350 words for each figure or table.
ARTICLE TITLE	A title of not more than eight words should be provided.

AUTHOR DETAILS	All contributing authors' names should be added to the ScholarOne submission, and their names arranged in the correct order for publication. • Correct email addresses should be supplied for each author in their separate author accounts • The full name of each author must be present in their author account in the exact format they should appear for publication, including or excluding any middle names or initials as required • The affiliation of each contributing author should be correct in their individual author account. The affiliation listed should be where they were based at the time that the research for the paper was conducted
BIOGRAPHIES AND ACKNOWLEDGEMENTS	Authors who wish to include these items should save them together in an MS Word file to be uploaded with the submission. If they are to be included, a brief professional biography of not more than 100 words should be supplied for each named author.
RESEARCH FUNDING	Authors must declare all sources of external research funding in their article and a statement to this effect should appear in the Acknowledgements section. Authors should describe the role of the funder or financial sponsor in the entire research process, from study design to submission.
STRUCTURED ABSTRACT	Authors must supply a structured abstract in their submission, set out under 4-7 sub-headings (see our "How to... write an abstract" guide for practical help and guidance): • Purpose (mandatory)

	• Design/methodology/approach (mandatory) • Findings (mandatory) • Research limitations/implications (if applicable) • Practical implications (if applicable) • Social implications (if applicable) • Originality/value (mandatory) Maximum is 250 words in total (including keywords and article classification, see below). Authors should avoid the use of personal pronouns within the structured abstract and body of the paper (e.g. "this paper investigates..." is correct, "I investigate..." is incorrect).
KEYWORDS	Authors should provide appropriate and short keywords in the ScholarOne submission that encapsulate the principal topics of the paper (see the How to... ensure your article is highly downloaded guide for practical help and guidance on choosing search-engine friendly keywords). The maximum number of keywords is 12. Whilst Emerald will endeavour to use submitted keywords in the published version, all keywords are subject to approval by Emerald's in house editorial team and may be replaced by a matching term to ensure consistency.
ARTICLE CLASSIFICATION	Authors must categorize their paper as part of the ScholarOne submission process. The category which most closely describes their paper should be selected from the list below. RESEARCH PAPER. This category covers papers

which report on any type of research undertaken by the author(s). The research may involve the construction or testing of a model or framework, action research, testing of data, market research or surveys, empirical, scientific or clinical research.

VIEWPOINT. Any paper, where content is dependent on the author's opinion and interpretation, should be included in this category; this also includes journalistic pieces.

TECHNICAL PAPER. Describes and evaluates technical products, processes or services.

CONCEPTUAL PAPER. These papers will not be based on research but will develop hypotheses. The papers are likely to be discursive and will cover philosophical discussions and comparative studies of others' work and thinking.

CASE STUDY. Case studies describe actual interventions or experiences within organizations. They may well be subjective and will not generally report on research. A description of a legal case or a hypothetical case study used as a teaching exercise would also fit into this category.

LITERATURE REVIEW. It is expected that all types of paper cite any relevant literature so this category should only be used if the main purpose of the paper is to annotate and/or critique the literature in a particular subject area. It may be a selective bibliography providing advice on

	information sources or it may be comprehensive in that the paper's aim is to cover the main contributors to the development of a topic and explore their different views. GENERAL REVIEW. This category covers those papers which provide an overview or historical examination of some concept, technique or phenomenon. The papers are likely to be more descriptive or instructional ("how to" papers) than discursive.
HEADINGS	Headings must be concise, with a clear indication of the distinction between the hierarchy of headings. The preferred format is for first level headings to be presented in bold format and subsequent sub-headings to be presented in medium italics.
NOTES/ENDNOTES	Notes or Endnotes should be used only if absolutely necessary and must be identified in the text by consecutive numbers, enclosed in square brackets and listed at the end of the article.
FIGURES	All Figures (charts, diagrams, line drawings, web pages/screenshots, and photographic images) should be submitted in electronic form. All Figures should be of high quality, legible and numbered consecutively with arabic numerals. Graphics may be supplied in colour to facilitate their appearance on the online database.

	• Figures created in MS Word, MS PowerPoint, MS Excel, Illustrator should be supplied in their native formats. Electronic figures created in other applications should be copied from the origination software and pasted into a blank MS Word document or saved and imported into an MS Word document or alternatively create a .pdf file from the origination software. • Figures which cannot be supplied as above are acceptable in the standard image formats which are: .pdf, .ai, and .eps. If you are unable to supply graphics in these formats then please ensure they are .tif, .jpeg, or .bmp at a resolution of at least 300dpi and at least 10cm wide. • To prepare web pages/screenshots simultaneously press the "Alt" and "Print screen" keys on the keyboard, open a blank Microsoft Word document and simultaneously press "Ctrl" and "V" to paste the image. (Capture all the contents/windows on the computer screen to paste into MS Word, by simultaneously pressing "Ctrl" and "Print screen".) • Photographic images should be submitted electronically and of high quality. They should be saved as .tif or .jpeg files at a resolution of at least 300dpi and at least 10cm wide. Digital camera settings should be set at the highest resolution/quality possible.
TABLES	Tables should be typed and included in a separate file to the main body of the article. The position of each table should be clearly labelled in the body text of article with corresponding labels being clearly shown in the separate file. Ensure that any superscripts or asterisks are shown next to the relevant items and have corresponding

	explanations displayed as footnotes to the table, figure or plate.
REFERENCES	References to other publications must be in HARVARD style and carefully checked for completeness, accuracy and consistency. This is very important in an electronic environment because it enables your readers to exploit the Reference Linking facility on the database and link back to the works you have cited through CrossRef. You should cite publications in the text: (Adams, 2006) using the first named author's name or (Adams and Brown, 2006) citing both names of two, or (Adams *et al.*, 2006), when there are three or more authors. At the end of the paper a reference list in alphabetical order should be supplied:

Frequently asked questions

Do you publish open access articles?	For questions about open access, please visit the Open Access section of the website.
Is there a submission fee for the journal?	There are no submission fees for any of Emerald's journals.

