OXFORD DOCTORAL COURSE IN CLINICAL PSYCHOLOGY



Victoria Skibsted Nielsen

Harris Manchester College, University of Oxford

Trinity term, June 2022

A thesis submitted in partial fulfilment of the requirements of the degree of Doctor of Clinical Psychology (DClinPsych), comprising:

Critical Review of the Literature:

An exploration of betrayal within mental contamination in OCD: a mixed-methods systematic narrative review

Service Improvement Project:

The Development, Evaluation and Improvement of an Online Stabilisation Group Intervention for Post-Traumatic Stress Disorder and Complex Post-Traumatic Stress Disorder

Theoretically Driven Research Project:

Is Anthropomorphism Unique to Hoarding Disorder? A comparison of hoarding, OCD and non-hoarding collectors

WORD COUNTS

Critical Review of the Literature (CRL): 7, 076

Service Improvement Project (SIP): 3, 953

Theoretically Driven Research Project (TDRP): 5, 436

Executive Summary: 665

Connecting Narrative: 910

Total: 18, 040

TABLE OF CONTENTS

OVERVIEW OF ABSTRACTS **4**

CRITICAL REVIEW OF THE LITERATURE **6**

ABSTRACT 7
INTRODUCTION 8
METHODS 11
RESULTS 31
DISCUSSION 48
REFERENCES 54

SERVICE IMPROVEMENT PROJECT **60**

ABSTRACT 61
INTRODUCTION 62
METHODS 63
RESULTS 66
RECOMMENDATIONS ..... **ERROR! BOOKMARK NOT DEFINED.**
DISCUSSION 108
REFERENCES 119

THEORETICALLY DRIVEN RESEARCH PROJECT **121**

ABSTRACT 122
INTRODUCTION 123
METHOD 127
RESULTS 137
DISCUSSION 148
REFERENCES 152

EXECUTIVE SUMMARY **158**

CONNECTING NARRATIVE **160**

ACKNOWLEDGEMENTS **163**

APPENDICES **164**

OVERVIEW OF ABSTRACTS

Critical Review of the Literature (CRL) Abstract: **An exploration of betrayal within mental contamination in OCD: a mixed-methods systematic narrative review**

Although there has been significant research on the possible link between betrayal and mental contamination (MC) in the context of Obsessive-Compulsive Disorder (OCD), the findings appear contradictory. The current mixed-method systematic narrative review aimed to examine and synthesise research exploring the relationship between betrayal and MC in OCD, to determine whether the current empirical literature indicates whether or not betrayal is a critically important element in the experience of MC in OCD. Experimental and exploratory research studies of both quantitative and qualitative nature were included if they examined factors associated with MC and betrayal in OCD. Ovid and Open Athens databases including PsycINFO, Pubmed, Medline and Google Scholar were searched during May 2022. Quality and risk of bias was assessed using the Mixed Methods Appraisal Tool (MMAT: Hong et al., 2018). A total of 16 studies were included in the review (three qualitative, seven experimental, three quantitative non-randomised, two quantitative descriptive and two mixed methods studies). Overall, the current evidence provides support for a connection between betrayal, MC and OCD in clinical samples with the evidence being more mixed in analogue samples. Strengths, limitations, implications and future directions are discussed.

Service Improvement Project (SIP) Abstract: ***The Development, Evaluation and Improvement of an Online Stabilisation Group Intervention for Post-Traumatic Stress Disorder and Complex Post-Traumatic Stress Disorder***

This service improvement project evaluated a pilot online stabilisation group offered to individuals waiting for one-to-one trauma-focused therapy for post-traumatic stress disorder (PTSD) or complex

post-traumatic stress disorder (CPTSD) and made recommendations to the service on how the group could be improved. Quantitative and qualitative data were employed to assess the outcomes and experiences of 10 service users (SUs) who attended a six-session stabilisation group. Descriptive statistics and framework analysis revealed that all participants found the group helpful (to varying extents), despite no significant improvement in the symptoms of PTSD for the majority of group participants. Recommendations were made to the service based on the SUs' qualitative feedback.

Theoretically Driven Research Project (TDRP) Abstract: ***Is Anthropomorphism Unique to Hoarding Disorder? A comparison of hoarding, OCD and non-hoarding collectors***

Hoarding disorder (HD) has a detrimental impact on the wellbeing of the individual with the disorder and those around them. Rather than being a unitary disorder, HD may represent a "final common pathway", with multiple factors responsible for the accumulation of possessions to the point at which living space becomes unavailable. Clinically, it has been suggested that anthropomorphising (the attribution of human-like characteristics to non-human objects) may be one such factor. **Objectives:** The current study hypothesised that anthropomorphising would be greater for possessions than non-owned objects, and that individuals experiencing HD would anthropomorphise to a greater extent than those with Obsessive-Compulsive Disorder (OCD) in the absence of significant hoarding tendencies and to two non-clinical comparison groups (people identifying as 'collectors' and members of the general population without collecting or hoarding tendencies). **Method:** A new scale to measure anthropomorphising of owned-possessions and non-owned objects was developed and evaluated in a cross-sectional study in 499 participants. Four criterion groups were constituted: HD, OCD, 'Collectors' and controls. **Results:** Those with HD anthropomorphised to a greater extent than collectors and controls but did not differ from the OCD group. There was no difference in levels of anthropomorphism between own-possessions and unowned-objects. The results suggest that anthropomorphism may contribute to hoarding behaviours, but the high scores in the OCD group require further research clarification. **Conclusion:** Anthropomorphism is prominent in both hoarding difficulties and OCD.

Critical Review of the Literature

Victoria Skibsted Nielsen

Victoria.Nielsen@hmc.ox.ac.uk

An exploration of betrayal within mental contamination in OCD: a mixed-methods systematic narrative review

---

Word Count: 7,076

20.06.22

Internal supervisor(s): Professor Paul Salkovskis

External / field supervisor(s): Dr Victoria Bream

Journal For Submission: *Journal of Obsessive-Compulsive and Related Disorders. Chosen as contributes to the literature on OCD, in line with the journals aim (Appendix A).*

ABSTRACT

Although there has been significant research on the possible link between betrayal and mental contamination (MC) in the context of Obsessive-Compulsive Disorder (OCD), the findings appear contradictory. The current mixed-method systematic narrative review aimed to examine and synthesise research exploring the relationship between betrayal and MC in OCD, to determine whether the current empirical literature indicates whether or not betrayal plays a role in the experience of MC in OCD. Experimental and exploratory research studies of both quantitative and qualitative nature were included if they examined factors associated with MC and betrayal in OCD. Ovid and Open Athens databases including PsycINFO, Pubmed, Medline and Google Scholar were searched during May 2022. Quality and risk of bias was assessed using the Mixed Methods Appraisal Tool (MMAT: Hong et al., 2018). A total of 16 studies were included in the review (three qualitative, seven experimental, three quantitative non-randomised, two quantitative descriptive and two mixed methods studies). Overall, the current evidence provides support for a connection between betrayal, MC and OCD in clinical samples with the evidence being more mixed in analogue samples. Strengths, limitations, implications and future directions are discussed.

INTRODUCTION

Obsessive-Compulsive Disorder (OCD) is a chronic and common condition whereby individuals experience intrusive and recurring thoughts, images and impulses (obsessions) accompanied by repetitive behaviours that attempt to neutralise such obsessions (compulsions). In the early days of behavioural therapy, OCD was viewed as homogeneous in nature, with Cognitive Behavioural Therapy (CBT), specifically Exposure Response Prevention (ERP), considered to be the leading evidence-based treatment for the disorder (Marks, 1997). However, research indicated that such treatment was not efficacious for approximately 50% of individuals with OCD (Stanley & Turner, 1995; Jenike et al., 1987). One hypothesis as to the reason behind such findings was that OCD was in fact more heterogenous than previously supposed, with differing symptom subtypes perhaps contributing to variations in outcome (Sookman et al., 2005). Some proposed that consideration was needed for subtypes of OCD, such as contamination/decontamination (Jones & Menzies, 1998; Calamari et al., 2004), checking (Feinstein et al., 2003; Rachman, 2003), obsessions without overt compulsions (Ladouceur et al., 1999; Rachman, 2003), rumination (Salkovskis & Westbrook, 1989) and hoarding (Rasmussen & Eisen, 1992; Frost & Hartl, 1996). Anecdotal evidence from subtyping research suggested that CBT interventions tailored for specific subtypes of OCD may improve treatment response (Sookman et al., 2005). However, a later systematic review suggested that the majority of subtypes of OCD responded similarly to ERP, with the exception of hoarding and sexual or religious obsessions without overt compulsions, which typically do not respond well to ERP (Starcevic & Brakoulias, 2008). The idea that hoarding was distinct from OCD due to differences in phenomenology and treatment outcomes (Rachman et al., 2009) was later reflected in DSM-5 categories (American Psychiatric Association, 2013), with hoarding being classified as a separate disorder. With that important exception, there is however little evidence that the focus of OCD significantly impacts either of the factors involved in the maintenance of the problem or its treatment.

Recent developments may have changed this conclusion in one area. The identification of Mental Contamination (MC: Rachman, 1994; Fairbrother et al., 2005), described as feelings of internal

dirtiness and related distress in the absence of physical contact with contaminants (Rachman, 2004), appears to suggest that both the mechanisms involved in this form of OCD and treatment required may in fact differ in this instance. MC can give rise to similar feelings of discomfort, anxiety and disgust experienced in contact contamination (CC), but without physical contact with something considered to be contaminating. Research has shown that MC plays an important role in the symptomology of OCD, whereby MC may mediate the relationship between disgust propensity and contamination-related OCD symptoms (Melli et al., 2014). Some research also suggests that experiences of betrayal can feature in the phenomenology of MC in relation to OCD symptoms.

Betrayal has been defined as 'the sense of being harmed by the intentional actions or omissions of a trusted person' (Rachman, 2010). An association between betrayal and MC within OCD has commonly been reported and can coincide with CC. Further, Freyd (1994) coined the term 'betrayal trauma', which refers to traumas characterised by harm and/or violations caused by individuals or institutions that the victim depends on for survival (Freyd, 1996). The betrayal trauma theory posits that the victim of such a violation is unable to 'confront or sever ties' due to dependence on the perpetrator and is therefore forced to ignore or accept the violation (Freyd, 1996). By contrast, Rachman (2004, 2010) explicitly links betrayal to experiences of MC, whereby the 'betrayer' becomes a source of contamination. Rachman (2010) posits that feelings of humiliation, worthlessness and degradation are typically experienced by the 'betrayed' and that they typically avoid contact with the contaminant (the individual who betrayed them) following betrayals.

There have been two main strands of research on the experience of betrayal and MC; these are experimental studies in non-clinical (analogue) samples, and clinically focussed studies on OCD and other diagnostic groups. Research with analogue samples has been important in the development of our understanding of OCD (Rachman & de Silva, 1978; Salkovskis & Harrison, 1984; Abramowitz et al., 2014). To examine the phenomenon of MC, Rachman and other researchers have conducted a number of analogue population studies (typically with female undergraduate students) utilising the so-called "dirty kiss" paradigm (Fairbrother et al., 2005; Elliott & Radomsky, 2012). This experimental

strategy manipulates (in imagination) the source of contamination, whereby the participant imagines a scenario where they are involved in a consensual or non-consensual kiss (notably, a violation). Multiple studies have shown that typically the 'victim' reports feeling an increased sense of dirtiness and as having a greater urge to wash in the non-consensual condition (Fairbrother et al., 2005, Herba & Rachman, 2007, Elliott & Radomsky, 2009, Elliott & Radomsky, 2012). Rachman et al (2012) first analysed the impact of betrayal by extending the paradigm to include elements of betrayal by manipulating features of the perpetrator of the dirty kiss and found levels of dirtiness and urges to wash were highest in the manipulations that involved betrayal.

Further, examination of perceived betrayal has featured in research on clinical samples (including but not confined to OCD). This included clinical criterion group designs comparing individuals with OCD against other specified clinical groups and community controls (Howkins et al., 2021; Pagdin et al., 2021). Findings from research in clinical populations typically are regarded as more ecologically valid in reference to the nature of OCD compared to findings from non-clinical populations, with less inferences being required to apply findings clinically. Clinical studies have typically looked at 'betrayal sensitivity', which can be described as the extent to which someone is sensitive to experiences of betrayal and the consequent negative impact of betrayal (Howkins et al., 2021). Further, a number of qualitative studies have been conducted looking at both the phenomenology and treatment outcomes in relation to MC and betrayal in individuals with OCD.

A recent review concluded that MC is a robust clinical construct within OCD (Millar et al., 2022). Further, a review on trauma-related OCD references an association with OCD and trauma (Dykshoorn, 2014). To the best of our knowledge, no literature reviews on betrayal exist examining its relationship with any psychological disorders. The current systematic review examines the limited research exploring the relationship between betrayal and MC in OCD, specifically to determine whether betrayal plays a role in the experience of MC in OCD by attempting to evaluate and integrate the differing research designs described above. It is important to note that betrayal has also been linked with post-traumatic stress disorder (DePrince & Freyd, 2002; Martin et al., 2013; Kelley et al.,

2012; Lawson et al., 2020), however this literature will not be addressed in the current review as we are primarily concerned with manifestations of betrayal in OCD in the context of MC specifically.

METHODS

Design:

A mixed-methods systematic narrative review approach was adopted in order to assess the relationship between MC and betrayal in the limited OCD literature available in this area, allowing for the inclusion of both qualitative and quantitative study designs. A second rater was employed to confirm the selection of studies and quality ratings for each study, in order to ensure inter-rater reliability. The current review will adhere to the guidelines set by PRISMA-P (Shamseer et al., 2015).

Eligibility criteria:

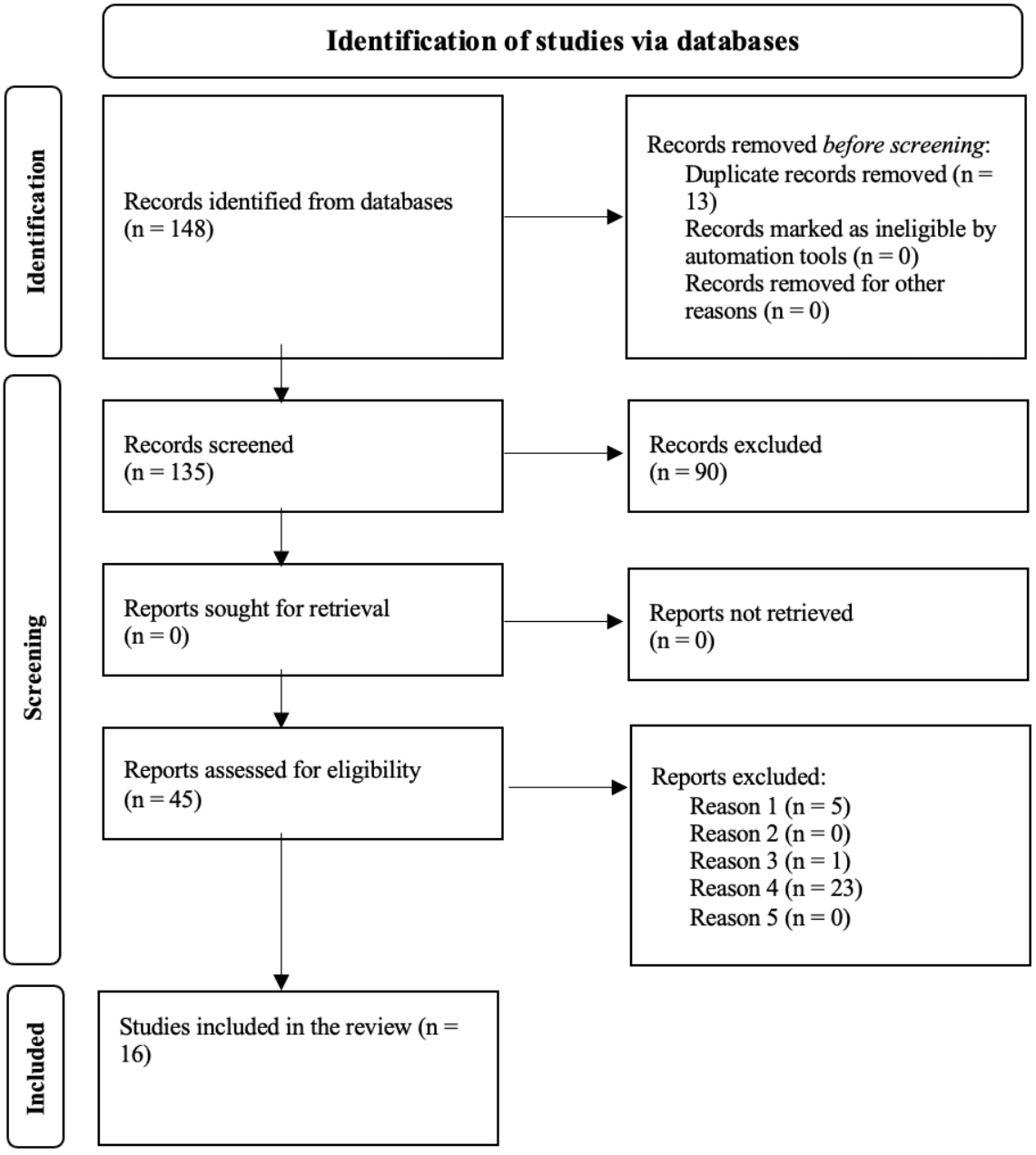
Papers were included if they met the following criteria: 1. Experimental studies investigating factors associated with MC and betrayal in OCD. 2. Exploratory studies examining the phenomenology of MC including betrayal in OCD 3. Qualitative and quantitative studies yielding findings related to betrayal. Papers were excluded if they met the following criteria: 1. Studies not related to OCD; 2. Studies not involving elements of betrayal or MC; 3. Non-empirical research source'; 4. Studies conducted before 1990.

Information sources & Search Strategy: Variations of the terms MC, betrayal and OCD (Specific search terms (thesaurus): "OCD" OR "Obsessive Compulsive Disorder" AND Betray* OR "let down" OR abandon* OR deceive OR unfaithful OR disloyal* OR infidelity OR dishonest* AND "Mental Contamination") were searched via the following databases across Ovid and Open Athens: PsycINFO (7 results), Pubmed (5 results), Medline (5 results) and Google Scholar (135 results). A total of 135 papers were retrieved from the search, including grey literature, with 122 remaining after the removal of duplicates.

Study records, Including Data Items, Outcomes and Prioritisations: Abstracts, and subsequently full texts, were systematically reviewed for relevance based on the inclusion and exclusion criteria. Relevant studies located in references lists were also searched for. Twenty-five percent of the abstracts, full texts & quality ratings were screened by a second-rater. Forward and backward handsearching did not yield any further studies. Data was recorded from the search protocol into EndNote, which was subsequently transferred to Excel for extraction and coding. Potential articles were firstly screened by reviewing the article title and abstract and if considered relevant after the initial screening, they were fully reviewed via full text for final consideration of inclusion in the review (see *Figure 1*).

Figure 1

PRISMA flow diagram (Shamseer et al., 2015). Reason 1= Non-empirical research source; Reason 2= Study not related to OCD; Reason 3= Study not involving elements of MC; Reason 4= Study not involving element of betrayal; Reason 5= Study conducted before 1990



Note. Abbreviations: n = Number.

Initial inter-rater agreement was 'very good' for both abstracts (κ = .815, 95% CI [.572, 1.058], $p <$ .001) and full texts (κ = .833, 95% CI [.525, 1.141], $p < .05$). Any disagreements were resolved via discussions with the second rater and supervisor. Differences in ratings were misunderstandings of the

criteria for betrayal, which was confirmed as ‘a violation of trust’ (Jones et al., 1997) and applied consistently by both raters. Excellent reliability was found between quality ratings, with an average Intraclass correlation coefficient (ICC) of 1.000. The main data fields that were extracted included aims, country, sample, methods/ design, measures and findings (see *Table 1*). Only results relevant to findings on betrayal were extracted.

Table 1

Data Extraction Summary

STUDY NUMBER	AUTHOR(S), YEAR, COUNTRY	AIM(S)	SAMPLE	METHODS/ DESIGN	RELEVANT MEASURES	RELEVANT FINDINGS	TYPE OF BETRAYAL
1	Coughtrey et al (2012) UK	1. Identify the sources and features of MC 2. Examine the emotional and behavioural consequences of MC	20 people with contamination-based OCD 7 Male, 13 Female Age M=36.15 Age SD= 11.01	Qualitative case series analysed via thematic analysis	Mental Contamination Interview (Rachman., 2006)	'Human sources of MC' Theme: One report of a dream whereby the individual cheated on their partner and showered immediately after waking up	Retrospective recollections of actual betrayal experiences whereby the participant was the perpetrator of betrayal.

2	Coughtrey et al (2013) UK	1. Examine the effects of a specific, theory-driven cognitive-behavioural intervention for MC	12 people with OCD & primary difficulties with MC 5 Male, 7 Female Age M= 28.83	Quantitative case series analysed via descriptive statistics & paired samples t-tests	Y-BOCS (Goodman et al., 1989); VOCI-MC (Rachman., 2006); OCI-R (Foa et al., 2002)	One female with prominent experiences of betrayal made 'significant improvements' following intervention, although continued to meet clinical threshold for OCD. MC scores did not reduce following intervention	Retrospective recollections of actual betrayal experience whereby the participant was the victim of betrayal.
3	Coughtrey et al (2014) UK	1. Assess whether feelings of MC could be evoked by memories, thoughts	40 students 12 Male, 28 Female Age M= 20.60	Quantitative cohort study whereby participants	Visual Analogue Scales (VAS: McCormack et al.,	Participants reported memories of betrayal in response to cue words, including being	Retrospective recollections of actual betrayal experiences whereby

		& images in the absence of contact with a tangible contaminant	Age SD= 5.33	were asked to recall memories related to cue words associated with MC. Differences in MC analysed via T-tests pre and post recall	1988) related to MC & anxiety	betrayed by a partner & being lied to by a friend. A significant increase in general dirtiness, internal dirtiness, urge to wash & anxiety was found post recall task	the participant was the victim of betrayal.
4	Coughtrey et al (2015) UK	1. Examine the nature of imagery associated with MC experienced by people with OCD	15 people with contamination-based OCD 5 Male, 10 Female	Qualitative case series interviews analysed via	The Mental Contamination Imagery Interview (Coughtrey et al., 2015)	Within the 'Images of past and future events' Theme, there were reports of memories of past negative events	Retrospective recollections of actual betrayal experiences. It was unclear whether the

			Age M=38 SD= 11.41	thematic analysis		(including betrayals) that caused distress and generated urges to wash	data referred to the perpetration or victimisation of betrayal.
5	Firmin (2018) UK	1. Compare experiences of betrayal and bullying in individuals with or without OCD	67 total participants 4 groups: OCD with bullying (20), OCD without bullying (4), non-OCD with bullying (11), non-OCD without bullying (32)	Mixed-methods including qualitative interviews (analysed via thematic analysis) and quantitative case-control study (descriptive	SCID (First, 2014); OCI (Foa et al., 1998); VOCI-MC (Thordarson, et al., 2004); Betrayal Impact Scale (Firmin, 2018); Bullying Experiences	Qualitative interviews with individuals with OCD revealed reports of betrayal from parents, teachers & friends. Quantitative findings revealed MC & betrayal scores were highest for individuals with OCD with experiences of bullying	Retrospective recollections of actual betrayal experiences whereby the participant was the victim of betrayal.

				statistics only as underpowered)	questionnaire (Firmin, 2018)		
6	Howkins et al (2021) UK	1. Replicate the previous finding of sensitivity to being betrayed being elevated in OCD 2. Evaluate whether people with high MC OCD are more sensitive to the idea that they may betray others compared to those with low levels of MC OCD	204 total participants. 4 groups: High MC/OCD (60), Low MC/OCD (61), Depression (28), non-clinical (46)	Quantitative cross-sectional, between groups design. One-way & mixed-model ANOVAs, with post hoc comparisons (LSD), were used for analysis	POBoS (Pagdin et al., 2021) POBS (Pagdin et al., 2021); VOCI- MC (Thordarson et al., 2004)	High MC group had significantly higher sensitivity scores to being betrayed & to betraying others compared to controls, low MC and depression groups	Retrospective recollections of actual betrayal experiences whereby the participant was both the victim and perpetrator of betrayal.

7	Kwok (2010) Hong Kong	1. Investigate the presence of MC in people experiencing betrayal	64 undergraduate students. 2 groups: betrayal (33) & non-betrayal (31)	Quantitative randomised-control study utilising version of the 'dirty kiss paradigm' with or without elements of betrayal. Differences in MC analysed via t-tests.	MCR (Herba and Rachman, 2007); Break Behaviour Questionnaire (BBQ: Elliott and Radomsky, 2009); Betrayal Manipulation Checks (self-report rating of betrayal on 1-5 scale); VOCI-MC (Thordarson et al., 2004)	Higher ratings of dirtiness, urges to wash and avoidance (indicating increased MC) in betrayal compared to non-betrayal condition	Imagined scenario involving betrayal whereby the participant was the victim of betrayal.

8	Millar et al (2016) UK	1. Assess the extent an imagined violation involving betrayal by a trusted person is different from that by someone who is not trusted by the victim 2. Assess the importance of an imagined act of violation involving imagined physical contact with the person & an imagined act of	80 female university students & employees Age M= 21.56 Age SD= 4.79	Quantitative randomised-control 2x2 between subjects, repeated measures study utilising the 'dirty kiss paradigm' (contact betrayal) and a theft paradigm (non-contact betrayal). A 2x2 ANOVA	OCI (Foa et al., 1998); MCR (Elliott and Radomsky, 2009); BBQ (Elliott et al., 2009); VAS on distress, anger, anxiety & fear	Violations not involving imagined physical contact (CC) did not result in feelings of MC, regardless of whether betrayal was evoked	Imagined scenario involving betrayal whereby the participant was the victim of betrayal.

		violation not involving contact		was used for analysis			
9	Ottaviani et al (2019) Italy	1. Examine whether altruistic and deontological guilt are mutually exclusive constructs 2. Examine the relationship between deontological (as opposed to altruistic) guilt, disgust and OCD- like washing behaviours	61 'healthy' participants 30 Female, 31 Male Age M= 27.1 Age SD= 5.5 years	Quantitative randomised-control between subjects, repeated measures study. T-tests, $\chi 2$ tests, ANOVAs and a between-subject MANOVA	Penn Inventory of Scrupulosity-Revised (Olatunji et al., 2007); Disgust Scale-Revised (Olatunji & Williams, 2007); OCI-R (Foa et al., 2002); Guilt Inventory (Kugler & Jones, 1992); VAS on happiness, shame, fear,	Compared to altruistic guilt, deontological guilt had the effect of enhancing the physiological correlate of disgust and increasing OCD-like washing behaviours. In both groups, washing behaviours reduced the physiological correlate of disgust	Imagined scenario involving betrayal whereby the participant was the perpetrator of betrayal.

				were used for analysis	sadness, disgust, anger, pity, altruistic guilt, and deontological guilt (D'Olimpio & Mancini, 2014); ECG Recordings		
10	Pagdin et al (2021) UK	1. Develop a measure to assess the impact of betrayal 2. Investigation of the extent to which betrayal is specific to OCD relative to other anxiety	Total 83 participants. 4 Groups: OCD=23, Anxiety= 21, Depression=18, Community Controls= 21	Cross-sectional, between-groups design with four groups. ANOVAs and multiple regression	POBS (Pagdin et al., 2015); OCI-R (Foa et al., 2002); VOCI-MC (Thordarson et al., 2004)	OCD group scored higher on maladaptive perceptions of betrayal than other groups. Regression analysis showed betrayal scores to be a moderate predictor of the experience of MC.	Retrospective recollections of actual betrayal experiences whereby the participant was the victim of betrayal.

		disorders and depression		were used for analysis		Lack of trust due to betrayal & betrayal leading to traumatic responses were found to be significantly associated with MC	
11	Piper (2013) UK	1. Ascertain whether MC could be induced in participants following recall of real-life unpleasant memories 2. Explore the relationship between MC and OCD	180 students. 2 Groups: mental physical group= 99, mental moral group= 81	2x2 mixed measures experimental design. Mann Whitney U Tests, Wilcoxon signed-rank tests, Spearman's	VOCI-MC (Thordarson et al., 2004); VOCI-PC (Thordarson et al., 2004); OCI-R (Foa et al., 2002); Disgust Propensity and Sensitivity	Feelings of MC were induced following recall of an unpleasant memory (inc. betrayals). Increased levels of disgust, dirtiness and contamination post recall task for both groups. Increased	Retrospective recollections of actual betrayal experiences whereby the participant was the perpetrator of betrayal.

		3. Investigate if sensitivity to disgust, guilt and shame are related to the experience of MC		Rho correlations and Linear regression were used for analysis	Scale-Revised (van Overveld et al., 2006); Guilt and Shame Proneness Scale (Cohen et al., 2011); VAS on disgust, general dirtiness, sense of contamination, shame, anxiety & urge to wash	levels of anxiety and shame in mental moral compared to physical group.	
12	Rachman (2010) Canada	1. Provide a conceptual framework for	5 Case Studies on individuals with OCD	(Assumed) qualitative interviews. No	Unknown	Three cases found instances of MC following experiences	Retrospective recollections of actual betrayal

		studying the phenomenon of betrayal and assessing its psychological significance	2 Male, 3 Female	apparent analysis.		of betrayals, including MC and washing behaviours following experiences of partners cheating & parental betrayals (receiving financial incentive for daughter's arranged marriage)	experiences whereby the participant was the victim of betrayal.
13	Rachman et al (2012) Canada	1. Test the proposition that imagining carrying out an unacceptable non-consensual act can evoke	40 male undergraduate students. Age M=21.53 SD= 4.95	Quantitative randomised-control between subjects, repeated	Likert Scales on dirtiness, urges to wash and associated negative emotions (Herba & Rachman, 2007);	Non-consensual scenarios were followed by substantial increases in negative emotions (shame, disgust and	Imagined scenario involving betrayal whereby the participant was the perpetrator of betrayal.

		contamination-related feelings in the perpetrator		measures study. 2x2 repeated measures ANOVAs and t-tests were used for analysis	VOCI (Thordarson et al., 2004)	guilt). Experimental procedure effects were enhanced by experiences of betrayal, which boosted the feelings of contamination & urges to wash	
14	Waller & Boschen (2015) Australia	1. Examine the non-traditional role of the female as the perpetrator of the non- consensual kiss 2. Examine the effects that different neutralising	80 female, first year psychology students. 4 Groups: mental washing group= 19, physical washing group= 19, atonement	Quantitative randomised-control between subjects, repeated measures study. Mixed-	OCI-R (Foa et al., 2002); MCR (Herba and Rachman, 2007)	MC (increased levels of feelings of dirtiness, internal negative emotions, external negative emotions & urges) was evoked in using the imaginal task that	Imagined scenario involving betrayal whereby the participant was the perpetrator of betrayal.

		behaviours have on MC	task group= 20, Control group=22. Age M= 23.72 Age SD= 9.93	factorial ANOVAs were used for analysis		incorporated betrayal. None of the neutralisation strategies (physical washing, mental washing, atonement) was more effective than a control group in reducing MC	
15	Warnock-Parkes et al (2012) UK	1. Evaluate the impact of adapting cognitive therapy for MC	1 male in his 40s with OCD characterised by compulsive washing & cleaning and obsessions about	Single case experimental design. Descriptive statistics only.	Y-BOCS (Goodman et al., 1989); OCI (Foa et al., 1998); VOCI- MC (Rachman, 2009)	OCD severity fell from the severe to non-clinical range. VOCI-MC score remained above clinical cut-off, however reduced	Retrospective recollections of actual betrayal experiences whereby the participant was the victim of betrayal.

			the government being contaminated			significantly throughout treatment. Self-reports that excessive washing due to concerns about contamination was no longer a problem for patient	
16	Zysk et al (2018) UK	1. Investigate age of onset of MC 2. Investigate relationship between onset of MC & CC 3. Investigate frequency of learning experiences before	30 participants with OCD and contamination fears. Age M = 33.1 SD = 10.1	Mixed-methods cohort study. Descriptive statistics & binomial tests only.	OCI-R (Foa et al., 2002); VOCI-MC (Rachman, 2006); Y-BOCS (Goodman et al., 1989);	76.5% of participants with MC recalled at least one learning experience before symptom development, including potential betrayal experiences	Retrospective recollections of actual betrayal experiences whereby the participant was the victim of betrayal.

	the development of contamination fears 4. Investigate people's believed origins of their fears	Standardized Interview Schedule—Contamination (Rachman, 2006); Origins of Contamination Fears Interview (Zysk et al., 2018)	such as a partner being unfaithful & being bullied

Note. Abbreviations: &= and, UK = United Kingdom, MC = Mental Contamination, OCD = Obsessive-Compulsive Disorder, M = Mean, SD = Standard Deviation, Y-BOCS = Yale Brown Obsessive-Compulsive Scale, VOCI-MC, VOCI = Vancouver Obsessional Compulsive Inventory, Vancouver Obsessional Compulsive Inventory-Mental Contamination Scale, VOCI-PC = Vancouver Obsessional Compulsive Inventory- Physical Contamination Scale, OCI = Obsessive Compulsive Inventory, OCI-R = Obsessive Compulsive Inventory – Revised, VAS = Visual Analogue Scale, SCID = The Structured Clinical Interview for DSM-5, POBOS = Perception of Betrayal of others Scale, POBS = Perception of Betrayal Scale, MCR = Mental Contamination Report, BBQ = Break Behaviour Questionnaire, ANOVA = Analysis of variance, MANOVA = Multivariate analysis of variance, LSD = least significant difference, ECG = electrocardiogram.

Data synthesis: A data-based convergent synthesis design was adopted, whereby quantitative and qualitative research was collected and analysed in parallel or complementary manner, as this is most suitable approach to answer one specific research question (Hong et al., 2017). Qualitative and quantitative studies were synthesised together. Quantitative data was summarised qualitatively in order to prevent reductionism, by producing a narrative summary of the quantitative findings that related to betrayal. The qualitative summaries produced by the trainee were reviewed by the supervisor. A narrative approach was used to describe the findings.

Confidence in cumulative evidence and Risk of Bias: The Mixed Methods Appraisal Tool (MMAT: Hong et al., 2018) was employed as it allowed for the appraisal of studies with different methodological designs using the same tool. The MMAT is a critical appraisal tool that was developed for use in systematic mixed studies reviews (i.e., reviews combining qualitative, quantitative and/or mixed methods studies) and therefore is suited to the current study design. The MMAT is a validated checklist (Hong et al., 2018) that provides five criteria to rate each study in relation to the relative study design. Bias in individual studies was assessed using the MMAT at both outcome and study level, dependant on MMAT guidance. This will be commented on throughout the synthesis in reference to the quality level of each study. Meta-bias(es), including publication bias, will be assessed on review of the synthesis.

RESULTS

A narrative synthesis approach was employed to integrate findings from heterogeneous studies, as this method allowed for the development of a 'trustworthy story' and is considered the "second best" option when a specialist form of synthesis is not possible as the included studies are insufficiently similar (Popay et al., 2006). A summary of the current findings and an evaluation of the quality of the studies are detailed below.

Study Characteristics

According to descriptions of the MMAT, three studies were categorised as qualitative, seven studies as quantitative Randomised Controlled, three as quantitative non-randomised, two as quantitative descriptive and two as mixed methods. The majority of studies were conducted in the United Kingdom (n = 11), with the remaining in Canada (n = 2), Italy (n= 1), Australia (n= 1) and Hong Kong (n=1).

Quality Appraisal

Overall, the quality of the included studies was moderate (see *Table 2*) although scores varied considerably, with scores of two–five across the MMAT criteria (which allows for a minimum score of zero and a maximum score rating of five). Due to the nature of this review and the limited literature in the field, no studies were excluded based on methodological quality. For the three qualitative studies, MMAT scores ranged between two-five. Two of the studies were rated the highest quality (Coughtrey et al., 2012; Coughtrey et al., 2015) as the qualitative approach and data collection methods were suitable to meet the aims, the findings were derived and interpreted adequately from the data and there was coherence between data sources, collection, analysis and interpretation. In contrast, one qualitative study did not report the source of the data nor analysis methods (Rachman, 2010) and therefore received a low-quality score.

For the six randomised-control studies, MMAT scores ranged between three-four. All randomised studies appear to have obtained complete data and did not experience difficulties with drop out (Kwok, 2010; Millar et al., 2016; Ottaviani et al., 2019; Piper, 2013; Rachman et al., 2012; Waller & Boschen, 2015). In addition, for the highest rated randomised-control studies with a score of four (Millar et al., 2016; Piper, 2013), the groups were comparable at baseline, they provided clear details of how the randomisation was performed and their participants adhered to their assigned

interventions. Half of the studies did not provide details on how the randomisation was performed (Kwok, 2010; Rachman et al., 2012; Waller & Boschen, 2015) and two of the study's groupings were not comparable at baseline (Kwok, 2010; Ottaviani et al., 2019) indicating problems with randomisation. All but one of the randomised studies (Kwok, 2010) made no reference to the blinding of outcome assessors.

The two case-control studies received a MMAT score of four (Howkins et al., 2021; Pagdin et al., 2021). Both studies scored highly as they had complete sets of data, used valid and reliable measures and it appeared as though the intervention or exposure occurred as intended. Each study lost a point for differing reasons: Pagdin et al (2021) accounted for confounders whilst Howkins et al (2021) did not. Conversely, Howkins et al (2021) appeared to represent their target population whereas Pagdin et al (2021) did not. The single quantitative cohort study (Coughtrey et al., 2014) received a low MMAT score of two. Although the study yielded complete outcome data and it appeared that the exposure occurred as intended, the study did not include a representative sample, did not consider confounders and did not use valid and reliable measures.

The two descriptive studies received a score of four (Coughtrey et al., 2013) and five (Warnock-Parkes et al., 2012). Both studies obtained complete data sets, used appropriate analysis methods for their respective small sample sizes and used appropriate sampling methods and measures. However, the case study (by design) represented only one participant and therefore the findings are not generalisable (Warnock-Parkes et al., 2012). Finally, the mixed-method studies both received the lowest ratings of two. Both studies (Firmin, 2018; Zysk et al., 2018) had an adequate rationale for the design and their outputs were appropriately addressed. However, one study fell short in regard to its quantitative elements, as the sample was underpowered, not representative of its target population and the likelihood of non-response bias was high (Firmin, 2018). The other study (Zysk et al., 2018) had low scores for its qualitative elements as no details were provided regarding the analysis and it was not clear where interpretations were derived from, therefore it could not be confirmed whether or not interpretations of the results were substantiated by the data.