What should be included in my paper's word count?	The word count for your paper should include the structured abstract, references, and all text in tables and figures. Each journal has a set word count parameter for papers – this information will be on the journal's homepage.
How can I become a reviewer for a journal?	Please contact the Editor for the journal, with a copy of your CV, to be considered as a reviewer.
Who do I contact if I want to find out which volume and issue my accepted paper will publish in?	Firstly, log in to your author centre on the journal's ScholarOne site, click on 'Manuscripts with Decisions' and check the 'status' column of the table that will appear at the bottom of the page. If the Editor has assigned your paper to an issue, the volume and issue number will be displayed here. If this information is not present, then the Editor has not yet assigned your paper to a volume and issue. In this case you may email the Editor of the journal to ask which volume and issue your paper is most likely to feature in.
Who do I contact if I have a query about ScholarOne?	If you are having a problem on ScholarOne please email the journal's Editor or the Emerald Content Editor for help and advice.
Is my paper suitable for the journal?	If, after reading the journal's aims and scope (available in the 'about the journal' section of the website), you are still unsure whether your paper is suitable for the journal, please email the journal's Editor and include your paper's title and structured

	abstract. The journal Editor will be able to advise on the suitability of your paper.
How do I ensure anonymity of my manuscript for peer review?	you need to refer to your own work, please make sure that this is rded in such a way that you as author(s) cannot be identified e.g. revious research has demonstrated" not "our previous research has monstrated". Should the paper be accepted, you will need to ntact the Editor to revise this ahead of publication you need to refer to your own work which is currently unpublished, en please do not include this work in the reference list. Should the per be accepted, you will need to contact the Editor to revise this ead of publication ıy Acknowledgments or Author biographies should be uploaded as parate files and where asked to 'Choose File Designation' choose File Type, 'Acknowledgment' or 'Author Biographies', as propriate ease check the manuscript to ensure that the author names do not pear anywhere. This includes on Figures.

Appendix 3.1

MRP Participant materials

Participant Information Sheet

University of Bath Psychology Department of Psychology
Ethics reference number: 17-123

UNIVERSITY OF BATH

INFORMATION SHEET

Do people who hoard experience intrusive images?

My name is Nick Stewart. I am a Clinical Psychologist in Training.

Before you decide whether you would like to take part in this research study, you need to understand why the research is being done and what it would involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information – our contact details are at the end of this letter. Take time to decide whether or not you wish to take part.

If there is anything that is not clear, or if you would like more information, please do not hesitate to contact Nick Stewart (hoarding.research@bath.ac.uk). Thank you for reading this.

What is the purpose of this study?

This study looks at the kinds of images that commonly pop into people's minds. Researchers have found that people with particular mental health problems can experience particular types of images, and we are starting to learn how these images may be an important feature of mental health problems. By finding out more about these images, we hope to find new psychological approaches for helping people to overcome mental health problems. Currently we know very little about the images experienced by people with who hoard.

Who can take part?

We are looking for:

- People with hoarding problems
- People with no current mental health difficulties (so we can compare the experiences of people with and without hoarding difficulties)

Participants must be aged 18 or over.

The study is currently approved for participants who live in the UK and the USA.

Is there anyone who cannot take part?

This study will not be appropriate for people who:

- have been diagnosed with any organic brain injury or neurological disorder
- have a past or current diagnosis of psychosis or bipolar disorder
- have a current problem with substance dependence

University of Bath Psychology Department of Psychology
Ethics reference number: 17-123

What will I have to do if I take part?

The study will take places in two stages:

1. An initial telephone conversation with a member of the research team to make sure that the study is appropriate for you. This will take 10-15 minutes. Following this, if you do decide to take part, we will ask you to sign a consent form. If you decide to take part you are still free to withdraw from the study at any time. This will be followed by a telephone interview about the kinds of images that pop into your mind, both during everyday life and also in situations relating to discarding objects. This will take 30-45 minutes.
2. A questionnaire to fill out. This can either be completed online during the telephone call, or they can be completed afterwards (either online or returned by freepost). This will take another 10-20 minutes.

The telephone conversation will be recorded to help me remember everything that we talk about. You will be asked to say on the consent form that you are happy with this. Please note that you may still take part if you do not wish for the conversation to be recorded.

Will my experiences and reports be kept confidential?

Yes. All information which is collected about you during the course of the research will be kept confidential and will conform to the Data Protection Act of 1998. This means that all paper-based and electronic information will be securely stored in a locked cupboard and password protected, with access restricted to study personnel. Your name and other details that could identify you will be removed from the information you give at interview. Your contact details will be stored separately from your interview data so that the two cannot be linked. To ensure that all the valuable information that you provide will be captured, the study will use a digital audio recorder with your consent. The recordings will be destroyed on completion of the study.