Table 2

Quality Ratings Summary

STUDY NUMBER	AUTHOR(S), YEAR	STUDY CATEGORY	RELEVANT SCORES	OVERALL RATING
1	Coughtrey et al (2012)	Qualitative Case Series	1.1 YES 1.2 YES 1.3. YES 1.4 YES 1.5 YES	5
2	Coughtrey et al (2013)	Quantitative Case Series	4.1 YES 4.2 YES 4.3 YES 4.4 YES	5

			4.5. YES	
3	Coughtrey et al (2014)	Quantitative Cohort Study	3.1.NO 3.2. NO 3.3. YES 3.4 NO 3.5 YES	2
4	Coughtrey et al (2015)	Qualitative Case Series	1.1 YES 1.2 YES 1.3 YES 1.4 YES 1.5. YES	5
5	Firmin (2018)	Mixed Methods Convergent design	5.1. YES 5.2. NO	2

			5.3. YES	
			5.4. YES	
			5.5. NO	
6	Howkins et al (2021)	Quantiative Cross-sectional analytic study	3.1. YES 3.2. YES 3.3. YES 3.4. NO 3.5. YES	4
7	Kwok (2010)	Quantitative Randomised Control Trial	2.1 NO 2.2. NO 2.3. YES 2.4. YES 2.5. YES	3

8	Millar et al (2016)	Quantitative Randomised Control Trial	2.1. YES 2.2. YES 2.3. YES 2.4. NO 2.5. YES	4
9	Ottaviani et al (2019)	Quantitative Randomised Control Trial	2.1. YES 2.2. NO 2.3. YES 2.4. NO 2.5. YES	3
10	Pagdin et al (2021)	Quantiative Cross-sectional analytic study	2.1. NO 3.2. YES 3.3. YES 3.4. YES 3.5. YES	4

11	Piper (2013)	Quantitative Randomised Control Trial	2.1. YES 2.2. YES 2.3. YES 2.4. NO 2.5. YES	4
12	Rachman (2010)	Qualitative Case Series	1.1. YES 1.2. NO 1.3. NO 1.4. YES 1.5. NO	2
13	Rachman et al (2012)	Quantitative Randomised Control Trial	2.1. NO 2.2. YES 2.3. YES 2.4. NO	3

			2.5. YES	
14	Waller & Boschen (2015)	Quantitative Randomised Control Trial	2.1. NO 2.2. YES 2.3. YES 2.4. NO 2.5. YES	3
15	Warnock-Parkes et al (2012)	Quantitative Case Study	4.1. YES 4.2. NO 4.3. YES 4.4. YES 4.5. YES	4
16	Zysk et al (2018)	Mixed Methods Convergent design	5.1. YES 5.2. YES 5.3. YES	2

5.4. NO

5.5. NO

Evidence From Experimental Studies

All of the seven quantitative experimental studies were conducted in non-clinical populations and all but one (Coughtrey et al., 2014) was of a randomised-controlled design. Firstly, a medium-high quality study (Piper, 2013) compared two different sources of contamination (mental physical and mental moral contamination) by asking participants to recall personal experiences. Examples of betrayals within this sample included betraying a friend, revealing a secret and cheating on a partner. The authors found significantly increased levels of disgust, dirtiness and contamination post recall task, with no significant differences between the two groups, indicating experiences of both contact and moral contamination evoked MC. Interestingly, the mental physical group reported significantly greater increased urges to wash whereas the mental moral group had significantly increased levels of anxiety and shame. Similarly, two lower quality studies have found significant associations when betrayal has been assessed in isolation from CC. In an unpublished thesis, Kwok (2010) asked participants to imagine a scenario whereby they witnessed their boyfriend kissing another woman (betrayal condition) or witnessed a man that they initially mistook for their boyfriend kissing another woman (non-betrayal condition). Those in the betrayal condition reported significantly higher ratings of dirtiness, urges to wash and avoidance of sharing food and drink with their boyfriend, indicating increased MC. In the other lower quality study, Ottaviani et al (2019) utilised an objective measure of a single element of MC (namely disgust), in addition to self-report measures, to assess the differences between deontological (betrayal) and altruistic guilt. Participants listened to pre-recorded stories for each type of guilt. Within the deontological condition, betrayal was characterised as "betraying her boyfriend and lying to him about it" in the female condition and "taking his father's car against his will and lying to him about it" in the male condition. The study measured indirect correlates of disgust using vagally-mediated heart rate variability (via an electrocardiogram) and self-report disgust ratings (via visual analogue scales (VAS)). Results indicated that there were increased physiological correlates of disgust and increased washing behaviours in the condition which included betrayal, despite no increase in self-reported levels of disgust. Further, a low-quality time series study (Coughtrey et al., 2014) asked 40 undergraduate students to recall autobiographical memories

associated with betrayal, harm, humiliation, and violation of moral standards to assess whether such recollection would induce MC and obsessive-compulsive symptoms (specifically washing behaviours). Examples of betrayal memories included being betrayed by a partner and being lied to by a friend. Paired samples t-tests revealed a significant increase in general dirtiness, internal dirtiness, anxiety and urges to wash following the memory recall, indicating that MC had been evoked. However, it is unclear to what extent the results related specifically to betrayal.

Experimental studies utilising the dirty kiss paradigm have provided conflicting findings. In experiment three and four of Rachman et al's (2012) study (rated a medium quality study), betrayal was introduced to the 'dirty kiss' paradigm by positioning the receiver of a consensual or non-consensual kiss as the participants best friend's sister. In the non-consensual condition, betrayal was enhanced by placing the blame on the best friend's sister and the best friend explicitly telling him that he had betrayed him. Increased feelings of dirtiness, increased urges to wash and increased levels of actual washing behaviour were found in the non-consensual condition for both samples. Although not explicitly noted by the authors, both conditions could be perceived as involving betrayal (whereby the consensual condition involved betrayal of the best friend and the non-consensual condition involved betrayal of both the best friend and his sister). This study suggests that increased levels of betrayal (by betraying two people rather than one) led to higher levels of MC. Another medium quality study, Waller & Boschen (2015) extended this study to a female perpetrator population, whereby the victim of the non-consensual kiss was their friend's 14-year-old brother. The authors found significantly increased levels of feelings of dirtiness, internal negative emotions, external negative emotions and urges to wash post-manipulation, providing additional evidence that experiences of betrayal lead to MC. However, these two studies failed to distinguish between the influence of imagining CC vs betrayal. A medium-high quality study (Millar et al., 2016) designed a procedure to separate CC from betrayal. The authors used a 2 x 2 design to include groups that included betrayal with CC (non-consensual kiss by a friend vs stranger) and betrayal in isolation of CC (deliberate theft of a precious item by a friend or theft of the same item by a stranger). Results showed that scenarios that did not involve physical contact (kiss vs theft) did not evoke feelings of MC, even when feelings of betrayal

were involved (friend vs stranger). Such findings suggest that imagined betrayal alone does not lead to MC and cast doubt as to whether betrayal was a source of MC in previous studies. This higher quality study provides the only compelling evidence that betrayal and MC may not be linked in the way previously supposed.

Evidence From Clinical Criterion Group Studies

A low-quality case-control study (Firmin, 2018) conducted qualitative interviews to examine the relationship between bullying, betrayal and MC. The interviews revealed that a number of participants reported experiences of betrayal from parents, teachers and friends during their school years, whereby teachers and/or parents did not support the individual following incidences of bullying and friends betrayed the individual by contributing to the bullying. Quantitative findings revealed that self-report ratings of betrayal and MC were highest in individuals with both experiences of bullying and a diagnosis of OCD, indicating a connection between MC, betrayal and OCD. However, this study was significantly underpowered, relied on descriptive statistics alone and cannot infer causation, therefore the results must be interpreted with caution.

Two medium-high quality cross-sectional studies (Howkins et al., 2021 & Pagdin et al., 2021) found significant associations between betrayal and MC. Pagdin et al (2021) found that a group of individuals with OCD had a higher sensitivity to betrayal than groups of individuals with anxiety, depression and non-clinical controls. Further, statistical analysis indicated that betrayal scores were moderately associated with MC. Similarly, Howkins et al (2021) found that individuals with higher levels of MC were more sensitive to betrayal *and* to betraying others, compared to those with lower levels of MC and both clinical and non-controls (despite all groups having similar experiences of betrayal). Taken together, these well-powered studies provide promising evidence that there is a strong connection between OCD, MC and sensitivity to betrayal. However, it is important to note that both studies used a novel measure for betrayal sensitivity, and therefore the measures generalisability

may be questioned. Further, these studies cannot infer causation between betrayal and MC within the context of OCD.

Evidence From Qualitative Studies (Including Treatment Studies)

Two descriptive single case treatment studies may cast doubt on the association between MC and betrayal. A high- quality case series (Coughtrey et al., 2013) and medium-high quality case report (Warnock-Parkes et al., 2012) described the outcomes of Cognitive Therapy (focused on MC) for OCD symptoms. Both studies reported "significant improvements" (including a reduction in OCD scores) for a female (Coughtrey et al., 2013) and a male (Warnock-Parkes et al., 2012) who were both in their 40s, following interventions that focused largely on experiences of betrayal. Although experiences of betrayal had a significant impact on both individuals, treatment did not reduce scores on a measure of MC for the female (Coughtrey et al., 2013) and although MC scores reduced for the male (Warnock-Parkes et al., 2012), they remained above clinical threshold.

Three larger qualitative studies found that betrayal was perceived to be an important factor for some within the phenomenology of MC for individuals with OCD. Firstly, a high-quality study (Coughtrey et al., 2012) interviewed 20 individuals with OCD and found one of the main themes identified via thematic analysis ('Human Sources of MC') included specific examples of betrayal (cheating on a partner) by at least one participant. Of note, over half of the sample indicated that they experienced urges to wash following an immoral act, however it is unknown whether betrayal specifically played a role. Similarly, another high-quality study (Coughtrey et al., 2015) also found that negative images of past betrayals featured within their thematic results when exploring imagery associated with MC in a different sample of 15 individuals with OCD. However, it is unclear in how many participants referred to betrayals. Lastly, a low-quality study (Rachman, 2010) detailed narratives of three specific clients who experienced MC following significant betrayals: two of which were infidelity related and a woman who was betrayed by her parents as the result of an arranged marriage. Taken together, qualitative narratives suggest that betrayal may play an important role in some individuals with OCD,

however qualitative findings cannot infer whether betrayal led to the development of MC. Another low-quality study (Zysk et al., 2018), found during qualitative assessment interviews that 'learning experiences' prior to the development of MC symptoms included a partner being unfaithful (a well-defined betrayal) and bullying (however, it is unclear whether the bullying involved elements of betrayal). Quantitative data indicated that the majority of the MC group recalled at least one 'learning experience' prior to the development of symptoms, however the number of experiences that involved betrayal is unknown.

Summary of Synthesis

Although the results of randomised studies in non-clinical populations are generally consistent with the hypothesised causal role of experiences of betrayal in MC, the majority of the studies were of low (Kwok, 2010; Ottaviani et al., 2019) or medium (Rachman et al., 2012; Waller & Boschen, 2015) quality. A low-quality time series study also supported an association between betrayal and MC, however the study could not specify whether MC was evoked by betrayal specifically or whether MC was influenced by other factors (Coughtrey et al., 2014).

Experimental findings from the two studies of the highest quality (Piper, 2013 & Millar et al., 2016) found differing results, whereby the former found MC in both CC and moral conditions, whereas the latter only found MC in the CC condition. It is unclear whether the betrayals utilised in the Piper (2013) study involved elements of CC, although based on the information reported it could be assumed at least some of the scenarios involved CC, for example, infidelity. Similarly, the manipulations in the majority of these studies could be questioned, as it is likely that the intimate contact involved in the paradigms conflate betrayal and bodily fluids.

The two highest quality studies utilising criterion groups provide support for an association between sensitivity to betrayal and MC in the context of OCD in both clinical (Pagdin et al., 2021) and non-

clinical populations (Howkins et al., 2021). Such findings suggest that individuals with OCD and/or higher levels of MC may be more sensitive to experiences of betrayal, implying that the consequences of betrayal are likely to incur a greater detrimental impact on these populations. These findings may also bring into question the direction of the relationship between betrayal and MC. Further, the association between experiences of betrayal and MC is supported by lower quality criterion group evidence (Firmin, 2018).

Medium-high quality treatment interventions found that therapies targeting experiences of betrayal either did not reduce MC (Coughtrey et al., 2013) or failed to reduce MC levels below clinical threshold (Warnock-Parkes et al., 2012), which may cast doubt on the connection between betrayal and MC but equally may question the efficacy of the specific interventions utilised. Qualitative studies of the highest quality (Coughtrey et al., 2012; 2015) indicate that betrayal plays a role in the phenomenology of MC for some individuals with OCD. This is further supported by three low-quality studies, where betrayal featured in the past experiences of individuals with MC and OCD (Firmin, 2018; Rachman, 2010; Zysk et al., 2018).

Taken together, the results predominantly suggest that betrayal does play a role in the experience of MC. Preliminary evidence from high-quality clinical studies suggest an association between betrayal sensitivity and MC in the context of OCD, and some, yet less convincing, evidence of an association between betrayal experiences and MC. It could be argued that the findings of causal associations between betrayal and MC in experimental studies within non-clinical populations are likely produced by the conflation of CC, rather than experiences of betrayal alone. This may cast doubt on betrayal playing a causal role in MC, which is supported by Millar et al's (2016) finding that betrayal experiences not involving CC did not invoke MC. However, it is important to consider that another high-quality experimental did find evidence for a causal relationship (Piper, 2013), and therefore this theory cannot be confidently ruled out currently. The conflicting findings may be due to type of betrayal recollection (actual vs. hypothetical). Recollection of a negative (potentially traumatic) lived-experience could be argued to have a more significant emotional impact and hence be more likely to

evoke MC. It may also be the case that the experience of MC potentially causes a sensitivity to betrayal, yet no research exists to support this theory currently. Although the qualitative findings cannot provide evidence of a direct link between MC and betrayal, they demonstrate that betrayal often features in the qualitative experience of MC for individuals with OCD.

DISCUSSION

The current systematic review was conducted in order to determine whether or not there is evidence linking betrayal experiences and sensitivity to the experience of MC in OCD. Overwhelmingly, the 16 studies included predominantly provide evidence of such a link, particularly from studies on clinical samples. The analogue studies were substantially less clear due to fact that the "dirty kiss" imagery task most commonly used involves imaginal bodily fluids within the betrayal situation. It is important to note that the existing literature includes significant methodological flaws and therefore such findings need to be interpreted with caution. We note that, in the clinical studies, there is some preliminary evidence of specificity, with higher levels of betrayal sensitivity and possibly also betrayal experiences in those with OCD relative to both other anxiety disorders and depression.

Strengths of the Current Review and The Included Literature

Overall, the literature tended to have a fairly even spread of clinical and non-clinical samples and was derived from a variety of qualitative, quantitative and mix methods across Europe, North America, Asia and Oceania. The samples in this study were typically representative of the general population of individuals with OCD in relation to age and gender, although samples tended to be predominantly Caucasian. A large proportion of the studies utilised clinical populations- Studies conducted in clinical samples yield results with higher levels of ecological validity. Of note, publication bias does not appear to play a role within the current literature as findings from the three unpublished studies (Piper, 2013; Kwok, 2010; Firmin, 2018) are not systematically different from the published findings in this area.

Limitations of the Current Review and The Included Literature

It is important to note that at the screening stage of the current review, there were a number of studies in the literature that included 'immoral experiences' but did not explicitly state who the perpetrator

was or refer to betrayal, therefore studies were excluded that may have involved betrayal. Further, due to the nature of the included studies this review was unable to utilise meta-analytical methods, which would have increased the reliability and validity of its findings. Only two trainees rated the studies throughout the screening process and inter-rater reliability would have been different if more raters were utilised.

All of the studies utilising clinical samples (Coughtrey et al., 2012, 2013, 2015; Firmin, 2018; Howkins et al., 2021; Pagdin et al., 2021; Rachman, 2010; Warnock-Parkes et al., 2012; Zysk et al., 2018) and one non-clinical study (Piper, 2013) utilised retrospective recollections of betrayals, with several also measuring "betrayal sensitivity" assuming this to be the current manifestation of past experiences. The remaining non-clinical samples induced betrayal using hypothetical scenarios (Coughtrey et al., 2014; Kwok, 2010; Millar et al., 2016; Ottaviani et al., 2019; Rachman et al., 2012; Waller & Boschen, 2015). Although personal experiences of betrayal may be more ecologically valid than hypothetical inductions, recollections may be susceptible to recall bias. Further, retrospective studies typically rely on convenience sampling and therefore may not be representative of the population they aim to represent. However, the samples in this study were typically representative of the general population of individuals with OCD in relation to age and gender, although samples tended to be predominantly Caucasian.

The main strength of prospective studies is that they typically allow for the inference of cause and effect (particularly when randomised, as were six studies included in this review). However, the prospective studies included in this review are all within non-clinical populations and therefore provide less convincing evidence that experiences of betrayal lead to the development of MC in the context of OCD. Although the majority of prospective studies used manipulation checks to ensure betrayal was evoked, some studies did not separate betrayal from other experiences related to MC. For example, four studies did not isolate other interpersonally related emotions (Coughtrey et al., 2014; Piper, 2013) or CC (Waller & Boschen, 2015; Rachman et al., 2012) from betrayal in the manipulation scenario and/or the analysis, therefore it is uncertain as to whether the element of

betrayal was the cause of MC. Similar difficulties exist within the retrospective studies using clinical samples, whereby betrayal was not isolated in the analysis (Coughtrey et al., 2013; Warnock-Parkes et al., 2012; Zysk et al., 2018) or where the qualitative study design yielded a purely descriptive account of betrayals (Coughtrey et al., 2012, 2015; Rachman, 2010). Unfortunately, the nature of retrospective studies means that there is less control of the desired exposure (here, betrayal), therefore cause and effect cannot be inferred.

We felt it was important to include qualitative studies in this review to provide insight into the phenomenology of betrayal in the context of MC in OCD. The quantitative findings were synthesised in the narrative here as there were insufficient data to conduct a meta-analysis and there was inconsistency in the measures used. However, for qualitative findings the interpretations are limited, particularly as they do not allow inferences as to the importance of particular findings, such as the magnitude to which betrayal influences MC. In relation to the quantitative studies, standardised measures of the experience of betrayal are in their infancy and therefore a large proportion of the experimental studies included in this review used visual analogue scales, which casts doubt on the reliability and validity of findings. Although a number of quantitative studies accounted for confounders, the literature in this field indicates that self-esteem may play an important role in the association between betrayal and MC (Rachman, 2010), yet none of the studies included this in their measures nor analysis. Due to the scope of this particular review, only information of betrayal was extracted from the included studies, therefore this review is unable to comment on other factors that may be important in the context of MC and OCD, such as thought-action fusion, disgust propensity, disgust sensitivity or shame.

Further, all but one of the MC outcomes measures (Ottaviani et al., 2019) were self-reported: self report methods are prone to a variety of biases and therefore this may cast doubt on the reliability and validity of the findings collectively. Interestingly, experimental studies typically measured washing symptoms as part of their outcome measures but did not use other forms of neutralising often seen in OCD and MC, such as mental compulsions. This is likely due to the fact that cognitive phenomenon

such as MC and mental compulsions are difficult to measure objectively, however, consequently an important element indicating the occurrence of MC may be missing from the literature in this area.

Lastly, only two of the quantitative studies referred to power: although one study was well powered (Howkins et al., 2021), one was significantly underpowered (Firmin, 2018). Although the majority of studies appeared to have relatively large samples, their power remains unclear as it has not been specified *a priori*. If the studies are indeed underpowered, they may lack the sample size to detect the findings of interest in relation to their respective aims. It is important to note that three of the studies were unpublished (Piper, 2013; Kwok, 2010; Firmin, 2018), meaning that they were not peer-reviewed to the same extent as the other studies, which may indicate that these studies are of lower quality and/or were rejected for publication. Further, it is possible that there may be other search terms which are linked to betrayal not included here; we did not come across any in identified items, so this seems relatively unlikely. Older terms for OCD (e.g. Anankastic disorder) were not used, and this may have resulted in missing some older references.

Theoretical Implications

Research from clinical samples indicating the presence of MC in individuals with OCD who have been betrayed may provide additional support for Rachman's (2010) notion that the 'betrayer' becomes a source of (mental) contamination. An important question in regard to this phenomenon is why would being betrayed increase the presence of MC in OCD? The answer may be in Howkins et al's (2021) theory of the role of responsibility (a well-established factor in OCD in general), whereby individuals with OCD who have experienced the distressing event of being betrayed may as a result be fearful of betraying others (causing harm) and therefore engage in safety seeking (compulsive) behaviours to prevent this. Alternatively, individuals with OCD may feel responsible for being betrayed and engage in compulsive behaviours to 'wash away' consequent negative feelings, such as

guilt or shame. Qualitative studies exploring the phenomenology of betrayal and mental contamination may lead to further insights in this area.

Clinical Implications

Given that betrayal appears to play a role in MC in the context of OCD, clinicians should assess whether service users have experience of both being betrayed and committing betrayals and their appraisal of such events, in addition to assessing their level of sensitivity of betrayal. Treatment recommendations for MC include incorporating work on past experiences of betrayal. This may consist of reappraising beliefs related to experiences of betrayal (especially in relation to attributions of responsibility) and the likelihood of betraying others (Howkins et al., 2021). Rescripting techniques used in trauma focused treatments may also be helpful in reducing distress associated with past betrayals.

Conclusion and Future Considerations

In conclusion, although there appears to be a link between betrayal and MC in OCD, more research is needed to explore this association. The current review lacks oversight on the wider picture of the potential influencers that impact on the relationship between betrayal and MC in OCD, therefore future research should assess the association of betrayal alongside other potential factors such as thought-action fusion, disgust propensity, disgust sensitivity, responsibility, or shame. Further, it has been suggested that betrayal can lead to both OCD and PTSD-like symptoms (Rachman, 2010; Dykshoorn, 2014), therefore future research should assess the similarities and differences between the two disorders in relation to betrayal and MC. For example, it would be interesting to assess whether increased risky behaviours and reduced help-seeking behaviours are found in OCD populations in relation to MC, as they have been found in PTSD populations (Brake et al., 2018). Similarly, type of sexual assault has been shown to impact the severity of post-traumatic stress symptoms and MC in PTSD populations (Badour et al., 2013), therefore it may be interesting to assess the appraisal of, type and extent of betrayal within OCD populations. Further, research could compare whether the impact

of the betrayal varies depending on whether the individual is the ‘betrayed’ or ‘betrayer’. It may also be interesting to see if the relationship with those who betrayed affects this, such as family, friends or romantic partners. Research on analogue samples should ensure to isolate MC from CC. Lastly, a reliable and valid standardised measure for betrayal must be developed. Understanding the relationship between MC and betrayal may lead to improved intervention adaptions for OCD and have implications for the theory underpinning OCD and future research into this area.

REFERENCES

Abramowitz, J. S., Fabricant, L. E., Taylor, S., Deacon, B. J., McKay, D., & Storch, E. A. (2014). The relevance of analogue studies for understanding obsessions and compulsions. Clinical Psychology Review, 34(3), 206–217.

American Psychiatric Association, D. S., & Association, A. P. (2013). Diagnostic and statistical manual of mental disorders: DSM-5 (Vol. 5). American psychiatric association Washington, DC.

Brake, C. A., Jones, A. C., Wakefield, J. R., & Badour., C. L. (2018). Mental contamination and trauma: Understanding posttraumatic stress, risky behaviors, and help-seeking attitudes. Journal of Obsessive-Compulsive and Related Disorders, 17, 31–38.

Calamari, J. E., Wiegartz, P. S., Riemann, B. C., Cohen, R. J., Greer, A., Jacobi, D. M., Jahn, S. C., & Carmin, C. (2004). Obsessive–compulsive disorder subtypes: an attempted replication and extension of a symptom-based taxonomy. Behaviour Research and Therapy, 42(6), 647–670.

Coughtrey, A. E., Shafran, R., Knibbs, D., & Rachman, S. J. (2012). Mental contamination in obsessive–compulsive disorder. Journal of Obsessive-Compulsive and Related Disorders, 1(4), 244–250.

Coughtrey, A. E., Shafran, R., Lee, M., & Rachman, S. (2013). The treatment of mental contamination: A case series. Cognitive and Behavioral Practice, 20(2), 221–231.

Coughtrey, A. E., Shafran, R., & Rachman, S. J. (2014). The spontaneous decay and persistence of mental contamination: An experimental analysis. Journal of Behavior Therapy and Experimental Psychiatry, 45(1), 90–96.

Coughtrey, A. E., Shafran, R., & Rachman, S. J. (2015). Imagery in mental contamination. Behavioural and Cognitive Psychotherapy, 43(3), 257–269.

DePrince, A. P., & Freyd, J. J. (2002). The intersection of gender and betrayal in trauma. In Kimerling, R, Ouimette, P, & Wolfe, J (Eds.), *Gender and PTSD* (pp. 98–113). The Guilford Press.

Dykshoorn, K. L. (2014). Trauma-related obsessive–compulsive disorder: a review. Health Psychology and Behavioral Medicine: An Open Access Journal, 2(1), 517–528.

Elliott, C. M., & Radomsky, A. S. (2009). Analyses of mental contamination: Part I, experimental manipulations of morality. Behaviour Research and Therapy, 47(12), 995–1003.

Elliott, C. M., & Radomsky, A. S. (2012). Mental contamination: The effects of imagined physical dirt and immoral behaviour. Behaviour Research and Therapy, 50(6), 422–427.

Fairbrother, N., Newth, S. J., & Rachman, S. (2005). Mental pollution: Feelings of dirtiness without physical contact. Behaviour Research and Therapy, 43(1), 121–130.

Feinstein, S. B., Fallon, B. A., Petkova, E., & Liebowitz, M. R. (2003). Item-by-item factor analysis of the Yale-Brown Obsessive Compulsive Scale symptom checklist. The Journal of Neuropsychiatry and Clinical Neurosciences, 15(2), 187–193.

Firmin, C. (2018). Theoretical and Clinical Investigation Into the Concept of Mental Contamination in Relation to OCD and Its Relationship with Mental Health Difficulties. University of Bath.

Freyd, J. J. (1996). Betrayal trauma: The logic of forgetting childhood abuse. University of Oregon, Harvard University Press.

Frost, R. O., & Hartl, T. L. (1996). A cognitive-behavioral model of compulsive hoarding. Behaviour Research and Therapy, 34(4), 341–350.

Herba, J. K., & Rachman, S. (2007). Vulnerability to mental contamination. Behaviour Research and Therapy, 45(11), 2804–2812.

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., & O'Cathain, A. (2018). The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. Education for Information, 34(4), 285–291.

Hong, Q. N., Pluye, P., Bujold, M., & Wassef, M. (2017). Convergent and sequential synthesis designs: implications for conducting and reporting systematic reviews of qualitative and quantitative evidence. Systematic Reviews, 6(1), 1–14.

Howkins, S., Millar, J. F. A., & Salkovskis, P. M. (2021). Sensitivity to being betrayed and betraying others in obsessive compulsive disorder and depression. British Journal of Clinical Psychology, 61(1), 58-75.

Jenike, M. A., Baer, L., & Minichiello, W. E. (1987). Somatic treatments for obsessive-compulsive disorders. Comprehensive Psychiatry, 28(3), 250–263.

Jones, M. K., & Menzies, R. G. (1998). Role of perceived danger in the mediation of obsessive-compulsive washing. Depression and Anxiety, 8(3), 121–125.

Jones, W. H., Couch, L., & Scott, S. (1997). Trust and betrayal: The psychology of getting along and getting ahead. In Handbook of personality psychology (pp. 465–482). University of Tennessee, Elsevier.

Kelley, L. P., Weathers, F. W., Mason, E. A., & Pruneau, G. M. (2012). Association of life threat and betrayal with posttraumatic stress disorder symptom severity. Journal of Traumatic Stress, 25(4), 408–415.

Kwok, P. L. A. (2010). Mental Contamination: A Replication and Extension of the "Dirty Kiss" Experiment. . The Chinese University of Hong Kong.

Ladouceur, R., Dugas, M. J., Freeston, M. H., Rhéaume, J., Blais, F., Boisvert, J.-M., Gagnon, F., & Thibodeau, N. (1999). Specificity of generalized anxiety disorder symptoms and processes. Behavior Therapy, 30(2), 191–207.

Lawson, D. M., & Akay-Sullivan, S. (2020). Considerations of dissociation, betrayal trauma, and complex trauma in the treatment of incest. Journal of Child Sexual Abuse, 29(6), 677–696.

Marks, I. (1997). Behaviour therapy for obsessive—compulsive disorder: a decade of progress. The Canadian Journal of Psychiatry, 42(10), 1021–1027.

Martin, C. G., Cromer, L. D., DePrince, A. P., & Freyd, J. J. (2013). The role of cumulative trauma, betrayal, and appraisals in understanding trauma symptomatology. Psychological Trauma: Theory, Research, Practice, and Policy, 5(2), 110.

Melli, G., Bulli, F., Carraresi, C., & Stopani, E. (2014). Disgust propensity and contamination-related OCD symptoms: The mediating role of mental contamination. Journal of Obsessive-Compulsive and Related Disorders, 3(2), 77–82.

Millar, J., Coughtrey, A. E., Healey, A., Whittal, M., & Shafran, R. (2022). The current status of mental contamination in obsessive compulsive disorder: A systematic review. Journal of Behavior Therapy and Experimental Psychiatry, 80, 101745.

Millar, J. F. A., Salkovskis, P. M., & Brown, C. (2016). Mental contamination in the "dirty kiss": Imaginal betrayal or bodily fluids? Journal of Obsessive-Compulsive and Related Disorders, 8, 70–74.

Ottaviani, C., Collazzoni, A., D'Olimpio, F., Moretta, T., & Mancini, F. (2019). I obsessively clean because deontological guilt makes me feel physiologically disgusted! Journal of Obsessive-Compulsive and Related Disorders, 20, 21–29.

Pagdin, R., Salkovskis, P. M., Nathwani, F., Wilkinson-Tough, M., & Warnock-Parkes, E. (2021). 'I was treated like dirt': evaluating links between betrayal and mental contamination in clinical samples. Behavioural and Cognitive Psychotherapy, 49(1), 21–34.

Piper, R. (2013). An experimental study of mental contamination: the role of disgust, shame and guilt. University of Surrey (United Kingdom).

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K., & Duffy, S. (2006). Guidance on the conduct of narrative synthesis in systematic reviews. A Product from the ESRC Methods Programme Version, 1(1), b92.

Rachman, S. (1994). Pollution of the mind. Behaviour Research and Therapy. 32(3), 311–314.

Rachman, S. (2004). Fear of contamination. Behaviour Research and Therapy, 42(11), 1227–1255.

Rachman, S. (2010). Betrayal: A psychological analysis. Behaviour Research and Therapy, 48(4), 304–311.

Rachman, S., & de Silva, P. (1978). Abnormal and normal obsessions. Behaviour Research and Therapy, 16(4), 233–248.

Rachman, S., Elliott, C. M., Shafran, R., & Radomsky, A. S. (2009). Separating hoarding from OCD. Behaviour Research and Therapy, 47(6), 520–522.

Rachman, S., & Rachman, S. (2003). The treatment of obsessions. Oxford University Press Oxford.

Rachman, S., Radomsky, A. S., Elliott, C. M., & Zysk, E. (2012). Mental contamination: The perpetrator effect. Journal of Behavior Therapy and Experimental Psychiatry, 43(1), 587–593.

Rasmussen, S. A., & Eisen, J. L. (1992). The epidemiology and clinical features of obsessive compulsive disorder. Psychiatric Clinics of North America, 15(4), 743–758.

Salkovskis, P. M., & Harrison, J. (1984). Abnormal and normal obsessions—a replication. Behaviour Research and Therapy, 22(5), 549–552.

Salkovskis, P. M., & Westbrook, D. (1989). Behaviour therapy and obsessional ruminations: can failure be turned into success? Behaviour Research and Therapy, 27(2), 149–160.

Shamseer, L., Moher, D., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., & Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. British Medical Journal, 349, 7647.

Sookman, D., Abramowitz, J. S., Calamari, J. E., Wilhelm, S., & McKay, D. (2005). Subtypes of obsessive-compulsive disorder: Implications for specialized cognitive behavior therapy. Behavior Therapy, 36(4), 393–400.

Stanley, M. A., & Turner, S. M. (1995). Current status of pharmacological and behavioral treatment of obsessive-compulsive disorder. Behavior Therapy, 26(1), 163–186.

Starcevic, V., & Brakoulias, V. (2008). Symptom subtypes of obsessive–compulsive disorder: are they relevant for treatment? Australian & New Zealand Journal of Psychiatry, 42(8), 651–661.

Waller, K., & Boschen, M. J. (2015). Evoking and reducing mental contamination in female perpetrators of an imagined non-consensual kiss. Journal of Behavior Therapy and Experimental Psychiatry, 49, 195–202.

Warnock-Parkes, E., Salkovskis, P. M., & Rachman, J. (2012). When the problem is beneath the surface in OCD: The cognitive treatment of a case of pure mental contamination. Behavioural and Cognitive Psychotherapy, 40(4), 383–399.

Zysk, E., Shafran, R., & Williams, T. (2018). The origins of mental contamination. Journal of Obsessive-Compulsive and Related Disorders, 17, 3–8.

Service Improvement Project

Victoria Skibsted Nielsen

Victoria.Nielsen@hmc.ox.ac.uk

Understanding and Managing Trauma:

The Development, Evaluation and Improvement of an Online Stabilisation Group Intervention for Post-Traumatic Stress Disorder and Complex Post-Traumatic Stress Disorder

---

Word Count: 3, 953

09.07.21

Internal supervisor(s): Dr Louise Johns & Dr Susannah Jenner

External / field supervisor(s): Dr Helen Close

Journal for submission: *Journal of Traumatic Stress. Chosen as project contributes towards the evidence base of interventions for trauma, in line with the journals aims (Appendix B).*

ABSTRACT

This service improvement project evaluated a pilot online stabilisation group offered to individuals waiting for one-to-one trauma-focused therapy for post-traumatic stress disorder (PTSD) or complex post-traumatic stress disorder (CPTSD) and made recommendations to the service on how the group could be improved. Quantitative and qualitative data were employed to assess the outcomes and experiences of 10 service users (SUs) who attended a six-session stabilisation group. Descriptive statistics and framework analysis revealed that all participants found the group helpful (to varying extents), despite no significant improvement in the symptoms of PTSD for the majority of group participants. Recommendations were made to the service based on the SUs' qualitative feedback.

INTRODUCTION

NICE guidelines (National Institute of Health and Care Excellence, 2018) recommend Trauma-Focused Cognitive Behavioural Therapy (TF-CBT) as a first-line treatment for PTSD (Post-Traumatic Stress Disorder) and CPTSD (Complex Post-Traumatic Stress Disorder). Current NICE guidelines for CPTSD recommend specific adjustments including support for managing additional needs such as dissociation and emotion dysregulation. Treatment for complex presentations of PTSD typically involves a stabilisation phase aimed at providing psychoeducation on trauma, reducing distress and fostering coping skills. Research has shown that dropout rates for trauma-focused therapy for the treatment of PTSD are approximately 18%, with group modality predicting higher dropout rates (Imel et al., 2018). However, beneficial effects (namely a reduction in both PTSD and CPTSD symptoms) have been found for stabilisation treatment in a group format (Dorrepaal et al., 2012). No prior studies have evaluated the outcomes of online stabilisation groups, to the best of our knowledge.

In 2020, Oxfordshire Psychological Therapies had long wait times for individual therapy due to demand exceeding capacity, staff vacancies, and the impact of COVID-19. At that time, approximately 170 patients were waiting for treatment. A review of the waiting list indicated that 41% of referrals were waiting for TF-CBT. Within the service, one-to-one TF-CBT would typically begin with a psychoeducational and stabilisation phase. The service had identified that this phase could be delivered in a group format, but they did not offer group options for trauma. Many individuals waiting for TF-CBT indicated that they wanted to wait for face-to-face treatment (paused due to COVID-19 restrictions); however some patients indicated a willingness to engage with an online group that included "scaffolding" to equip them with coping skills prior to engaging with one-to-one therapy.

Due to COVID-19, the development of online groups (including the stabilisation group) had been proposed by the Clinical and Professional Lead for Psychological Therapies. These would benefit the service and patients in a number of ways: offering patients an intervention (that is likely to be helpful) sooner, identifying patients that may benefit from further one-to-one CBT, reducing service waiting

lists, and providing a development opportunity for wider Adult Mental Health Team (AMHT) staff to develop their clinical skills.

The aims of the current study were to develop and trial a pilot online stabilisation group, and to evaluate and improve upon this group by making recommendations to the service based on the service users' experience of the group.

METHODS

Participants

Patients on the waiting list were prioritised for the pilot group based on their length of wait and suitability for the group determined via certain criteria (Table 3).

Table 3

Inclusion and Exclusion Criteria

Inclusion Criteria	**Exclusion Criteria**
• PTSD/CPTSD was the predominant difficulty • The SU is able and willing to acknowledge the traumatic past and reflect on the impact of the experience • Treatment for their difficulties is something they can give some priority to • They are able to experience and (to some extent) explore and discuss difficult emotions without wanting to escape • They are stable and motivated enough to manage with a weekly group intervention	• Where treatment for another disorder is more urgent or important • Current major life events/difficulties which would take precedence • Where there is significant recent history of suicidal behaviour / intent • Significant risk to others • Primary needs for safety, housing and welfare are the priority

Note. Abbreviations: PTSD = Post-traumatic Stress Disorder, CPTSD = Complex Post-traumatic Stress Disorder, SU= Service User.

Ten patients (8 female, 2 male) took part in the pilot stabilisation group (titled "Understanding and Managing Trauma"). The participants had a mean age of 41 (range: 23-67). Sixteen further potential participants declined the group for various reasons: one female could not attend due to ill health, seven females and one male did not want to attend a group, one female did not want to engage with digital treatment, two females did not want digital or group interventions, one male and one female were not able to attend the group due to work commitments, two females were unable to be contacted despite multiple attempts and one male dropped out shortly before the start of the group due to internet connection difficulties.

Design and Procedure

The content and delivery format of the online group were developed by the trainee clinical psychologist, a qualified clinical psychologist, CBT therapist, and occupational therapist. Input from an expert by experience (EbE) who had received treatment for CPTSD within the service was used to develop and refine the group content and delivery plans. 'Skeleton' slides were shown to the EbE and amendments to the slides were made based on their feedback, plus more general recommendations for the delivery of the group, such as timings (Appendix C).

The stabilisation group consisted of six sessions based on the stabilisation component of CPTSD treatment (Cloitre et al., 2012), including psychoeducation (of the threat system and memory storage), coping skills (such as grounding, stimulus discrimination and self-soothing techniques) and information on what further TF-CBT entails (specifically reliving work). The group was delivered digitally over Microsoft Teams by a Clinical Psychologist, CBT therapist and Occupational Therapist from the AMHT. The use of the 'chat' function on Microsoft Teams was utilised in order to provide

alternative lines of communication for an online setting. The trainee was not involved in the delivery of the group to avoid potential bias to the data collection and analysis process.

Outcome Measures

Quantitative data:

Standardised outcome measures were completed before and after the group (Clinical Outcomes Routine Evaluation-Outcome Measure (CORE-OM): Evans et al., 2000; Work & Social Adjustment Scale (WSAS): Mundt et al., 2002; Impact of Events Scale-Revised (IES-R): Weiss, 2007). Research has shown that the Core-OM (Evans et al., 2002), WSAS (Zahra et al., 2014) and IES-R (Beck et al., 2008) have good reliability and validity. Due to the small sample size, statistically significant differences could not be assessed and therefore reliable and clinically significant change (Jacobson & Truax, 1992) in scores were calculated based on adequately powered data from similar populations. Questions regarding potential engagement with subsequent one-to-one therapy were asked during the pre-group interview and after the group (*Appendix D*). A quantitative questionnaire (including binary and scale responses relating to general experiences of the group) was sent to participants following the group (*Appendix E*).

Qualitative Data:

Semi-structured post-group interviews (*Appendix F*) were conducted after the final session to collect data on the participants' experiences. Framework analysis (Ritchie & Spencer, 1994) was utilised to identify relevant themes for improvement of the group, as this type of thematic analysis is suited to gather specific information to aid the development of actionable outcomes (Srivastava & Thomson, 2009). The data were organised using the qualitative software NVivo (QSR International, Version 11). Initial analysis was conducted by the trainee clinical psychologist, which included data familiarisation/immersion, seeking and reviewing themes within the data inductively and subsequently categorising them into overarching themes (Gale et al., 2013). This preliminary analysis was subsequently reviewed by the trainees' internal supervisors until a 'best fit' consensus was achieved. Conflicting data were actively sought in order to reduce the potential for the researcher's prior biases and opinions of the group to affect the results. Subordinate sub-themes were categorised

into three categories according to their prevalence: ‘uncommon’ (one to three participants), ‘variant’ (four to seven participants) and ‘typical’ (eight or more participants) in order to establish prioritisations for improvement of the group. In terms of rigour, credibility was ensured by researchers taking a reflexive stance, asking for participant feedback and utilising the participants’ own words. Further, dependability and confirmability was enhanced by involving peers in the analysis process and taking notes on personal feelings and insights throughout the interview and analysis process, respectively. In terms of transferability, the demographic information has been limited in order to maintain anonymity.