We hope to report our findings in academic/health related journals and present them to relevant health professionals at meetings and conferences. The findings will also contribute to Nick Stewart's Doctorate in Clinical Psychology.

Do I have to take part?

No, and if you do decide to take part you can change your mind at any time.

Are there any advantages/benefits from taking part?

We cannot promise the study will help you directly but the information collected from you and other participants may help to improve our understanding about hoarding and what may be effective in its treatment. If you complete testing you will be given a £5 Amazon voucher and the opportunity if you so wish to donate £1 to a Hoarding Charity ("Hoarding UK", a not-for-profit Hoarding organisation which provides support and resources to those who hoard or are affected by it).

Are there any disadvantages/risks from taking part?

The disadvantages of taking part should be minimal beyond the inconvenience of completing the questionnaires. Nevertheless, your wellbeing is always of utmost importance to us and as many of the questions asked are about your mental health, these might be potentially sensitive topics and might be upsetting. If you do not wish to continue at any point you will be free to stop. At the end of the study we will provide contact details for additional sources of support. You will also have the opportunity to speak to a member of the research team if you would like to.

What if there is a problem?

If you have any concerns or wish to complain about any aspect of the way you have been approached or treated during this study, you should initially contact the researchers, Nick Stewart or Dr James Gregory, who will do their best to answer your questions. All contact details are provided at the end of this information sheet.

What to do next if I'm interested?

If you would like to participate or wish to discuss the study further, then please use the contact details below to contact Nick or James.

Being contacted to participate in future research.

We will ask you if you would like to be contacted in the future regarding other potential research projects. You do not have to consent to being contacted in the future at all, but if you would like to be contacted, your details will be kept on file in secure and restricted folders which are password protected on an electronic database. Only the key supervisors for this research project will have access to this information and no other information will be stored about you in these folders. It would only be members of the research team who would contact you for future research and your information would not be shared with others.

Ethical Approval

This study has been approved by the University of Bath Psychology Ethics Committee (Reference Number: 17-123).

If you have questions about your rights as a participant in this research, you can contact the Chair of the Ethics Committee, Department of Psychology, University of Bath, Claverton Down, Bath, BA2 7AY, phone: (01225) 383061.

Thank you for taking time to read this information.

Nick Stewart
Clinical Psychologist in Training
University of Bath
Email: n.stewart@bath.ac.uk
Tel: 07976 799609

Dr James Gregory (Research Supervisor)
Clinical Psychologist
University of Bath
Email: j.d.gregory@bath.ac.uk
Tel: 01225 386120

PARTICIPANT CONSENT FORM

Department of Psychology | UNIVERSITY OF BATH

PARTICIPANT CONSENT FORM
Study Title: Do people who hoard experience intrusive images?

Patient Identification Number:_____

Please initial all boxes

- I confirm that I have read and understand the information sheet for the above study. ☐
- I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
- I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected. ☐
- I understand that my data will be kept confidential and stored securely in line with the Data Protection Act (1998) and that my identity will be removed from all the information I give to keep me unidentifiable. Only members of the research team will have access to this data. However, if risk issues are identified then I understand that other health professionals may need to be informed for my safety. ☐
- I'm happy to be contacted about future research projects. (I understand that my name, tel/email and geographical area e.g. south-west will be stored on a password protected spreadsheet). I understand the information about being contacted for future research and would like to be contacted for future research ☐
- Should I take part in another hoarding-related project at the University of Bath, I am happy for the researchers involved to share the information they have gathered from me during the screening process, with the aim of avoiding unnecessary demands on my time. ☐
- I agree to my data, including anonymous quotes, being used in publications of the research. ☐

- I understand that a research assistant/undergraduate may be involved in the processing of my anonymised data and basic administration tasks associated with the project ☐
- I agree for the interview part of the research to be recorded. ☐
- I agree to take part in the above study. ☐

Name of Participant (Print)	Signature	Date
Name of researcher (Print)	Signature	Date
If you would like to receive a summary of the findings. Please detail below the email/postal address where you would like this summary sent:		

This study has been approved by the University of Bath Psychology Ethics Committee (Reference Number: 17-123).

DEBRIEFING SHEET

Do people who hoard experience intrusive images?

Thank you for taking part in this project investigating the role of intrusive imagery in hoarding disorder. We hope that the findings will help psychologists to find new approaches for helping people to overcome mental health problems. Your contribution is very much appreciated.

Further support

We are aware that some of the questions you answered during the study may have been distressing for you. If you are finding things difficult and would like to talk to someone, here are some recommendations:

- You can speak to a member of the research team (our contact details are below)
- The following patient organisations provide information to help people with particular problems:
    - Help for Hoarders. http://www.helpforhoarders.co.uk/ The Help for Hoarders website carries useful self-help information as well as information about other sources of help
    - OCD-UK. http://www.ocduk.org/ The OCD-UK website carries a helpful range of information for people struggling with OCD
- If you're really struggling or are worried about your safely please contact:
    - Your GP
    - Samaritans http://www.samaritans.org/ Telephone 116 123 (freephone number)

Will my information be kept confidential?

Yes. All information which is collected about you during the course of the research will be kept confidential and will conform to the Data Protection Act of 1998. This means that all paper-based and electronic information will be securely stored in a locked cupboard and password protected, with access restricted to study personnel. Your name and other details that could identify you will be removed from the information you give at interview. Your contact details will be stored separately from your interview data so that the two cannot be linked. To ensure that all the valuable information that you provide will be captured, the study will use a digital audio recorder with your consent. The recordings will be destroyed on completion of the study.