RESULTS

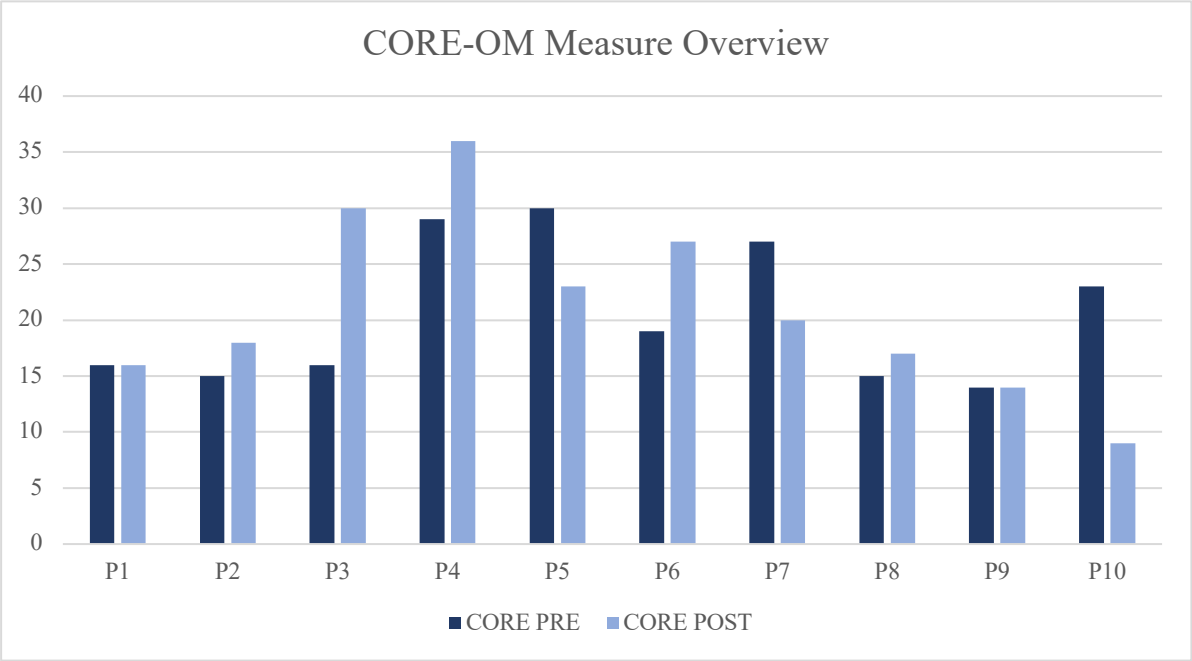
Quantitative Data:

Standardised Outcome Measures

CORE-OM *(Assessment of Distress)***:** Reliable change (a change score of >5) and clinically significant change (a move from the clinical (scores >10) to the non-clinical (scores <10) range) was assessed to establish whether meaningful improvement was made over the duration of the group. From pre to post scores, two participants (P1; P9) showed no change in scores, five participants (P2; P3; P4; P6; P8) showed an increase in scores (3 of a reliable change) and three participants (P5; P7; P10) showed a decrease in scores (all of a reliable change). One participant had a clinically significant change in score (P10). A summary of CORE-OM scores can be found in *Figure 2*.

Figure 2

Summary of CORE-OM Scores

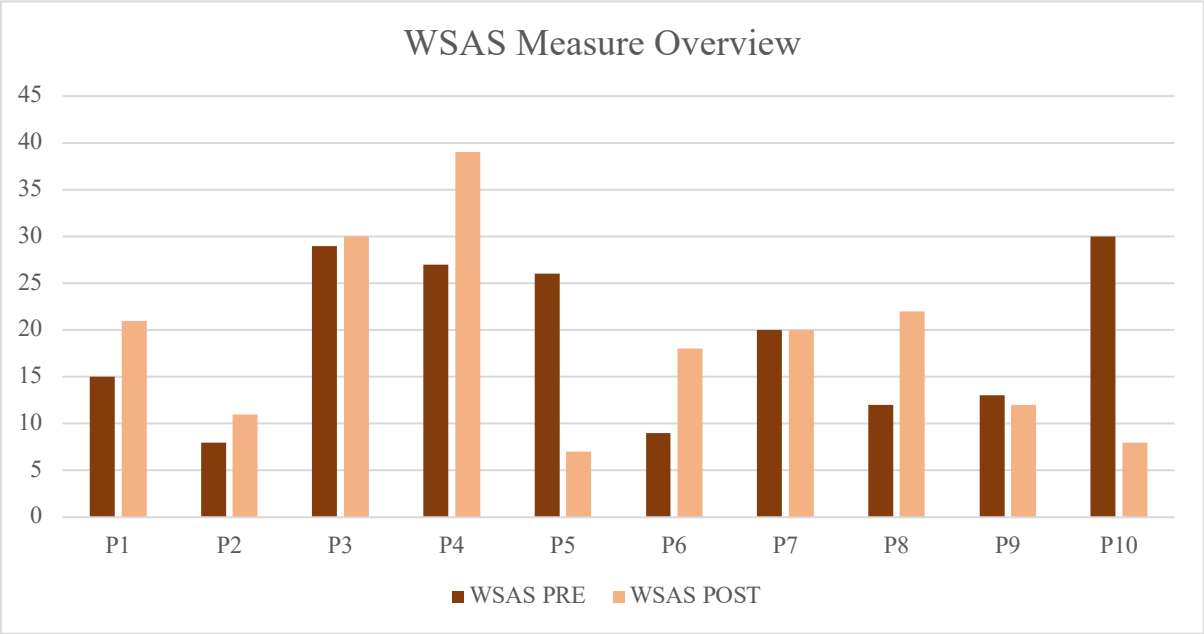


Note. *Abbreviations: CORE-OM = Clinical Outcomes Routine Evaluation-Outcome Measure, p = Participant.*

WSAS *(Assessment of Functioning)***:** Reliable change (a change score of >10) and clinically significant change (a move from the clinical (scores >10) to the non-clinical (scores <10) range) was assessed to establish whether meaningful improvement was made over the duration of the group. From pre to post scores, one participant (P7) showed no change, six participants (P1; P2; P3; P4; P6; P8) showed an increase (one of a reliable change and two of a clinically significant change) and three participants (P5; P9; P10) showed a decrease in scores (two of a reliable and clinically significant change). A summary of WSAS scores can be found in Figure 3.

Figure 3

Summary of WSAS Scores

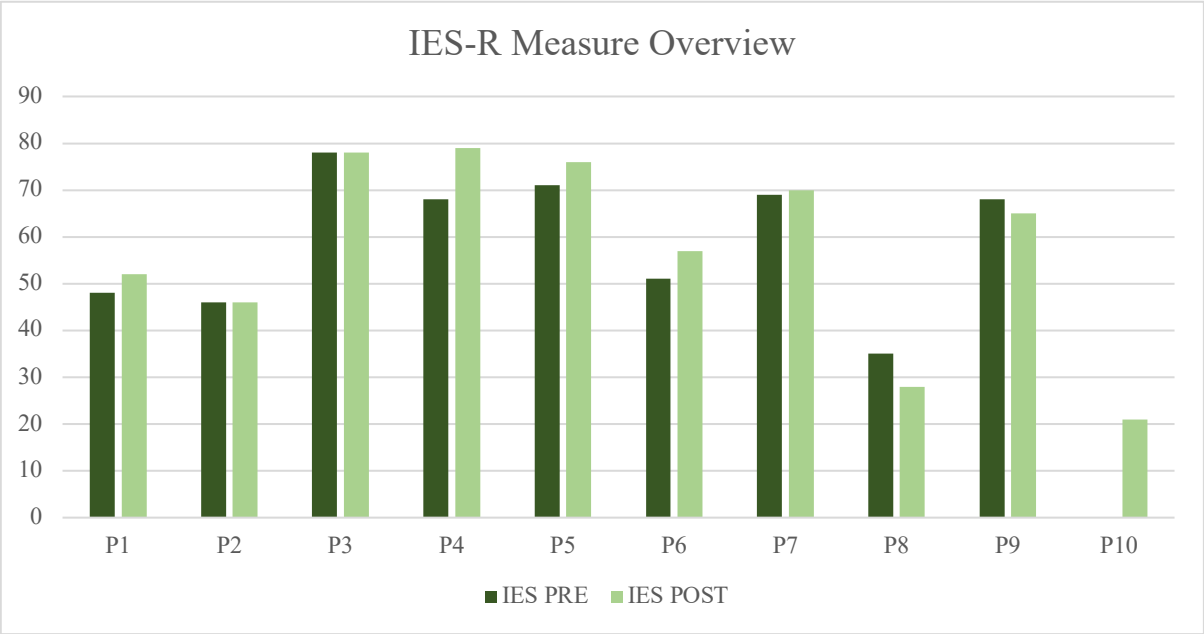


Note. Abbreviations: WSAS = Work and Social Adjustment Scale, p = Participant.

IES-R *(Assessment of Symptoms of PTSD)***:** Reliable change (a change score of >9) and clinically significant change (a move from the clinical (scores >24) to the non-clinical (scores <24) range) was assessed to establish whether meaningful improvement was made over the duration of the group. Higher scores indicate a more severe PTSD presentation. From pre to post scores, two participants (P2; P3) showed no change in scores, five participants (P1; P4; P5; P6; P7) showed an increase in scores (one of a reliable and none of a clinically significant change) and two participants (P8; P9) showed a decrease in scores (neither of a reliable or clinically significant change). We were unable to obtain a pre- group IES-R for P10. EIS-R scores are shown in Figure 4.

Figure 4

Summary of IES-R Scores



Note. Abbreviations: IES-R = Impact of Events Scale- Revised, p = Participant.

Quantitative Interview Questions (*Appendix E*)

Question 1: Six participants indicated they would feel more confident, one person indicated they would feel less confident and three participants indicated they would feel the same level of confidence at engaging with one-to-one trauma focused therapy (including reliving work) following the group.

Question 2: Five participants indicated they would be more likely, one person indicated they would be less likely, and four participants indicated the same level of likelihood to engage with one-to-one trauma focused therapy (including reliving work) following the group.

Quantitative Questionnaires:

Results from the quantitative questionnaires can be found in *Table 4.*

Table 4

Summary of Results from Quantitative Questionnaire

Question Number	Overview of Finding
Q1	100% of participants said that they found the group helpful
Q2	Participant ratings of how helpful they found the group ranged between 50-100 (with a mean of 76.5) on a scale of 0-100
Q3	100% of participants said that the group helped them to better understand their PTSD
Q4	Participant ratings of how much more they felt that they understood their PTSD following the group ranged between 55-90 (with a mean of 68) on a scale of 0-100 (*0 = much less understanding of PTSD, 50 = about the same, 100 = complete understanding of PTSD*)
Q5	80% of participants said that the group helped them to better cope with their symptoms of PTSD
Q6	Participant ratings of how much more they felt able to cope with the symptoms of PTSD following the group ranged between 50-90 (with a mean of 65) on a scale of 0-100
Q7	90% of participants said that they found the group setting supportive
Q8	100% of participants said that the online features were adequately explained to them before the start of the group
Q9	100% of participants said that the content of the sessions was appropriate
Q10	100% of participants said that the content of the sessions was explained well
Q11	100% of participants said that the sessions were delivered by the facilitators well
Q12	80% of participants said that they found the homework tasks helpful
Q13	100% of participants said that they required further support following the group

Q14	100% of participants said that the group prepared them for one-to-one Trauma Focused therapy
Q15	Participant ratings of how much they understood about the next steps they needed to make towards their recovery following the group ranged between 60-100 (with a mean of 77) on a scale of 0-100 (*0 = no understanding of next steps towards recovery, 50 = moderate understanding about next steps towards recovery, 100 = complete understanding of new steps towards recovery*)

Note. Abbreviations: Q = Question, PTSD= Post-Traumatic Stress Disorder.

Qualitative Data:

Framework analysis yielded four main themes with various superordinate and subordinate themes relating to strengths and weaknesses of the group. The prevalence of the themes across the interviews was classified as follows: 'uncommon' (one to three participants), 'variant' (four to seven participants) and 'typical (eight or more participants). Quotations from the participant interviews are used to support and contextualise the following findings.

Theme One: Content and Delivery of the Group (see Table 5)

Theme One consisted of strengths and weaknesses related to the content and delivery of the group. Overall, participants predominantly thought that the detailed information on PTSD and subsequent thorough explanations, specific practical techniques included, organisation of the sessions, duration/frequency of the group and no set break time were positive aspects of group. The main negative aspects were perceived to be the complexity of, missing or lack of information on PTSD, specific techniques that individuals found unhelpful, some disorganisation and lack of confidence handling difficulties, lack of time to elaborate on information and/or conversations, and having to miss work due to the timing of the group.

Table 5

Content & Delivery of the Group

Superordinate Themes	**Subordinate Themes**	**Key Messages & Quotes**	**Prevalence [a]**
1.1 Information on PTSD	Useful Information	All participants noted that they benefited from the content of information on PTSD, which everyone found useful (to varying extents).	**Typical**

	P8: "I found it really informative, going right back to basics- it wasn't just do this and you'll be fine… it was very much explaining how the body worked and why this big T type the trauma had this effect on us. I really benefited from the amount of detail"	
Complexity	Two participants noted that some of the information was complex and difficult to process. *P10: "Some of it was quite complex and it was also emotive, so you were dealing with two things at once… you were responding physically to it and also trying to process the information…"*	**Uncommon**
Missing/Lack of Information	Eight participants felt that important content on PTSD was missing or lacking. Specially, four participants felt that the group did not cover nightmares, which was a symptom they were currently struggling with. Four participants said they would have liked systemic information related to PTSD, such as how to relate to the people who caused their trauma and	**Typical**

		talking to those close to them about their PTSD. Individual participants also noted they would like more information on agoraphobia, domestic abuse, mindfulness, calming exercises for physiological sensations, stigma, substance abuse, the threat system and the distinction between CPTSD and PTSD. *P3: "Sleep and nightmares… I'd like more included about that. I'd like to know how to get back to sleep once your brain's already gone there… how you feel sort of like alert and awake, how to try and get back to sleep"*	
1.2 Practical Techniques	Helpful Techniques	Nine participants said that they found the practical techniques helpful: the rhythmic breathing, stimulus discrimination, 54321, safe space, the grounding box and progressive muscle relaxation were mentioned by at least one participant as being particularly helpful.	**Typical**

	P1: "A lot of these techniques to do with grounding… to do with slowing the heart rate down… I really liked all of them and I think they really changed my life"	
Unhelpful Techniques	Three participants expressed difficulties with the breathing exercises due to struggles with concentration and inability to grasp the technique. Two participants noted that they found the stimulus discrimination unhelpful. 54321 and safe space were also mentioned by individual participants as being unhelpful, the former due to avoidance of the places where 54321 would be helpful and the latter due to being unable to imagine anywhere that they felt truly safe. *P6: "I think the things that I found difficult was some of the grounding techniques… I didn't think I was doing it right or they weren't working… I got really frustrated and that sort of annoyed me…"*	**Variant**

1.3 Facilitators	Explanations	Four participants thought the facilitators explained the content well and found it helpful that different types of explanations were incorporated, such as analogies or metaphors. *P1: "I think it was explained really well… they had great metaphors about systems to do with memory. I mean what I liked is just lots of different ways to explain it, so I assume that different types of learners in the group could grasp what we were talking"*	**Variant**
	Handling Difficulties	Two participants explicitly mentioned that they felt the facilitators handled technical difficulties well. However, two participants mentioned that managing the difficulties could have been improved as there was a lack of confidence and assertiveness. *P4: "I mean confidence with the facilitators… but they're not tech girls or guys… and sometimes you just couldn't get rid of that ringing even though everybody was on mute but sometimes it's that person taking ownership*	**Variant**

		and going okay everybody we're gonna log back out because we can't carry on like this, and we will reconvene in five minutes or whatever and all log back in again… it's taking that ownership of the course"	
	Organisation/Disorganisation	Three participants expressed that it was helpful that the facilitators were organised in terms of their roles. However, one participant felt that this was slightly more disorganised towards the latter sessions. *P1: "I think towards the later sessions there was slightly more disorganisation and so that did cause delays… like when one of the other facilitators was taking over the slides it's like they didn't know who was next or what was on the next slide"*	**Variant**
1.4 Timings & Duration	Length & Frequency	Seven participants felt that six, two-hour weekly sessions was an appropriate duration for the group. However, three participants felt that shorter sessions over a longer period of time would have been preferable, possibly nine, one and a half hour sessions.	**Typical**

	P7: "I thought it was a good amount of time actually…I was fine with the two hours and I think it was necessary to get it all done… it wasn't too long that we got bored"	
Breaks	Three people expressed that they would have found it helpful to have a set 5-15 minute break in the middle of each session. However, seven participants expressed that they would not want a set break and preferred that they had the option to take a break whenever they needed. Hypothesised problems of having a set break included: not having enough time to cover the content, breaking the flow and some people may not return if distressed/uncomfortable. *P6: "For me personally I don't think [a break] was needed because if you wanted to go and make a cup of tea, you could still go and do that and listen to what's being said…. I think going back to it [after a break],*	**Typical**

	especially if you're struggling… it would have been so easy just to be like I'm not going there again"	
Lack of Time	Four participants noted that parts of the group seemed rushed as there was little time to elaborate on information and expand on group discussions. *P2: "I think there was probably too much packed in… definitely. Even though they were good things that were in, but probably a bit too much… Quite overpowering"*	**Variant**
Missing Work	Three people mentioned that it was difficult taking time out of work as the group fell within the working day. *P8: "It's difficult because it was during the working day and it's taking time out of work to go to the group. I often would sort of log on and open the emails then just go have a nap, so I definitely found it very difficult to work afterwards"*	**Uncommon**

[a]The prevalence of the themes across the interviews was classified as follows: ‘uncommon’ (one to three participants), ‘variant’ (four to seven participants) and ‘typical (eight or more participants). *Note. Abbreviations: p = Participant.*

Theme Two: The Group Setting (see Table 6)

Theme two explored positive and negative aspects of the group setting. The main positives of the group setting including the caring and considerate ethos on the group and the lack of pressure to be involved with the interactions or the content itself. There were mixed opinions on the value of the diversity of the group, the size of the group, contributions from other participants and preferences of a group or individual setting. The predominant negatives of the group included domination from others in the group and unclear guidelines regarding what could be shared.