We hope to report our findings in academic/health related journals and present them to relevant health professionals at meetings and conferences. The findings will also contribute to Nick Stewart's Doctorate in Clinical Psychology.

Can I find out about the results?

Yes. When the results are available we will make a short newsletter available explaining what we have found out. If you did not consent to receive this newsletter while completing the study, please contact Nick Stewart (contact details below).

What if I feel there is a problem?

If you have any concerns or wish to complain about any aspect of the way you have been approached or treated during this study, you should initially contact the researchers, Nick Stewart or Dr James Gregory, who will do their best to answer your questions. All contact details are provided at the end of this information sheet.

Can I participate in future research?

When you gave consent to take part in the study, you may have said that you would like to be contacted in the future regarding other potential research projects. If so, your details will be kept on file in secure and restricted folders which are password protected on an electronic database. Only the key supervisors for this research project will have access to this information and no other information will be stored about you in these folders. It would only be members of the research team who would contact you for future research and your information would not be shared with others.

Ethical Approval This study has been approved by the University of Bath Psychology Ethics Committee (Reference Number: 17-123).
If you have questions about your rights as a participant in this research, you can contact the Chair of the Ethics Committee, Department of Psychology, University of Bath, Claverton Down, Bath, BA2 7AY, phone: (01225) 383061.
Thank you for taking time to read this information.

Nick Stewart
Clinical Psychologist in Training
University of Bath
Email:
hoarding.research@bath.ac.uk
Tel: 07976 799609

Dr James Gregory (Research Supervisor)
Clinical Psychologist
University of Bath
Email: j.d.gregory@bath.ac.uk
Tel: 01225 386120

Appendix 3.2

Imagery interview

A. EVERYDAY IMAGERY

I'd like to ask you about some of the things that have gone through your mind over the last week. I'm particularly interested in images or fleeting pictures that might have gone through your mind. These images could relate to events that have actually happened, or they could relate to things you have imagined.

Additional prompts:

- *Some people describe these images as 'seeing in your mind's eye'. For example, scenes from a holiday might randomly come into your head, or images of a person such as a parent or partner. This can range from a very fleeting, hazy picture, to a very clear and real image. Scenes/Scenarios/Impressions/'Memories'/Bits of memories/Imagination*
- *These images are spontaneous, which means that they pop into your head without trying to bring them to mind. The images might be like pictures or like scenes from a film*
- *Sometimes even if people do not get actual images they might still have a 'mental impression' of a situation*

1. Do you experience these types of images?
   (if 'no', use the prompts above to probe further)

   Yes_____ No_____

   If yes, continue with Section A of this interview.
   If no, proceed to Section B (cued imagery).

2. How many times in the last week has an image popped into your head?

- *If the participant says that the last week was not typical for them, ask about the most recent week that was typical for them*
- *If the participant finds it difficult to work out how many images they experienced during the week, assist them (e.g. by extrapolating from a typical day)*

Number of times_____

3. Thinking again about the last week or so, has the same single image popped into your head again and again, or have you experienced a number of different images?

   Single image_____ A few different images_____ Many different images_____

Identification of imagery

I'd like to learn a little bit more about your experiences of spontaneous images/memories by asking you a number of questions in relation to a specific recent example. If you can, I'd like you to briefly describe an image/memory that re-occurs (either in the last week, or in general).

If you can remember more than one image, please pick the image that gave you the strongest feeling or emotion, or the image that felt the most meaningful or important to you.

4. In a few sentences, please can you briefly describe the image and what is happening in it?

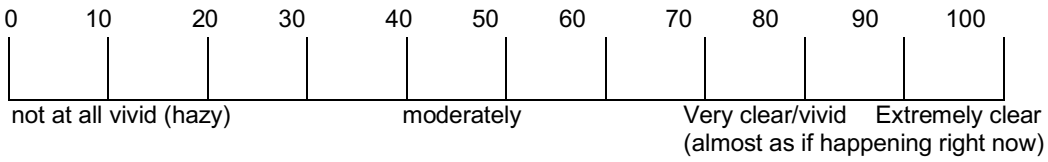
_____
_____
_____
_____

5. How often did this image/memory pop into your mind in the last week (or typical week)?

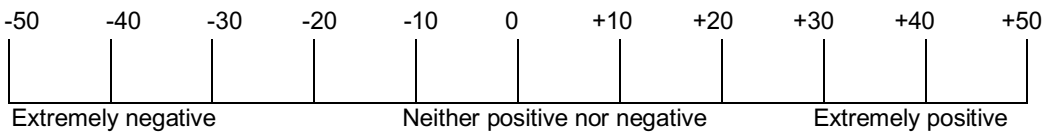
   Number of times_____

- *If the participant finds it difficult to work out how many images they experienced during the week, assist them (e.g. by extrapolating from a typical day)*

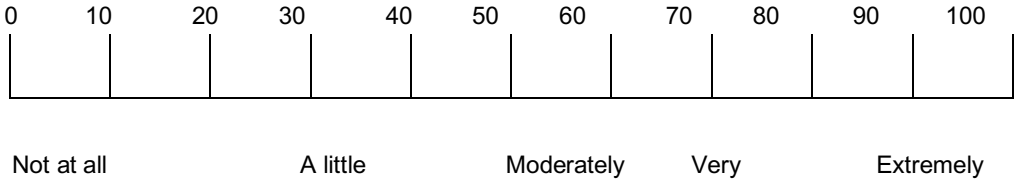
6. How vivid was the image/memory?



7. Was the image/memory a positive or negative experience?
   Prompt: Was it enjoyable? Was it distressing?



8. Now I will give you a list of feelings some people have when they have images. Please tell me to what extent the image/memory gave you the following feelings?



Angry =

Sad =

Guilty =

Happy =

Grief (or a sense of loss) =

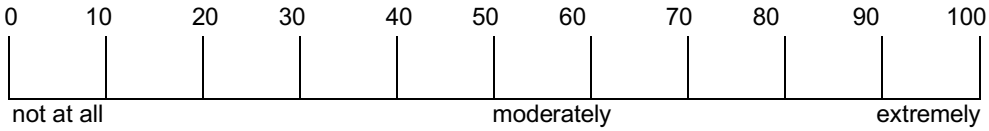
Afraid =

Excited =

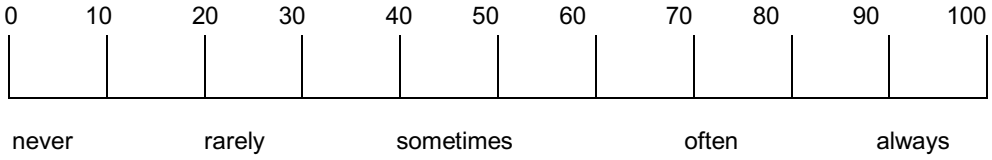
Disgusted =

Other (only if suggested by participant) = Specify emotion:

9. To what extent do you feel that this image reflects part of your identity?
Prompt: Or who you are as a person

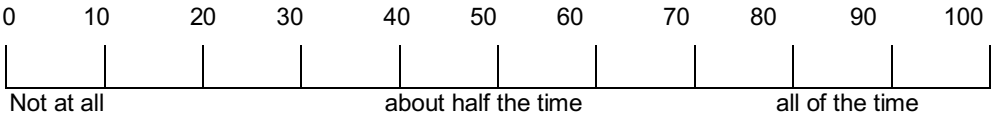


10. Do you try to avoid these images or memories? (i.e., try not to think about them)



11. How much did the image interfere with your everyday life?

Prompt: Does it stop you from doing things? Might you not get something else done because of the effect of the image?



12. Is this image linked to any earlier memory from your past?

    Yes____ No____

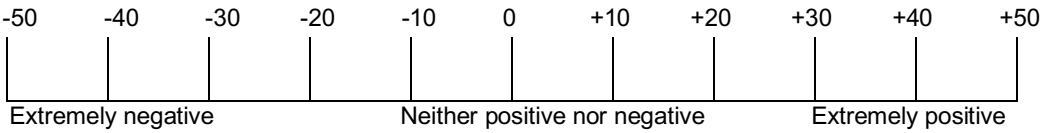
If respondent answers 'no' to question 12, skip to Q. 20

13. In one or two sentences, please can you briefly describe the memory or event that is linked to the image?

_____

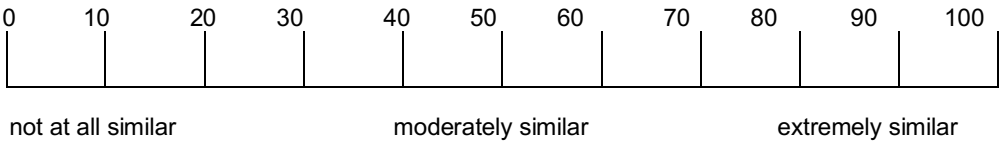
____

14. Was this remembered event a positive or negative experience for you?
    Prompt: Was it enjoyable? Was it distressing?



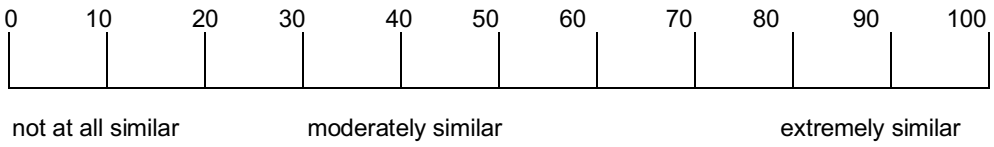
15. Please can you give me a 0 – 100% rating of how similar the actual sensory aspects of the image and the remembered event are:

    Prompt: This means what you see, hear, taste, touch, feel



16. Earlier you told me about the emotions you feel when the image pops into your head. Did you feel these same emotions at the time of the remembered event

you just described? Please can you give me a 0 – 100% rating of how similar the emotions associated with the image and the remembered event are:



17. Do you have anything to add regarding how similar (or different) your emotions were in the image and the remembered event?

    _____

    _____

    _____

18. [Hoarding Disorder participants only] Do you think there is a connection between the image you have described and your hoarding problem?

    _____

19. [Hoarding Disorder participants only] Do you think there is a connection between the event you have described and your hoarding problem?

    _____

B. CUED IMAGERY

I am now going to ask you to think about some specific events in your life and the imagery you might have experienced at the time.

Note: Scenarios A & B should be counterbalanced

Scenario A (Low value object)

Note whether scenario delivered first or second (circle)

Think of the last time you discarded an item that had low value to you. Something you threw away without a second thought.