Table 6

The Group Setting

Superordinate Themes	**Subordinate Themes**	**Key Messages & Quotes**	**Prevalence** [a]
2.1 Diversity	Positives	One participant mentioned that the diverse range of participants was a positive aspect of the group. *P1: "There were men, women and people of all ages, I was not expecting that really… it wasn't just women my age or it wasn't even just women… it was men*	**Uncommon**

	who had gone through trauma, I was like oh yeah! it just felt nice they were all supportive and there was such a range of people that we could all see…"	
Negatives	One participant felt that diversity was not helpful in the group context and expressed that she felt uncomfortable that males were also in the group due to her specific experiences of trauma. *P2: "[I would prefer] groups of people that have been through the same thing… I know it's good bringing different situations into one thing… for people to open and broaden their horizon but for me, I would have felt better if I knew the person opposite me had been through [the same type of trauma. Initially when I heard it was a mixed group that freaked me out… I just felt uncomfortable, and I didn't wanna have my mic on… … I think it was like the second or third session that like my head just weren't in the right space and I just freaked out and I didn't join"*	**Uncommon**

2.2 Group Dynamic	Care & Consideration	Half of the participants noted that the supportive atmosphere whereby participants showed care and consideration for other members was helpful. *P10: "Everyone was very welcoming and very, very supportive. I thought people were very caring of each other and a couple of times people made reference to… I hope what I'm going to say doesn't trigger anything off for anyone else…"*	**Variant**
	Lack of Pressure	Four participants mentioned that it was helpful that there was no pressure to contribute, use all the techniques or complete the homework and consequently the group had a relaxed atmosphere. *P10: "There was no pressure on any of us to take everything on board or to find everything useful…I think by introducing the topic in such a way that everybody knew was safe and that you wouldn't have to sort of stand up and say something if you don't want to… you could sort of buy in as much as you wanted"*	**Variant**

	Domination	Four participants noted that they felt certain members of the group dominated the conversation, which was sometimes unhelpful as it discouraged other participants to speak and timings often overran as a result. *P8: "I think the discussion did have the tendency to overrun. I think there were obviously certain personalities that talked more which was fine because the group was great, but that also meant a lot of people didn't speak… I think I have quite a short tolerance for people waffling or like dominating conversation"*	**Variant**
2.3 Size	10 Participants Preferred	Seven participants felt that 10 participants in the group was the right size. Reasons given included more participants would incur more time during discussions and a smaller group may have reduced perspectives and limited conversation. *P3: "I think [the size] was good because it was a big enough group that we had some people contributing when others didn't, and it worked quite well. I'd say you probably don't want to go larger, just because when you are interacting with everyone there would be a lot more tangents"*	**Variant**

Under 10 Participants Preferred	Two participants felt that the group was too large as not everyone had time to feedback, they did not feel comfortable contributing in such a large group and that you could not see all members on the screen. *P6: "I think it was just a tad too big. The problem is you focus on the people that actually speak… so you tend to, not ignore the others but it's difficult when you we've got some typing, some are talking… I think it would be difficult to encourage them to talk- maybe some wanted to talk but were too worried…"*	**Uncommon**
Over 10 Participants Preferred	One participant felt the group was too small as perspectives were limited. *P7: "I think it would have been better [with more people… It could have given some more info on how they did things or how they cope with it… just more insight. I'd go to 15… but the more people you have obviously you're gonna need more time to do the session"*	**Uncommon**

2.4 Sharing Ideas & Experiences	Helpful Sharing	Eight participants expressed that it was helpful that participants regularly shared their own ideas and experiences, especially when they were relatable. *P6: "I could relate to what the other people are saying so even if I didn't have to say anything it was things I was thinking anyway… There were people in the group giving their stories and everyone was at different stages recovery… it was a bit of a relief to be honest…the fact that I'm not the only one"*	**Typical**
	Unhelpful Sharing	Five people noted that some members of the group would share inappropriate information which made them uncomfortable and/or distressed. *P2: "[They] kept talking about harming [themselves] and that [they're] cutting [themselves] again… For me, that should have just been discussed with one of the facilitators and not in the group because even though [they're] going through a distressing time, it distresses everybody else around them… I felt really bad to [them], it's just not something that you need to hear while you're*	**Typical**

		trying to fight a demon yourself. I think there's a line and it kind of got crossed a little bit … it made me want to help [them] instead of helping myself"	
	Unclear Guidelines	Three participants expressed that they were unsure of what could or could not be discussed within the group setting. *P5: "I know that it was put on the team rules, to try not to say anything that would upset others but I was a bit confused because I thought that was part of what the group was about… some of my answers were held back because I didn't want to go against the rules of the group. I didn't know how far to go… you are on your guard all the time in case you say something that you shouldn't say"*	**Uncommon**
2.5 Group vs. One-to-One	Group Preferred	Eight out of ten participants expressed that they would have preferred to receive the content of the group in a group setting rather than in one-to-one therapy. The main reasons for this were knowing that they were not alone, learning from others, getting help sooner and less intensity in the group format compared to one-to-one.	**Typical**

	Interestingly, three people noted that they would have preferred one-to-one before they actually experienced the group but now would opt for the latter. *P1: "I think the group was great because we didn't feel so alone and we could feel like we're all going through it together… people said things that I haven't thought of and I'm sure I said things that other people hadn't… if it was one-to-one there would be totally so much pressure on the individual to get things right… whereas in this group the very act of failing, it was one of the things that was central… knowing that you're not going to be able to do all this immediately. I think the group was great, I would have picked a group. I don't think it would work as one to one as well"*	
One-to-One Preferred	Two people stated that they would have preferred one-to-one over the group. One participant felt that it was not the right time for them to engage in a group as they had recently finished one-to-one therapy and the other felt the group was too large and not suitable due to it being mixed gender.	**Uncommon**

	P5: "I think for me [one to one would have been preferable], although it's not taking away from the group because I did learn a lot but where I was at the time… it was unfinished business"

[a]The prevalence of the themes across the interviews was classified as follows: 'uncommon' (one to three participants), 'variant' (four to seven participants) and 'typical (eight or more participants). *Note. Abbreviations: p = Participant.*

Theme Three: The Online Setting (see Table 7)

Theme Three focused on positive and negative aspects of the online setting. The main perceived positives of the online setting included the chat function, the lack of travel and the safety and privacy of their chosen setting. The predominant negatives included technical difficulties, difficult home environments, isolation and limited conversations associated with the online setting. Mixed reviews were held regarding the camera function and the preference between an online or face to face (FTF) group.

Table 7

The Online Setting

Superordinate Themes	Subordinate Themes	Quotes	Prevalence [a]
3.1 Online Features	Camera Function	Three people mentioned that it was nice to be able to see other people on the camera and three people noted that it was challenging that you were unable to see all participants and that some people turned their cameras off. *Further*, four participants expressed that they found it helpful to turn their cameras off during the group when they felt uncomfortable or distressed and two participants found it helpful that they did not have to see all of the participants.	**Variant**

	P1: "I think I did turn my camera off as I was crying or something… you could have a private moment to compose yourself without people looking at you… that was really useful"	
Chat Function	Eight people noted that the chat function was a helpful addition to the group *however,* three participants expressed that they found it difficult to keep up with the chat due to an inability to type quickly enough or read the chat whilst the facilitators were presenting. *P6: "A lot of [the discussions] was through messages on the message board thing and I sort of felt like I couldn't catch up with what everyone was saying… people who write a message and then they would talk about it and then someone else would message but I'm still reading the message that was above it and sometimes I felt a bit lost…"*	**Typical**

3.2 Remote Setting	Lack of Travel	Three participants mentioned that they were grateful that they didn't have to travel to attend the group, due to it being hosted online. *P10: "I think logistically it's much easier to get people together that way rather than people having to travel to a destination…"*	**Uncommon**
	Difficult Home Environment	Two participants noted that they found their environment challenging. One participant noted that their environment was untidy and triggered memories and the other expressed that other people in the household limited their ability to contribute for fear that they could hear. *P1: "My bedroom was in a ridiculous state. Even though it is where I felt safe, when we were doing the 54321 technique I found that being in my own space, I didn't like because there were memories associated with things and the mess… I was suddenly hyper aware of how terrible I've made my surroundings… I think that was quite difficult being in my home environment… that's why there are other spaces that are dedicated to have groups"*	**Uncommon**

	Safety & Privacy	Half the group noted that one of the benefits of the group being online was that they could be in a safe and private setting whilst still attending the group. *P3"A face to face group, I think that would have been more difficult… [you] couldn't hide… I think it was good that we were at home- we were all in a comfortable place we were OK with… it's cosy and it's safe… I quite liked having that environment around me… I liked knowing that I could turn the camera off or move it whereas in I think it might have been a bit more cold and sterile if we were in like a group meeting room"*	**Variant**
3.3 Social Impact	Conversations Limited	Three participants noted that conversations were limited due to the remote nature of the group. *P4: "I just don't think you can really say that discussions were had because there's no back and forth really. I think that probably is a loss"*	**Variant**

	Isolation	Three participants expressed that the sometimes felt isolated and that social support was lacking due to the remote nature of the group. *P6: "It probably would have felt less isolated if it was face to face. It did feel a bit disconnected from everyone else… so when I was struggling I felt on my own a bit"*	**Variant**
3.4 Technology Issues	Inadequate Devices	Five people noted that there were problems with inadequate devices. Two participants noted that experiencing the group via a tablet or phone was inferior compared to a laptop (due to difficulties with the chat function and the inability to see the slides and other people). Other difficulties included the microphone not working or battery dying mid-session. *P10: "It makes it difficult for everyone to participate at the same level if someone's just got sound and no picture, which did happen… I'd make sure that people have got access to a laptop or something or a tablet… I felt for the person for the first 2 sessions who couldn't fully participate because she was trying to do it from her phone"*	**Variant**

	Multimedia Difficulties	Two participants noted difficulties with the multimedia including the slides, videos and images not displaying as intended. *P1: "The videos often wouldn't work first time, and so that did cause delays. I think maybe a better multimedia selection to know that you have images that will definitely show up and the videos will definitely play"*	**Uncommon**
	Unexplained Noise	Five participants mentioned that there was an unexplained noise that occurred on occasions throughout the group which was disruptive to the extent that the facilitators had to restart one session. *P9: "We had a noise that kept getting louder and louder and nobody knew what it was…"*	**Uncommon**
3.5 Online vs. Face-to-Face	Online Preferred	Half of the group said that they preferred that the group was online for various reasons, including it feeling like a safer environment both emotionally and physically	**Variant**

	(due to COVID), thoughts that it would not be any more effective in person, it was more comfortable, reduced social anxiety, you could privately manage distress and it was easier to contain. *P10: "It felt much safer because you're not actually all face-to-face, if you wanted to be quiet for little while it wasn't obvious that you were being quiet… so you had that sort of place to go to for yourself. I would say overall it needs to continue and that it should be reviewed as to whether it's just as effective or more effective doing it online really. I don't think it would have felt any safer, I don't think it would have been any more supportive or sensitive [in person]…"*	
Face-to-Face Preferred	However, three participants expressed that they would have preferred the group to be delivered in a face-to-face setting as they thought communication would have been easier as you could have seen peoples body language and it also would have felt more supportive.	**Variant**

	P5: "…because you're not face to face, you don't get that connection as a group. I think you get the whole picture face-to-face because you get the body language… sometimes it's not so easy to understand what they say but if you got the body language with it…"	
Unsure of Preference	Two participants were unsure of their preference because they hadn't had experience of a face-to-face group. *P4: "I really don't know because I don't know how it works and I know that's really unhelpful but I feel like I'd be wrong to judge it… I don't think it would be any worse…"* Individual participants made suggests for alternative formats of delivery: One participant suggested that the group could have been delivered as an online course, which may be preferable for those that work as they can complete the learning around their own schedule. One participant felt that the current group was not suitable for women who had experienced domestic violence and suggested that a	**Uncommon**

	smaller group of women who had experienced DV could be created. One participant felt that the group could have been delivered via “blended learning”, with a mixture of FTF and online teaching.

---

[a]The prevalence of the themes across the interviews was classified as follows: ‘uncommon’ (one to three participants), ‘variant’ (four to seven participants) and ‘typical (eight or more participants)**.** *Note. Abbreviations: p = Participant.*

Theme Four: Outside of the Group (see Table 8)

Positive experiences outside of the group included having clear expectations for the group, the group occurring at the "right time" for the individual, gains from the group and inspiration for further learning, having a copy of the slides, optional homework and the opportunity to speak to the facilitators outside of the sessions. Negative aspects included apprehensions before the group, remaining difficulties and questionnaires following the group, inadequate formatting of the questionnaires and lack of contact with the facilitators prior to the group.

Table 8

Outside of the Group

Superordinate Themes	**Subordinate Themes**		**Prevalence** [a]
4.1 Pre-Group Experiences	Apprehensions	All 10 participants expressed that they had apprehensions before starting the group. Four participants expressed that they were nervous about being in a group setting: specific reasons included anxiety meeting new people, difficulties with social interaction, potential judgement from others and being apprehensive to ask questions in front of other people. Three participants thought that the group might	**Typical**

	be a negative experience due to high levels of emotion, an overload of information or technical issues. Three participants were particularly worried about what they didn't know about the group, including how many other people there would be, uncertainty as to whether they would have to talk about their trauma and what the group would look like. *P5: "I didn't know what to expect because it was the first one so there's no one to say I've been on the group… I didn't really know what it would be about… whether it would be in depth, talking about what happened or whether it was like the end stage where you didn't know how to cope with it…I think I was apprehensive because I didn't know what to expect…"*	
Clear Expectations	Seven participants expressed that it was helpful to have clear expectations for the group. This included having knowledge that the group would not be a cure, would not involve talking about personal	**Variant**

	trauma experiences, that it was a psychoeducational rather than therapeutic group, that technical difficulties were likely to occur and that it was important to attend every session. *P9: "I knew nobody would be expected to actually talk about what had happened to them, so I felt confident and that it would be safe for me to participate"*	
Timing of the Group	Four participants noted that that they felt like it was the right time and that they were in the right place to engage with a group intervention. Reasons for feeling in the "right" place included: reducing substance use, feeling comfortable in a group setting, feeling that it was time to approach rather than avoid difficulties and feeling confident to engage with therapy. One person however felt that they were not in the right place to attend the group as they had recently finished one-to-one therapy and had found the differing boundaries of expression difficult.	**Variant**

		P5: "Coming from [one-to-one therapy] where we were going very deep with things and then into a group where you really couldn't discuss things… I didn't know what to say… it was a really good group but for me it was too soon because I was dealing with [losing my therapist]. This is why I think for me it came at the wrong time because of where I was at the time, I couldn't use all what I learnt"	
4.2 Post-Group Experiences	Gains	All participants expressed that they had gained something from the group, such as self-compassion, practical techniques, validation, a sense of calm, confidence & strength, preparation for further therapy, awareness, understanding, reassurance and acceptance. *P6: "I'm not in like denial anymore … I've accepted that I've got what I've got and I've learnt that there is help and I'm not just learning to survive, I'm actually learning to live again"*	**Typical**

Inspiration For Further Learning	Two participants noted that the group has inspired them to learn more about their difficulties. *P10: "It's also given me the impetus to read wider around the subject because I think you need to know your enemy in a way… It's certainly whet my appetite and it hasn't put me off trying to get better… just the opposite"*	**Uncommon**
Remaining Difficulties & Questions	Six participants noted that they had remaining difficulties and/or questions in regard to nightmares, lack of self-esteem, uncertainly as to whether they had PTSD, interpersonal difficulties and involuntary motor movements. *P7: "It's given me some insight but not all the answers… It's given me a few answers but there's a lot more questions I've got…"*	**Variant**

4.3 Between Session Content	PowerPoint Slides	Six participants explicitly noted that it was helpful to be sent the slides so that they would review the information and exercises and catch up on information they missed. *P2: "I liked the fact that after the group they sent you the slides of what they had spoken about so you could go back through them and have a look at the diagrams and rethink the questions and things like that… that was really good"*	**Variant**
	Optional Homework	All bar one participant found the homework a helpful element of the group. Three participants specifically mentioned that it was helpful that the homework was optional, rather than compulsory. Two people noted that they found the in-session discussion of the homework particularly helpful. Over half of the participants noted that they thought that the homework was manageable and not too complex. Two participants noted that the PDF format of the homework sheets was not helpful as they weren't able to edit them.	**Typical**

	P1: "I thought that was good that there was time to get feedback in the session for my homework and what we were trying to practise. I liked that they weren't really pushing their homework, they weren't like "well so and so did do it", they really weren't judgmental about any of that which I really liked. They were just happy if people shared and that they did manage to do it…"	
Questionnaires	Three participants expressed that they had difficulties filling in the questionnaires as the format would often move and it was difficult to know which response columns related to which question. *P1: "The questionnaires didn't show up well at all on my computer… they were shifted down so I didn't actually know what I was circling. I didn't know whether when I sent that through it would all shift again because it's all shifted for me"*	**Uncommon**

4.4 Contact with Facilitators	Pre/Post Session Contact	Eight participants noted that it was helpful to have opportunities to speak to the facilitators outside of the group, particularly when people had missed sessions or were experiencing distress or technical difficulties. *P9: "There was opportunity for people to ask questions or have a discussion after the group or before the next one so that people wouldn't feel that their needs weren't being met"*	**Variant**
	Pre-Group Contact	One participant mentioned it was helpful to speak to the facilitators before the group, particularly to resolve any technical issues they were experiencing. However, one participant noted that they did not receive direct contact from the facilitators before the group and this was slightly unnerving.	**Uncommon**

	P6: "I didn't speak to anyone really until the actual day of the course, so maybe just a phone call or something would have been good… reassurance to explain what the course actually involves"

[a]The prevalence of the themes across the interviews was classified as follows: 'uncommon' (one to three participants), 'variant' (four to seven participants) and 'typical (eight or more participants). *Note. Abbreviations: p = Participant.*

DISCUSSION

This service improvement project evaluated a newly established online stabilisation group offered to individuals who were waiting for individual TF-CBT and provided recommendations for improvement of the group based on SU experiences. Although a reduction in PTSD and CPTSD symptoms following stabilisation treatment in group format has been reported previously (Dorrepaal et al., 2012), the same effects were not found for the majority of participants in this study. However, it is important to note that different outcome measures were employed in each study. Self-report data, however, suggested that all participants found the group helpful to various extents, despite the lack of change on the standardised outcome measures. A number of participants were experiencing significant life changes when the post group measures were taken, contributing to their increased scores. Furthermore, the aim of the group was not to reduce symptomology, but to prepare service users for subsequent TF-therapy, which 100% of the participants felt the group achieved. Eight out of 10 participants felt that completing the stabilisation component in a group format was preferable to a one-to-one setting, as the group environment was facilitative of their learning. Overall, the qualitative data indicates that the majority of participants felt that the benefits of the group format (and to a lesser extent the online format) outweighed the downfalls. Such findings have implications for the subsequent delivery of the stabilisation component of TF treatment within the current service and suggest that continuing to provide interventions via an online platform may be preferable for some SUs post COVID-19.

Limitations & Future Considerations:

Data collected in relation to this specific service cannot be generalised to wider populations of SUs due to the limited sample size and service context. The current study did not collect data on service perspectives: future research may wish to conduct a qualitative study assessing the views of the group facilitators and obtain suggestions for improvement from their perspective. It is important to note that the current study took a substantial amount of time to complete and it would not be feasible for NHS staff to collect and analyse a similar amount of data for future service audits. Lastly, post-group

standardised measures were collected one-three weeks following the end of group due to difficulties contacting participants: it is probable that self-report ratings may have changed during this period. It is advised that future research assessing outcome measures should aim to collect post-intervention data as soon as possible, in order to ensure validity of the data.

RECOMMENDATIONS

Overall, feedback on the group was largely positive. Based on the qualitative data, the following recommendations were suggested to the service (Table 9).

Table 9

Recommendations to the Service

Recommendations For:		**Details:**
Facilitators	***Chat Feedback***	It could be helpful to read out the chat function regularly and make participants aware in advance that this will be a routine aspect of delivery so that participants can focus on the slides
	Direct Contact with Facilitators	It may be advisable for participants to have direct and private contact with the facilitators (via the chat function or a direct number) to be used in instances where individuals are struggling and/or need immediate support
	Elaboration	It is recommended that the contents of the slides are verbally explained in multiple forms, such as through metaphors and analogies and that the

	facilitators check in regularly with the group's understanding.
Organisation	It would be helpful to review each facilitator's role briefly before each session and/or add the allocated facilitator's initials to each slide as a prompt.
Containing Inappropriate Sharing	If participants are sharing sensitive information within the sessions, it may be beneficial to contact them outside of the sessions to explore reasons behind the sharing, to check the participants' understanding of and reiterate group guidelines (if appropriate) and explore ways to contain sharing with the individual sensitively.
Review of Technical Difficulties	It would be useful to have a meeting with all facilitators to discuss the technical difficulties that occurred and explore potential causes and ways to reduce the likelihood of the issues occurring in subsequent groups.
Containing Dominance:	If it is apparent that certain members of the group tend to do the majority of the talking during discussions, it would be helpful to validate what the individual says and then open up to the group by asking if anyone else has similar or different experience (if appropriate) in order to facilitate input from other participants.
Expectations Regarding Cameras:	Participants could be advised to keep their camera on if possible, but facilitators should also

		express that participants can switch their camera off for periods of time when needed. Facilitators should consider avoiding asking participants to turn their camera on (as individuals may have them off for a reason) but this should be discussed with the facilitators as some clinicians may feel it is beneficial to see people in order to assess distress.
Delivery	***Delivery formats***	It is advised that the service consider alternative delivery formats for the stabilisation component of treatment, and their feasibility. For example. an online course, a combination of online and FTF delivery and a purely FTF group to better suit patient preference (noting COVID restrictions). The service may also wish to consider options for a female only groups and it could be helpful to signpost individuals with specific difficulties (such as a history of DV or sexual abuse) to external support organisations.
	Alternative Platforms	It is recommended that the service explore options for a hosting platform that allows all participants to be shown on screen at one time (within Trust IT guidelines)
	Breakout Rooms	It is recommended that the service explore options to facilitate breakout rooms within the online group as the vast majority of the participants felt this would have been a helpful

addition to the group. Incorporating two breakout room opportunities per two-hour session may be a sensible amount. At least one facilitator should be included in each break out room to support with any difficulties that may occur.

Outside Session Content:

Pre-Group Contact

It is important to continue to provide pre-group phone calls from a facilitator to participants prior to the group as they serve a number of benefits. During this phone call, it is recommended that the following topics are covered:

- What the group involves including a brief overview of topics covered.
- Any apprehensions they may have and to provide reassurance or further information as needed.
- An overview of what they may be able to achieve or not achieve by attending the group (expressing that this group is not intended as a cure but as a means to help the person manage their symptoms).
- To test out the MS Teams system and run through the online features (if they are unfamiliar with this platform)
- To review topics that may trigger distress for each individual, especially for those who have experienced specific

types of interpersonal trauma, for example domestic violence.