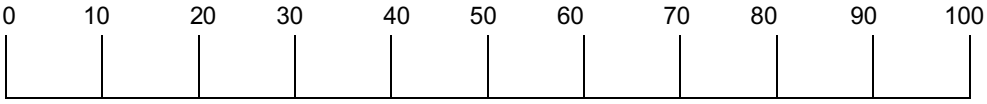
Prompts if required:

- *It could be anything, something you bought, something you got as a gift, something you got through the post, an object you added to a collection or something you got for free.*

20. What was the object? (describe it please)_____

21. Please describe your experience of discarding it in one or two sentences.
    _____

22. How valuable was the object to you,
    a. thinking about how much money it was worth?
    b. thinking about the memories it evoked for you?
    c. thinking about how useful it was/might be?



Not at all valuable *Extremely valuable*

23. When you were discarding the object, did any images/memories pop into your head?

Now repeat SECTION A from question 4

Scenario B (High value object)

Note whether scenario delivered <u>first</u> or <u>second</u> (circle)

Think of the last time you tried to discard an item that had high value to you. Something you found very difficult to throw away.

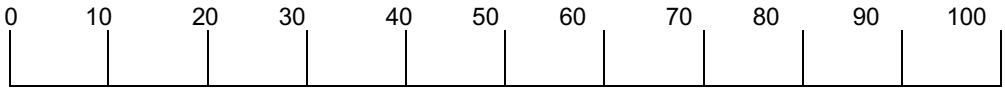
Prompts if required:

- *It may not have been expensive or worth a lot of money—just something that you once had which was important to you.*
- *It could be anything, something you bought, something you got as a gift, something you got through the post, an object you added to a collection or something you got for free.*

24. What was the object? (describe it please)_____

25. Please describe your experience of trying to discard it in one or two sentences.
    _____

26. How valuable was the object to you,
    a. thinking about how much money it was worth?
    b. thinking about the memories it evoked for you?
    c. thinking about how useful it was/might be?



Not at all valuable *Extremely valuable*

27. When you were trying to discard the object, did any images/memories pop into your head?

Now repeat SECTION A from question 4

-END OF IMAGERY QUESTIONNAIRE-

Appendix 3.3

Interview schedule

PIN:

Step 1: Screening for Exclusion criteria.

Hello and thank you very much for agreeing to speak to me about the study.

We are looking for two groups of people to participate in this study: people with hoarding problems and people who do not have hoarding problems. The next step is for me to ask you some questions to see which group may be suitable for you. Asking these questions is common practice for ethical and research reasons, and will ensure that we do not waste your time. Depending on your answers, it is possible that the study may not be suitable for you and if this is the case I'll do my best to explain why.

Check exclusion criteria (if say yes to any of following, exclude)

1.

1. under 18 years of age
   ☐ NO
   ☐ YES
2. any organic brain injury or neurological disorder present
   ☐ NO
   ☐ YES

2.

3. past/current diagnosis of psychosis? Psychosis refers to unusual experiences such as delusions (often known as 'false beliefs') or hallucinations (hearing, seeing or sensing things that others cannot see)

3.

☐ NO

☐ YES

4.

5.

4. past/current diagnosis of bipolar disorder? This would mean that there'd have been a period of time when you were feeling so good, 'high', excited, or 'on top of the world' that other people thought you were not your normal self.

6.

☐ NO

☐ YES

7.

8.

5. [current substance dependence]
    - Has your use of alcohol caused you difficulty or distress in the last 12 months?
    - Have you used illicit or recreational drugs at least six times in the past 12 months?
        - [if yes] Did your use of illicit or recreational drugs cause problems for you? Did anyone object to your use of these drugs?
    - Over the past 12 months, did you get hooked or become dependent on any prescribed or over-to-counter (OTC) medication?

9.

☐ NO

☐ YES

If answered yes to any of questions 1-5. Participant is unable to be included in the study.
Thank them for their time.
(No reimbursement unless participant proceeds further).

Otherwise, proceed.

Step 2: Screening for HD (and OCD)

Q. Do you believe that you might have Hoarding Disorder?

Use the following screening question from SCID-5-CV to clarify:

- **In the past month, since (ONE MONTH AGO), have you found it difficult to throw out, sell, or give things away?**

☐ NO

☐ YES

Q. Do you believe that you have Obsessive Compulsive Disorder?

Use the following screening questions from SCID-IV Screener to clarify:

- **Have you ever been bothered by thoughts that didn't make any sense and kept coming back to you even when you tried not to have them?**
    - **IF NOT SURE WHAT IS MEANT: Thoughts like hurting someone even though you really didn't want to or being contaminated by germs or dirt.**

and/or

- **Was there ever anything that you had to do over and over again and couldn't resist doing, like washing your hands again and again, counting up to a certain number, or checking something several times to make sure that you'd done it right?**

☐ NO

☐ YES

If participant <u>screened in for OCD</u> (using the screening questions above) but <u>not for HD</u>:

"Thank you for your time today. From the information that you have provided you do not meet the criteria for the groups we are recruiting. This is because we are looking for a group with hoarding problems and a group of people who do not have mental health difficulties. Although we are currently not looking for people with 'OCD' or 'obsessive-compulsive' difficulties, it is possible that we may create a new group at a later date. If it is okay with you, we will contact you if we create a new group that might be suitable for you? (participant will <u>not</u> be reimbursed)

☐ NO

☐ YES – happy to be contacted again

If participant screens in for HD, continue:

If you have another mental health problem in addition to Hoarding Disorder, which one do you believe is the most prominent difficulty for you?

☐ Hoarding Disorder ☐ OCD (if criteria met, see above)
☐ Other disorder (please name……)

☐ Both Equally prominent ☐ Don't know ☐ I have not noticed that I have these disorders

If participant says that HD is the most prominent problem for them, acknowledge this and **proceed**.

If participant said that OCD or another condition is the most prominent problem for them (or if they say the two problems are equally prominent), terminate the interview and say:

"This means that you would not meet the criteria to be part of this study. This is because we are looking for people for whom hoarding is their most prominent problem. Thank you for your time today." (participant will not be reimbursed)

If the other problem was OCD, say that there may be an additional group may be created at a later date that might suit them and ask if they are happy to be contacted again if this is the case.

☐ NO

☐ YES – happy to be contacted

If the participant meets neither the HD or OCD criteria:

Many thanks for completing the screening. From the information you have provided, it is evident that you do not meet the clinical

criteria for hoarding disorder. I will now ask you a question to check whether the other group we are recruiting may suit you.

To your knowledge, do you currently have difficulties with another mental health diagnosis or problem?

☐ Yes ☐ No

<u>If answered yes</u>. As a result of you currently having other mental health difficulties we are unable to ask you to participate in the current study. The reason behind this is that if we were to include individuals with other mental health difficulties this may make it harder for us to understand what is causing any differences/similarities in those who hoard and those who don't. Thank you for your time. (participant will not be reimbursed)

<u>If they answer no,</u> include as participant in non-clinical CC group:

Based on the outcome of the steps above, allocate participant to one of the following groups (please circle):

1. **HOARDING GROUP**
2. **COMMUNITY CONTROL GROUP**

Step 3: Gaining Informed Consent

<u>Consent to continue</u>

Before we continue, I just want to get your consent to continue with the study. First, I'll explain what will be involved. After this telephone screen today, there will be a telephone interview (which we can complete today or at another suitable time). I will then ask you to complete a set of questionnaires, either online, by post (freepost), or by telephone, depending on your preference. If you have access to a computer I can send you a link to these questionnaires while we are on the telephone. You can complete them while I am on the phone, or complete them on your own afterwards. We will give you a £5 gift voucher as a small gesture of thanks and make a small donation to a Hoarding Charity on your behalf, if you so wish.

Have you read the participant information sheet that we sent?

☐ NO

☐ YES

Are you happy with what the study involves?

☐ NO

☐ YES

Do you have any questions about it?

☐ NO

☐ YES

Do you have the consent form in front of you?

I would be grateful if you could sign this and return it to me (either by scanning and emailing it, or returning it by post), or alternatively confirm that you are happy to take part in the study by telling me over the telephone *(pending consent to record, see below).*

Consent to record

Are you happy for us to record the rest of the interview? It will help us ensure we have asked you all the questions and accurately report your answers. If at any time you wish to stop the recording or have a break just let me know and I will switch off the device. All information will be kept confidential and conforms to the Data Protection Act of 1998. The recording will be password protected with access restricted to study personnel only. Your name and address will be removed so that you cannot be identified from it. Once we have recorded all your answers, we will destroy the recording.

☐ NO

☐ YES

AFTER CONSENT OBTAINED. PROCEED.

Switch on recording device.
Okay, the interview is now being recorded.

Now, for the purpose or the recording, please can you confirm again that you have read the consent form and are happy to proceed with the study?

☐ NO

☐ YES

And also that you are happy for this interview to be recorded?

☐ NO

☐ YES

OK, let's continue.

Offer to provide weblink so that participant can view questions and scales:

"Some of today's questions ask you to pick an option from a set of options or a scale. Sometimes people find it helpful to be able to see these options and scales in front of them when they answer the questions. If you have access to a computer I can send you a link to follow where you will be able to see the questions and scales. Would you like me to send you the link?"

☐ NO

☐ YES - send link by email

Now, I will ask you a few more questions to make sure the study is right for you.

If participant said 'yes' to HD:

Now I need to ask you some further questions to check that your HD problem meets the criteria for this study. Is that OK?

☐ NO

☐ YES

Follow up with Structured Interview for Hoarding Disorder (SIHD, which incorporates DSM-5 criteria for HD).

The SIHD can be viewed here:
https://www.researchgate.net/profile/Lorena_Fernandez_de_la_Cruz/publication/266850313_The_Structured_Interview_for_Hoarding_Disorder_SIHD_C/links/543d055e0cf24ef33b765927/The-Structured-Interview-for-Hoarding-Disorder-SIHD-C.pdf

Does participant meet criteria for HD using the SIHD?

☐ NO

☐ YES

If participant does not meet SIHD criteria:

Thank you. Your answers to these questions gives me an indication of the extent of your hoarding problem. We are looking for individuals whose hoarding difficulties are above a particular level, and your difficulties appear to be below that level. This means that we will not be able to continue this interview. Thank you very much for your time today. [note: participant will be reimbursed]

If participant screens in for HD using the SIHD and also screened in for OCD (using the screening questions):

- **Follow up with SCID-5-CV interview for OCD to check whether the participant has comorbid OCD (p.73)**

Does participant meet criteria for comorbid OCD using the SCID-5-CV?

☐ NO

☐ YES

"Thank you. Based on the information you have provided so far, it looks like you may meet the criteria for the study.

Community controls:

Earlier, I asked you about mental health problems because these could mean that this study is unsuitable for you. This is because we want to compare people with hoarding problems with people who do not have any mental health difficulties. For research purposes, I now need to confirm the absence of mental health problems using some 'yes or no' questions. If a potential problem comes to light, it may not be possible to continue with the study. Are you happy to proceed?