- Whether they feel it is the right time for them to engage with a group intervention; for example, whether there is anything that would stop them participating fully, whether they feel they could contain their feedback to the wider group (for example, refrain from mentioning sensitive topics) and whether they feel there are any other needs that should be a priority before the group (for example, practical or other psychological needs).
- To check whether the individual feels safe and comfortable in their home environment, and if there is anything the person can do to improve this.
- To advise participants to use a laptop for the group where possible to ensure they have access to all of the functions.

Taken together, the answers to such questions should be used to inform the facilitators clinical judgement as to whether the group is suitable for the individual at this time

Drop-in Pre and/or Post Sessions	Drop-in sessions between standard sessions may be helpful to answer any personal questions or run through techniques and/or content that individuals are finding particularly difficult. A 10-15 minute optional attendance session before and/or after each session may be a suitable amount of time (as a trial).
Post-Group Reviews	It would be helpful to offer an individual post group review session to each participant to discuss any personal difficulties or remaining questions the participant may have, alongside planning the next steps.
Group Guide/FAQ Document	It may be helpful to develop a Guide/Frequently Asked Questions (FAQ) document to be provided to participants before the group which covers an overview of the group, quotes from previous participants, and information on how to work the MS Teams system.
Further Reading	It may be helpful to provide a further reading section for each topic for participants who would like more information.
Homework	It is advised that the homework sheets are converted from PDFs into an editable word document (and email both formats), and/or that participants are sent paper copies.

	Questionnaires	It is advised that the questionnaires are transferred to an online survey format, e.g. MS Forms, to avoid future formatting issues.
Session Content:	***Clearer Guidelines***	Based on participant feedback, it is recommended that clearer guidelines regarding appropriate sharing within the group should be developed in a sensitive manner. It may be helpful to have a list of topics that participants should avoid talking about as they may trigger other members of the group (for example, self-harm or substance abuse).
	Information on Nightmares	Information and practical techniques for nightmares should be incorporated as a priority, particularly how to get back to sleep and calm the threat system following a nightmare.
	Sending Slides	The slides should continue to be sent to the participants before each session.
	Multimedia	The multimedia included on the slides should be reviewed and replaced if not functioning correctly.
Timings and Duration	***Alternative Timings***	It may be helpful to consider options to deliver the group outside of traditional working hours to better meet the needs of participants.
	Breaks	Based on feedback from the majority of participants, an official break should not be

		incorporated. However, it may be helpful to remind participants at the start of each session that they are welcome to take break when required but to ensure that their microphone is off when taking breaks.
Group Allocations	***Diversity***	When allocating participants to the group, some participants may benefit from seeing a diverse range of participants (gender, age, social graces) whereas other participants may find certain demographics "triggering" (for example, males): therefore, the suitability of each participant for each group should be considered carefully .
	Size	It is recommended that the number of 10-12 participants per group is maintained as the majority of participants expressed the group was the right size.

Dissemination to the Service and Outcomes:

The above recommendations were summarised for the service in a written document and were disseminated to the wider service during a whole team business meeting. All suggestions were considered in relation to the limitations on service provision and feasibility. If the N size for certain recommendations was low the service expressed that they intended to keep an open mind to suggested improvements and would reconsider if future participants gave similar feedback.

Based on the recommendations, the service has adapted the group in the following ways:

- Incorporated content on nightmares

- Conducted a staff meeting to evaluate technical difficulties
- Routinely read the chat function out in subsequent groups
- Advised participants to keep their cameras on when possible
- Removed the break slide from the PowerPoint
- Only invited participants who had a laptop
- Removed the requirement of weekly questionnaires

Based on the feedback, the group maintained the following aspects of the group:

- Length and duration of the group
- Reiterated the ground rules of the group, including being aware of how discussion in the group could affect others and being sensitive to anything that could be triggering
- Continued to host the group online via Microsoft Teams (now allows 10+ participants of screen)
- Range of practical techniques
- Mixed in terms of age and gender
- Pre and post group interviews for all participants, covering all elements suggested
- Sending the slides out before each session

The following recommendations were not incorporated by the service:

- Contact directly with facilitators: the service expressed that they do not have resources to provide immediate support and if people can't manage the group, it may suggest they need "wrap around" from services. If between-session calls to participants are not sufficient, the service is of the view that participants are not in a stable enough position to make best use of the group

The following recommendations may be considered by the service for future groups:

- Face-to-face groups

- Incorporating breakout rooms
- Developing an FAQ document
- Converting homework sheets to Microsoft Word documents or hardcopies
- Reviewing the guidelines (rules) of the group and potentially to include a ‘blacklist’ of topics

REFERENCES

Beck, J. G., Grant, D. M., Read, J. P., Clapp, J. D., Coffey, S. F., Miller, L. M., & Palyo, S. A. (2008). The Impact of Event Scale-Revised: Psychometric properties in a sample of motor vehicle accident survivors. *Journal of Anxiety Disorders*, 22(2), 187-198.

Cloitre, M., Courtois, C. A., Ford, J. D., Green, B. L., Alexander, P., Briere, J., & Van der Hart, O. (2012). The ISTSS expert consensus treatment guidelines for complex PTSD in adults. Retrieved from https://www.americanbar.org/content/dam/aba/administrative/child_law/conf/ISTSS_Complex_Trauma_Treatment_Guidelines_2012_.authcheckdam.pdf.

Dorrepaal, E., Thomaes, K., Smit, J. H., Van Balkom, A. J., Veltman, D. J., Hoogendoorn, A. W., & Draijer, N. (2012). Stabilizing group treatment for complex posttraumatic stress disorder related to child abuse based on psychoeducation and cognitive behavioural therapy: A multisite randomized controlled trial. *Psychotherapy and Psychosomatics*, *81*(4), 217-225.

Evans, C., Mellor-Clark, J., Margison, F., Barkham, M., Audin, K., Connell, J., McGrath, G. (2000). CORE: clinical outcomes in routine evaluation. *Journal of Mental Health*, 9(3), 247-255.

Evans, C., Connell, J., Barkham, M., Margison, F., McGRATH, G. R. A. E. M. E., Mellor-Clark, J., & Audin, K. (2002). Towards a standardised brief outcome measure: Psychometric properties and utility of the CORE–OM. *The British Journal of Psychiatry*, 180(1), 51-60.

Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC MedicalResearch Methodology*, 13(1), 1-8.

Imel, Z. E., Laska, K., Jakupcak, M., & Simpson, T. L. (2013). Meta-analysis of dropout in treatments for posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology*, *81*(3), 394.

Jacobson, N. S. & Truax, P. (1992). Clinical significance: a statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, 59(1), 12-9.

Mundt, J. C., Marks, I. M., Shear, M. K., & Greist, J. M. (2002). The Work and Social Adjustment Scale: a simple measure of impairment in functioning. *The British Journal of Psychiatry*, 180(5), 461-464.

National Institute for Health and Care Excellence. (2018). Post-traumatic stress disorder. Retrieved from https://www.nice.org.uk/guidance/ng116

Ritchie, J., & Spencer, L. (2002). Qualitative data analysis for applied policy research. *The Qualitative Researcher's Companion*, 573(2), 305-29.

Srivastava, A. & Thomson, S. B. (2009). Framework Analysis: A Qualitative Methodology for Applied Research Note Policy Research. *Journal of Administration & Governance*, 4 (2).

Zahra, D., Qureshi, A., Henley, W., Taylor, R., Quinn, C., Pooler, J., ... & Byng, R. (2014). The work and social adjustment scale: reliability, sensitivity and value. *International Journal of Psychiatry in Clinical Practice*, 18(2), 131-138.

Weiss, D.S. (2007). The Impact of Event Scale: Revised. In: Wilson, J.P., Tang, C.Sk. (eds) *Cross-Cultural Assessment of Psychological Trauma and PTSD*. *International and Cultural Psychology Series*. Springer, Boston, MA. https://doi.org/10.1007/978-0-387-70990-1_10

Theoretically Driven Research Project

Victoria Skibsted Nielsen

Victoria.Nielsen@hmc.ox.ac.uk

Is Anthropomorphism Unique to Hoarding Disorder? A comparison of hoarding, OCD, and non-hoarding collectors

---

Word Count: 5, 454

20.06.22

Internal supervisor(s): Professor Paul Salkovskis

External / field supervisor(s): Dr Victoria Bream

Journal for submission: *Journal of Clinical Psychology. Chosen as contributing towards the theoretically evidence based of hoarding disorder in context of clinical psychology, in line with the journals aims (Appendix G).*

ABSTRACT

Background: Hoarding disorder (HD) has a detrimental impact on the wellbeing of the individual with the disorder and those around them. Rather than being a unitary disorder, HD may represent a "final common pathway", with multiple factors responsible for clutter arising from some combination of excessive acquisition and problems discarding. Clinically, it has been suggested that anthropomorphising (the attribution of human-like characteristics to non-human objects) may be one such factor. **Objectives:** The current study hypothesised that anthropomorphising would be greater for possessions than non-owned objects, and that individuals experiencing HD would anthropomorphise to a greater extent than those with Obsessive-Compulsive Disorder (OCD) in the absence of significant hoarding tendencies and to two non-clinical comparison groups (people identifying as 'collectors' and members of the general population without collecting or hoarding tendencies). **Method:** A new scale to measure anthropomorphising of owned-possessions and non-owned objects was developed and evaluated in a cross-sectional study in 499 participants. Four criterion groups were constituted: HD, OCD, 'Collectors' and controls. **Results:** Those with HD anthropomorphised to a greater extent than collectors and controls but did not differ from the OCD group. There was no difference anthropomorphism between own-possessions and unowned-objects. The results suggest that anthropomorphism may contribute to hoarding behaviours, but the high scores in the OCD group require further research clarification. **Conclusion:** Anthropomorphism is prominent in both hoarding difficulties and OCD.

INTRODUCTION

Hoarding behaviours are surprisingly common in the general population, with pathological hoarding prevalence estimated to be 2.5% (Postlethwaite et al., 2019). For individuals who meet clinical criteria for Hoarding Disorder (HD), the impact of hoarding behaviours can be severely detrimental to their wellbeing and typically also that of those around them (Kellett et al., 2010). Other consequences of HD are wide ranging: pathological hoarding behaviours affect the individual's day-to-day functioning and quality of life (Ong et al., 2015), often cause conflict with those closest to them (Tolin et al., 2008) and place financial burden on themselves and other organisations (Frost et al., 2000).

HD was only recently defined as a distinct disorder, characterised by the excessive acquisition of belongings and difficulties saving and subsequently discarding such belongings, leading to the accumulation of clutter rendering living space unavailable for its primary purpose (American Psychiatric Association & Association, 2013). Increasingly psychological understanding of HD suggests that, rather than being a unitary psychological disorder, the clinical manifestation represents the result of multiple different psychological processes which lead to a "final common pathway", *viz* clutter arising from some combination of excessive acquisition and problems discarding.

Early psychological models of HD include the cognitive behavioural model of compulsive hoarding (Frost & Hartl, 1996; Steketee & Frost, 2003), which proposes that hoarding is a multifaceted difficulty characterised by four key features: deficits in information processing, difficulties forming emotional attachments, behavioural avoidance and erroneous beliefs about the nature of possessions. Another recent cognitive model suggests that meaning is primary and suggests that HD is characterised by at least three cognitive dimensions motivating acquisition and retention, namely: harm avoidance, fear of material deprivation or attachment disturbance (Seaman et al., 2010). The current study considers the third factor. Previous research has shown that individuals who hoard have greater emotional attachment to their possessions (termed "hypersentimentality") in comparison to individuals who do not hoard (Frost et al., 1995; Frost & Hartl, 1996; Gordon et al., 2013). The

majority of research in relation to object attachment within HD has focused on owned-objects, however it has been suggested that future studies should explore object attachment regardless of ownership (Mathes et al., 2020). Research has shown that individuals with hoarding tendencies can develop strong immediate attachments to objects despite a lack of personal experience with an object, however in general attachments to objects have been shown to moderately increase over time (Grisham et al., 2009).

One of the possible ways in which individuals with HD form an abnormal attachment to objects may be through anthropomorphising (the attribution of human characteristics to non-human objects) (Timpano & Shaw, 2013). Anthropomorphising involves attributing human affects and/or mental states to non-humans (Airenti, 2018). The majority of research outside of HD has focused on nonhuman animals (Epley et al., 2007), but there is growing interest in anthropomorphism in the context of consumerism (Blut et al., 2021). Research has indicated that anthropomorphism recruits the same neural mechanisms used to understand fellow humans (Urquiza-Haas & Kotrschal, 2015), indicating that anthropomorphism is a social process. Epley and colleagues (Epley et al., 2007) proposed a three-factory theory suggesting humans are more likely to anthropomorphise under the following conditions: 1) Elicited agent knowledge: when anthropomorphic knowledge of a non-human object is accessible and applicable 2) Effectance motivation: when motivated to explain and understand a non-human object 3) Sociality motivation: when lacking connection with others. Given that object attachment has been shown to mediate the relationship between loneliness and hoarding behaviours (Yap et al., 2020), it may be that the sociality motivation is particularly relevant for those with HD. However, it is important to note that loneliness has not been uniquely associated with HD, but also other clinical disorders such as OCD (Barton et al., 2021).

Mathes et al (2020) suggest that maladaptive cognitions and dysfunctional attachment may underlie hoarding behaviours, with anthropomorphism as a possible candidate mechanism by which abnormal attachment to objects may occur. Such anthropomorphising may for example lead an individual with hoarding difficulties to feel responsible for an object's wellbeing and protection, leading to a

reluctance to discard otherwise useless possessions. Some studies have found an association between the presence of anthropomorphism and hoarding scores (Timpano & Shaw, 2013; Neave et al., 2015; Neave et al., 2016; Burgess et al., 2018; Yap & Grisham, 2019; Stewart, 2019). However, these studies have predominately employed correlational (regression) designs in younger general population or student samples, and it is possible that these correlations may reflect the impact of general negative affectivity. Categorisation research has found that those with HD present with underinclusive categorisation and longer organising times for objects they own compared to those they do not own (Wincze et al., 2007; Luchian et al., 2007; Grisham et al., 2010). It is thought this finding may be related to the meaning individuals attach to personal objects which consequently influences their decision-making. Further, anthropomorphism has been shown to play a role in attachment towards both previously owned (Timpano & Shaw, 2013; Burgess et al., 2018) and newly acquired (Timpano & Shaw, 2013) objects in the context of hoarding behaviours, There is some preliminary evidence from non-clinical samples suggesting that general anthropomorphism may be more important in relation to developing an attachment towards newly acquired objects compared to their most valued object (Timpano & Shaw, 2013).

To demonstrate the importance of anthropomorphism to HD, it is important to evaluate whether elevated levels of anthropomorphism are specifically present in those with demonstrable hoarding difficulties, or whether it might also be similarly elevated in other populations (both clinical and nonclinical) with somewhat overlapping behavioural and cognitive patterns. A particularly interesting comparison group would be those who could be described as "non hoarding collectors"; that is, people who have an affinity for and value special objects which are systematically accumulated, taken out of normal use and retained. Collectors have similar collecting tendencies to individuals with HD (such as high levels of acquisition and emotional attachment to objects), however do not experience the detrimental functional and emotional difficulties seen in hoarding (Nordsletten et al., 2013). Therefore, collectors have been suggested to be an 'optimal population' compare to hoarding populations in order to define the diagnostic boundaries of HD (Nordsletten & Mataix-Cols., 2012). Research has shown that normative collectors can be differentiated from hoarders based on specific

criteria (Nordsletten & Mataix-Cols., 2012; Mataix-Cols et al., 2013). If anthropomorphism was found to occur in HD but not within other comparable groups, this may suggest that anthropomorphism contributes to the adverse effects of HD and therefore may be a promising treatment target.

The purpose of the current study is to access whether anthropomorphic tendencies are elevated in HD compared to other comparable groups and whether anthropomorphic tendencies differ towards unowned objects compared to owned possessions. In order to explore these research questions, we separately developed two novel measures as there were none currently available to address these issues adequately: a measure of anthropomorphism (separated for owned possessions and unowned objects) and a collectors measure (a measure developed to differentiate hoarders from collectors) were devised. Based on previous findings (Timpano & Shaw, 2013; Neave et al., 2015; Neave et al., 2016; Burgess et al., 2018; Yap & Grisham, 2019; Stewart, 2019), we hypothesise that higher levels of anthropomorphism would be present in HD compared to general population controls, collectors and people experiencing OCD. Secondly, although some evidence suggests that anthropomorphism is elevated for newly acquired items (which suggests that length of exposure to an object may not inflate anthropomorphic tendencies) other evidence has shown that attachments to objects moderately increase over time (Grisham et al., 2009). We hypothesise here that anthropomorphising will be more prominent for owned items as attachments.

METHOD

The study used quantitative methodology and employed a criterion group design based on self-identification as belonging to one of the specified groups, further validated by questionnaire scores. Data were collected via an anonymised online survey. This method was chosen in order to facilitate the large number of participants needed to validate novel measures and to manage restrictions imposed by the COVID-19 pandemic. In total, 1,116 individuals accessed the online survey. Of those, 605 individuals did not complete the full set of measures, five individuals were excluded from participation as they were under the age of 18 and three individuals withdrew their participation following the information sheet. Five hundred and three participants completed the survey in its entirety. Four participants withdrew from the survey following its completion, leaving 499 participants in total as the main data set.

Participants and Inclusion/Exclusion Criteria:

All participants indicated that they were over 18 and consented to taking part in the study. Due to the ongoing COVID-19 pandemic, online opportunistic sampling was employed to recruit all participants. Individuals for the index and clinical control groups were recruited from charity organisations (including Hoarding UK, Hoarding Disorders UK, Clouds End, Help for Hoarders, OCD UK, and OCD Action), online support groups and forums. Community controls were recruited from online social media platforms, such as Instagram, Twitter, Facebook, Pinterest and Reddit.
The four criterion groups were as follows:

1. **Index group (HD group):** Individuals exceeding the clinical cut-off (score >41) for HD on the Savings Inventory- Revised (SI-R) and below cut-off on the other measures (score <21 on the Obsessive-Compulsive Inventory- Revised (OCI-R) & <18 on the Collecting Behaviours Questionnaire (CBQ)).
2. **Clinical controls (OCD group):** Individuals meeting or exceeding the clinical cut-off (>21 on the OCI-R) for OCD on the Obsessive-Compulsive Inventory- Revised (OCI-R) and scoring below

30 on the SI-R (as the HD group was our primary group of interest and we aimed to ensure between group comparisons were as characteristic as possible of the clinical or control populations that they represented).

3. **'Collector' Community Controls:** Community Controls who engage in collecting behaviours: Individuals who consider themselves to be 'collectors', meet a pre-determined cut-off of >18 on the raw total CBQ score (devised as part of this research), scoring below 30 on the SI-R and below 21 on the OCI-R.

4. **Community Controls:** Individuals who do not engage in collecting behaviours: Individuals without significant collecting tendencies, who score below 30 on the SI-R, below 21 on the OCI-R and did not identify as collectors.

For between groups analysis, participants scoring above 30 on the SIR-R were excluded from group without hoarding tendencies (controls, collectors and OCD) to ensure relatively 'pure' groups were identified from larger samples. The criterion groups were identified in relation to clinical cut-offs on the questionnaires assessing psychopathology. On this basis, 72 individuals were removed from the control (22), HD (28) and collectors (22) groups due to high SI-R scores. In the process of recruiting the above groups, we identified 86 individuals reaching the thresholds for both HD and OCD (above 41 on the SI-R and above 21 on the OCI-R)- in line with the data analytic plan, this group was excluded from the main analysis. The total number of participants whose data was analysed for the group comparison was 341: 166 in the 'Collector' group, 47 in the OCD group, 66 in the HD group and 62 in the control group. For factor analyses, the full sample of 499 was used.

Power analysis Calculation:

An initial power calculation was conducted using G power for an independent variable (Group Type) with four separate groups and a primary dependent variable (Anthropomorphism Measure), with an alpha level set at 0.05 and 80% power to detect an effect of F=0.25. We estimated that a total sample size of 180 (45 per group) would be required in order to detect this medium effect size.