☐ NO

☐ YES

HD group:

I now need to ask you some further specific questions about mental health difficulties you may have in addition to your hoarding difficulties. Are you happy to proceed?

☐ NO

☐ YES

Step 4: Screening for comorbid conditions (screening questions from SCID-4) augmented with additional screening questions taken from SCID-5-CV and the MINI

SCID Screener

(adapted to include questions on: Mood, PTSD and ADHD)

The SCID Screener has not been included in this appendix in order to comply with copyright law.

If 'YES' to any of questions asked, then please go to the relevant sections of the SCID-5 Clinician Guide and complete this.

If an individual in the CC group meets the DSM-5 criteria for a condition, inform them that they do not meet the criteria for the study and thank them for taking part:

'Thank you for answering those questions. Your answers indicated that you could possibly be experiencing a mental health difficulty, so it will not be possible to continue with this study. This doesn't mean that you do have a mental health difficulty. Because this is a research study we have strict criteria and if people answer 'yes' to several of these questions then for research purposes we cannot say that they definitely do not have any problems. You will be the best judge of your own mental health, but if answering these questions has caused you any concerns, then you could visit your GP to discuss this further. Thank you for your time today.'
(Participant is still reimbursed)

If an individual in the HD group meets the DSM-5 criteria for a condition, check that HD is the most significant problem for them (as above). If HD is not the most significant problem, inform them that they do not meet the criteria for the study and thank them for taking part:

"This means that you would not meet the criteria to be part of this study. This is because we are looking for people for whom hoarding is their most prominent problem. Thank you for your time today."
(participant will still be reimbursed)

Otherwise, proceed:

Thank you for answering those questions, you meet the criteria for the study.

☐ NO

☐ YES

“The next step is to ask you some demographic questions about yourself (age, living situation, etc.), followed by an interview about images that may pop into your head.”

“Would you like to go ahead with these now, or arrange to speak at another time?”

☐ Proceed now

☐ Arrange a telephone call for another time

Demographics

Please note gender
Male ☐ Female ☐ Other ☐

What is your age in years and months?
Years
.....Months.....
.....

What is your highest level of Education?

☐ No education ☐ Primary school ☐ City and guilds ☐ G.C.S.E.s ☐ ‘A’ levels
☐ University Degree ☐ Master’s Degree ☐ PhD ☐ Other (specify which):

.....
.....

Can we ask if you are married or single?

☐ Married ☐ Single ☐ Prefer not to say

☐ Divorced/separated ☐ Widowed ☐ Civil Partnership

What is your current living situation?

☐ Alone ☐ Spouse/partner (with or without children)

☐ Sharing a flat/house with others ☐ Other (specify)……..

What medication are you currently taking? (these may be for physical and/or mental health)

.....
.....
.....
.....
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Imagery interview (see separate appendix)

“Thank you again for your time today.

“We are aware that some of the questions you answered during the study may have been distressing for you. If you finding things difficult and would like to talk to someone, we have provided some recommendations in the information we sent you by email/post.” (direct participant to debriefing sheet in pack).

“The next step is for us to send you a questionnaire to complete.”

If the participant opted to visit the weblink to have the questions and scales in front of them during the interview (see above), say:
“At the bottom of the page, you will find another link that will take you through to the online questionnaire. If you wish, you can click on the link and complete the online questionnaire right now. I will stay on the telephone to help you if you would like, or you can complete it and submit it in your own time”.

Or, if the participant did not opt to visit the weblink:
You will be sent a pack of questionnaires via email/post
Which would you prefer?

☐ INTERNET LINK

☐ POST

All participants:
“Sometimes if people don’t have time to complete the questionnaires immediately they appreciate receiving one or two reminders by email. Are you happy be reminded in this way to complete the questionnaires? The online questionnaire is a very important part of this study, so I would be very grateful if you could complete it.”

☐ NO

☐ YES – happy to be reminded by email

Appendix 3.4

Ethical approval

From: psychology-ethics
Sent: 03 November 2017 17:47
To: Nick Stewart
Subject: Ethics 17-123 amendment approved

Dear Nick,

Thank you for letting us know about this amendment. I am happy to confirm that you have received full ethical approval, via Chair's Action. Your file will be updated to include these changes.

Best of luck with your research,
Dr. Nathalia Gjersoe
Chair, Psychology Ethics Committee

From: psychology-ethics
Sent: 03 August 2017 14:53
To: Nick Stewart
Subject: RE: Ethics 17-123

Dear Nick,

Thank you for letting us know about these amendments. I am happy to confirm that you have received full ethical approval, via Chair's Action. Your file will be updated to include these changes. Please continue to use the code 17-123 on internal documents as proof of ethical approval.

Best of luck with your research,

Dr. Nathalia Gjersoe

Chair, Psychology Ethics Committee

Appendix 3.5

Instructions to authors

Journal of Anxiety Disorders

SUBMISSION CHECKLIST

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

ENSURE THAT THE FOLLOWING ITEMS ARE PRESENT:

One author has been designated as the corresponding author with contact details:

• E-mail address
• Full postal address

All necessary files have been uploaded:

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• Include keywords
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• Indicate clearly if color should be used for any figures in print

Graphical Abstracts / Highlights files (where applicable)

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Further considerations

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• Permission has been obtained for use of copyrighted material from other sources (including the Internet)
• Relevant declarations of interest have been made
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