Measures

Demographic information regarding gender, ethnicity, employment status, highest level of educational attainment, psychiatric diagnoses and substance dependence were collected to compare characteristics of the criterion groups. A number of standardised measures were used to characterise the criterion groups, including the *Savings Inventory-Revised* (SI-R: Frost et al., 2004), the *Obsessive-Compulsive Inventory- Revised* (OCI-R: Foa et al., 2002), the *Generalised Anxiety Disorder-7* (*GAD-7*: Spitzer et al., 2006), the *Patient Health Questionnaire-9* (*PHQ-9*: Kroenke & Spitzer, 2002) and a new measure developed for the current study, the *Collecting Behaviours Questionnaire (CBQ: Nielsen et al., 2022).* Further, two questionnaires on anthropomorphism were developed to assess the main outcome measure, namely the *Anthropomorphism of Owned-Possessions Questionnaire and Anthropomorphism of Unowned-Objects Questionnaire (AOPQ & AUOQ: Nielsen et al., 2022).*

Following a review of previous measures, we found that in order to answer our specific research questions we were required to develop two new measures. Firstly, a measure to distinguish collecting behaviours from hoarding behaviours, as no such measure currently existed. Secondly, we required a new anthropomorphism measure as existing anthropomorphism measures did not include a distinction between owned and unowned inanimate objects and included items we thought were not specific to the anthropomorphism of inanimate objects (as seen in HD), such as anthropomorphism towards the weather and pets.

For the test conceptualisation phase, we defined anthropomorphism as "the showing or treating of objects as if they are human in appearance, character, or behaviour" (Cambridge University Press, 2020). For the CBQ, we reviewed the literature on the differences between collectors and hoarders (Nordsletten & Mataix-Cols, 2012; Mataix-Cols et al., 2013) and devised items based on distinguishing features, such as clutter, discarding practices, distress, functional and social impairment, focus of items, organisation and acquisition type (purposeful or passive). During the test

construction phase, items were devised by three experts by experience (one for the anthropomorphism measure and two for the CBQ) and the current research team, which included experts in the field. For the anthropomorphism measure, we reviewed items from previous measures and excluded items that did not relate to inanimate objects, referred to past anthropomorphism (such as childhood) and questions we felt did not pertain to objects being alive.

For both measures, we decided to use Likert scales (Likert, 1932) as they tend to demonstrate good reliability, are simple and are intuitive. Further, we agreed on negative and positive scales as we felt this may be useful to quickly assess the inclinations of a given participant (anthropomorphising/not anthropomorphising or collector/hoarder).

At the test try out phase, the same EbE's and two student reviewers gave feedback on the relevance/irrelevance of the items and the use of jargon, value laden or offensive content, lack of ambiguity, construct under-representation, face and ecological validity and amendments were made based on the collective feedback. All participants completed all measures. For the CBQ, an initial score of 13 was determined for cut-off as this score indicated predominant identification with collecting over hoarding tendencies, specifically participants typically will have agreed to some extent with most of the questionnaire items.

Please find a summary of all measures in Table 10.

Table 10

Overview of Measures

Measure	Summary	Reliability and/or Validity
Saving Inventory-Revised (SI-R)	The SI-R is a measure used to assess the severity of the key symptoms of HD via subscales, namely: clutter (C), difficulty discarding (DD) and excessive acquisition (EA), with subscales for each. It measures the level of distress and interference associated with each of the symptoms. The questionnaire includes 23 items in total, asking participants to rate each on a five-point Likert scale, such as "How much control do you have over your urges to save possessions?". Scores over 41 indicate the presence of HD.	The SI-R has been shown to have good internal consistency as a whole and for its subscales (α =.92 and α > .87, respectively; Frost et al., 2004). The internal consistency for the current data was high for the measure as a whole (α=.96) and for the clutter (α=.95), difficulty discarding (α=.93) and acquisition (α=.87) subscales.
Obsessive-Compulsive Inventory- Revised (OCI-R)	The OCI-R is an 18-item measure of the frequency and distress associated with obsessions and compulsions related to OCD (including subscales of washing (W), checking (CH), ordering (OR), obsessing (OB), hoarding (H), and neutralizing (N)). Each item, such as "I have saved up so many things that they get in the way", is	This questionnaire has been shown to have adequate test-retest reliability and validity (Huppert et al., 2007). This measure has demonstrated high internal reliability for the measure as a whole (α = .84) and modest reliability for the obsessing (α = .88), washing (α = .69),

	scored on a scale of 0–4 (0 = Never and 4 = Almost always). A cut off score of 21 is indicative of the presence of OCD.	checking (α = .87), neutralizing (α = .57), ordering (α = .89) and hoarding (α = .93) subscales (Gordon et al., 2013). The internal consistency for the current data was high for the measure as a whole (α=.92) and for the Washing (α=.86), Obsessing (α=.92) Hoarding (α=.79), Ordering (α=.88) Checking (α=.80) and Neutralising (α=.84) subscales.
Generalised Anxiety Disorder-7 (*GAD-7)*	The GAD-7 is a seven-item questionnaire designed to measure the severity of generalised anxiety. Each item is rated using a Likert scale of zero to three (zero indicating 'not at all', one indicating 'several days', two indicating 'half the days' and three indicating 'nearly every day). Scores between the range of 0-4 indicate minimal symptoms, of 5-9 indicate mild anxiety, of 10-14 indicate moderate anxiety and of 15-21 indicate severe anxiety.	The measure has been shown to have good internal reliability (α = .92; Spitzer et al., 2006). The internal consistency for the current data was also high (α=.94).
Patient Health Questionnaire-9 (*PHQ-9)*	The PHQ-9 is a nine-item questionnaire used to indicate the severity of depression. Items measure the frequency of symptoms associated with depression over the previous two weeks using a Likert scale (0 indicating 'not at all', 1 indicating 'several days', 2 indicating more	The measure has been shown to have good internal reliability (α = .89; Kroenke et al., 2002). The internal consistency for the current data was also high (α=.91).

than half the days, and 3 indicating 'nearly every day'). Scores between the range of 5–9 indicate minimal symptoms, of 10-14 indicate mild depression, of 15–19 indicate moderately severe depression and of 20+ indicate severe depression.

Collecting Behaviours Questionnaire (CBQ)

This measure was developed by the research team to differentiate hoarding behaviours from collecting behaviours in an attempt to define the extent of collecting in the collectors group. This was developed as an 18-item questionnaire used to access the extent to which an individual's collecting behaviours conform to collecting as opposed to hoarding items (*Appendix H*). Response options range from a scale of totally disagree to totally agree on a six-point scale. Two individuals who identify as collectors were employed to verify their personal experience to help capture missing elements during the development phase.

An initial score of 13 was determined for cut-off as this score indicated predominant identification with collecting over hoarding tendencies, specifically participants typically will have agreed to some extent with most of the questionnaire items. The questions

The 16- item CBQ was found to have high overall reliability (internal consistency) in this sample (Cronbach's $\alpha = .92$). Two subscales were identified in factor analysis: The Affinity for Collecting (CBQ-A) subscale ($\alpha = .92$) showed good reliability, and (Un)problematic Collecting (CBQ-U) subscale ($\alpha=.77$), moderate reliability.

related to items which the participant collected. A collection was defined in the measure as a physical group of objects that someone has collected as a hobby or an investment. To classify as a collection, this set of linked or themed objects or items must have been kept and categorised in an ordered way. If participants did not identify themselves as a collector, participants were asked to rate the items in reference to general items they have in their home. This was to allow for the wider validation of the CBQ within this sample.

Anthropomorphism of Owned-Possessions Questionnaire and Anthropomorphism of Unowned-Objects Questionnaire (AOPQ and AUOQ)

Anthropomorphism in relation to possessions (items owned) and general objects (items not owned) was assessed via two separate questionnaires (*Appendix I & J*). Two questionnaires were developed to assess the primary hypothesis, using inspiration from the (Graves Anthropomorphism Task Scale (GATS): Burgess et al, 2018) and novel questions that capture the following definition of anthropomorphism: "the showing or treating of *objects* as if they are human in ***appearance, character, or behaviour***" (Cambridge University Press, 2020). Two 17-item questionnaires were used to indicate the extent to which the individual anthropomorphises either their

The 17- item AOPQ was found to have high overall reliability (internal consistency) in this sample (Cronbach's α = .95). The "Owned-Possessions are Alive" (AOPQ-A) subscale (α = .95), and "Owned-Possessions Evoke Strong Feelings" (AOPQ-F) subscale (α=.84), both demonstrated good reliability. The 17- item AUOQ was found to have high overall reliability (internal consistency) in this sample (Cronbach's α = .95). The "Unowned-Objects are Alive" (AUOQ-A) subscale (α = .95), and "Unowned-Objects Evoke Strong Feelings" (AUOQ-F)

owned-possessions or unowned-objects, answered on a scale of totally disagree to totally agree. A service user who had been diagnosed with HD and identified with anthropomorphising worked with us to incorporate their personal experience.

subscale (α=.85), both demonstrated good reliability.

Procedure

This project was reviewed by, and received ethics clearance through, a subcommittee of the University of Oxford Central University Research Ethics Committee (Approval Reference: R77127/RE001 (*Appendix K*). Please see *Appendix L* for further details on governance procedures. Advertisements were specifically targeted to the populations we aimed to recruit, specifically individuals with hoarding difficulties, OCD and collecting behaviours The Qualtrics online survey included the study documents in their entirety, including the information sheet (including consent form (*Appendix M*), measures, and debrief (*Appendix N*). All questionnaires were administered at the same time and in the same order. Participants who had further questions or who were hesitant about taking part were offered a telephone call or messenger contact to provide further information and support completing the measures.

Data Analytic Plan

Demographic and descriptive data were employed to characterise the sample and groups. Using the entire original sample of 499, a factor analysis of the novel measures was conducted. A principal components factor analysis with a varimax rotation was used to derive factors. PCA was chosen as the aim of this exploratory analysis was to reduce the data and pull out the underlying components of the measure, by reducing the number of variables while retaining the most amount of information in the data. Kolmogorov–Smirnov tests for the full sample indicated that the questionnaires used passed requirements for normality. Factors were determined by reviewing the eigenvalue-one criterion (Kaiser, 1960), the proportion of total variance explained, the scree plots and the interpretability criteria (retaining the ‘simple’ structure’- whereby each variable loads strongly on one component only and each component loads strongly on at least three variables). Typically, items were included within a factor if they loaded above .3 on one factor and did not load above .3 on another factor. Items that loaded highly on both factors were removed in order to retain a ‘simple’ structure’.

For between group analyses, demographic and descriptive data were analysed using chi-square or ANOVA, as appropriate. Where more than one subscale was involved, a mixed model ANOVA was carried out, with subscale as the within-subjects factor and criterion group as the grouping factor. If significant interactions were found, follow up simple main effects analyses with appropriate multiple comparisons were planned. For repeated measures ANOVA, sphericity was tested; where the Mauchley's coefficient was found to be significant, the Greenhouse Geisser correction was applied.

To assess whether higher levels of anthropomorphism were present in the HD group and whether anthropomorphising was more prominent for owned items, a two x four mixed model ANOVA was planned, with two levels of the within-subjects factor (Independent Variable 1- Item Type: Owned-Possessions vs Unowned-Objects) and four levels of the between-subjects factor (Independent Variable 2- Group: HD, OCD, Collectors and Controls), with anthropomorphism as the dependant variable. Normality was assessed via Kolmogorov–Smirnov tests. In the ANOVAs, the Levene's and Box's M test were used to test for homogeneity of variance and covariance respectively, when the Levene tests were significant, Dunnett T3 was used for multiple comparisons.

RESULTS

Participants

Characteristics of the larger sample (499 participants) and each criterion group are summarized in Table 11 and 12. For factor analyses, all 499 participants were included; for analyses specifying group, sample sizes are indicated in the tables.

Factor Analysis of New Measures

Data met Tinsley & Kass (1979) recommendations (10 participants per variable) with a total sample of 499. For the factor analysis procedure for the CBQ & AUOQ, please see appendices O and P, respectively.

Anthropomorphism of Owned-Possessions Questionnaire (***AOPQ)***

Using the entire sample of 499, a principal component factor analysis was conducted on the original 17 items with varimax rotation. The Kaiser-Meyer-Olkin measure was .95 (Kaiser, 1974) and the Bartlett's test of sphericity was significant ($p < .001$) (Bartlett, 1954) indicating that the measure was suitable for factor analysis.

Two factors were retained, which together explained 70% of the variance and a qualitative review of the items indicated acceptable coherence in construct. Factor One represents 'Owned-Possessions are Alive' (AOPQ-A): the highest loading was on item 11: 'I think that my possessions sometimes appear sad and / or happy'). Factor Two represented 'Owned-Possessions Evoke Strong Feelings' (AOPQ-F): the highest loading was on item 3: 'If I lost my possessions, I would mourn them"). Four items (1, 2, 5 & 16) loaded highly and similarly on both factors and so were not included in any subsequent analysis; therefore 13 items were retained in the two factors. Please see *Appendix Q* to view the item loadings for each factor.

Group Comparisons

Demographic variables between groups

The demographic and descriptive results for group classification can be found in Table 11.

Table 11

Summary of Demographic Measures.

Demographic	HD Group N= 66	OCD Group N= 47	Collectors Group N= 170	Control Group N= 58
Age Mean (SD)	46.85[a] (12.56)	31.19[b] (8.99)	41.61[a, c] (14.51)	37.21[c] (12.97)
Range	18-74	19-58	18-77	18-73
Gender (%)				
Male	8 (12.1)	9 (19.1)	47 (27.6)	13 (22.4)
Female	55 (83.3)	33 (70.2)	109 (64.1)	44 (75.9)
Non-Binary/Third Gender	3 (4.5)	4 (8.5)	12 (7.1)	1 (1.7)
Other	0 (0)	1 (2.1)	1 (0.6)	0 (0)
Prefer Not To Say	0 (0)	0 (0)	1 (0.6)	0 (0)
Ethnicity (%)				
White	60 (90.9)	42 (89.4)	145 (85.3)	46 (79.3)
Black	2 (3)	0 (0)	0 (0)	1 (1.7)
Asian	1 (1.5)	1 (2.1)	2 (1.2)	3 (5.2)
Mixed	0 (0)	3 (6.4)	12 (7.1)	2 (3.4)
Other	2 (3)	1 (2.1)	9 (5.3)	6 (10.3)
Prefer Not To Say	1 (1.5)	0 (0)	2 (1.2)	0 (0)
Education (%)				
Did not complete secondary school	2 (3)	1 (2.1)	11 (6.5)	1 (1.7)
Secondary school	10 (15.2)	11 (23.4)	24 (14.1)	10 (17.2)

Sixth form/college	12 (18.2)	4 (8.5)	30 (17.6)	10 (17.2)
Undergraduate degree	29 (43.9)	16 (34)	62 (36.5)	10 (17.2)
Post-graduate degree	12 (18.2)	14 (29.8)	41 (24.1)	26 (44.8)
Prefer not to say	1 (1.5)	1 (2.1)	2 (1.2)	1 (1.7)
Employment (%)				
Employed (1-39 hrs)	19 (28.8)	15 (31.9)	45 (26.5)	24 (41.4)
Employed (40+ hrs)	17 (25.8)	15 (31.9)	75 (44.1)	24 (41.4)
Not employed, looking	4 (6.1)	2 (4.3)	4 (2.4)	0 (0)
Not employed, not looking	4 (6.1)	2 (4.3)	12 (7.1)	0 (0)
Retired	8 (12.1)	0 (0)	17 (10)	4 (6.9)
Disabled	9 (13.6)	5 (10.6)	5 (2.9)	4 (6.9)
Other	5 (7.6)	8 (17)	12 (7.1)	2 (3.4)
Prefer Not to Say	0 (0)	0 (0)	0 (0)	0 (0)
Household (%)				
Alone	16 (24.2)	6 (12.8)	30 (17.6)	8 (13.8)
Parents	6 (9.1)	9 (19.1)	11 (6.5)	4 (6.9)
Partner	21 (31.8)	17 (36.2)	73 (42.9)	28 (48.3)
Children	7 (10.6)	4 (8.5)	4 (2.4)	0 (0)
Housemates	3 (4.5)	0 (0)	6 (3.5)	5 (8.6)
Other	13 (19.7)	11 (23.4)	45 (26.5)	12 (20.7)
Prefer Not To Say	0 (0)	0 (0)	1 (0.6)	1 (1.7)
Income (%)				
£0 – £9,999	3 (4.5)	3 (6.4)	6 (3.5)	2 (3.4)
£10,000 – £19,999	9 (13.6)	4 (8.5)	9 (5.3)	2 (3.4)
£20,000 – £29,999	10 (15.2)	2 (4.3)	7 (4.1)	2 (3.4)
£30,000 – £39,999	8 (12.1)	3 (6.4)	9 (5.3)	8 (13.8)
£40,000 – £49,999	6 (9.1)	5 (10.6)	12 (7.1)	2 (3.4)
£50,000 – £59,999	3 (4.5)	4 (8.5)	17 (10)	0 (0)

£60,000 – £69,999	3 (4.5)	5 (10.6)	13 (7.6)	9 (15.5)
£70,000 – £79,999	3 (4.5)	4 (8.5)	15 (8.8)	3 (5.2)
£80,000 – £89,999	4 (6.1)	1 (2.1)	10 (5.9)	1 (1.7)
£90,000 – £99,999	2 (3)	2 (4.3)	9 (5.3)	3 (5.2)
£100,000 or more	4 (6.1)	7 (14.9)	34 (20)	13 (22.4)
Prefer Not to Say	11 (16.7)	7 (14.9)	29 (17.1)	13 (22.4)
Substance Dependence (%)				
Yes	1 (1.5)	2 (4.3)	6 (3.5)	1 (1.7)
No	65 (98.5)	45 (95.7)	164 (96.5)	57 (98.3)
Major Mental Illness (%)				
Yes	18 (27.3)	7 (14.9)	22 (12.9)	7 (12.1)
No	48 (72.7)	40 (85.1)	148 (87.1)	51 (87.9)

Note.[a,b c, d,] *Means that do not share the same superscript horizontally are significantly different on multiple comparison ($p < .05$). Abbreviations: N = Number, SD = Standard Deviation.*

There was a significant main effect of group for age ($F_{(3\ 337)} = 14.38$, $p < .001$); see Table 11 for multiple comparisons. There were no significant associations between the group and gender (χ^2 (12) = 14.63, $p = .26$), ethnicity (χ^2 (15) = 20.84, $p = .14$), Education (χ^2 (15) = 24.07, $p = .06$) and substance dependence (χ^2 (3) = 1.27, $p = .74$). Significant associations were found between group and Employment (χ^2 (18) = 38.28, $p = .004$), Household (χ^2 (18) = 32.21, $p = .02$), Income (χ^2 (33) = 49.35, $p = .03$) and Major Mental Illness (χ^2 (3) = 8.20, $p = .04$); MMI was not further analysed due to the nature of sampling. Using partitioned Chi-square analyses, it was found that the OCD group were more likely to have lived with their parents compared to the collectors (χ^2 (6) = 13.21, $p = .04$) and controls (χ^2 (6) = 13.94, $p = .03$). Significantly more controls were employed than the HD group (χ^2 (6) = 13.86, $p = .031$) and OCD group (χ^2 (6) = 14.88, $p = .021$). Significantly more of the collectors were employed than the HD group (χ^2 (6) = 15.59, $p = .016$) and OCD group (χ^2 (6) = 16.05, $p = .014$). Significantly more controls (χ^2 (11) = 24.51, $p = .011$) and collectors (χ^2 (11) = 25.59, $p = .007$) earnt over £100,000 relative to the HD group. All other chi-square analysis were not significant at the .05 level.

Questionnaire measures

For repeated measures ANOVA, all results indicated non-sphericity, therefore Greenhouse-Geisser adjustments were employed. Table 12 shows post hoc analyses (with Dunnett T3 adjustments) indicating significant differences between groups. Detailed results can be found in Appendix R.

Table 12

Summary of Clinical Measures (Patient Health Questionnaire-9 (PH9-9); Generalised Anxiety Disorder-7 (GAD-7); Savings Inventory Revised (SI-R); Obsessive-Compulsive Inventory- Revised (OCI-R)).

Means (SD) Range	**HD Group N= 66**	**OCD Group N= 47**	**Collectors Group N= 170**	**Control Group N= 58**
PHQ-9	10.05[a] (5.75)	11.43[a] (6.76)	5.00[b] (4.52)	5.55[b] (5.76)
GAD-7	6.17[a] (4.48)	10.72[b] (6.35)	3.53[c] (3.98)	3.9[c] (4.15)
SI-R Total	53.44[a] (9.33)	16.85[b] (6.91)	15.22[b] (7.19)	14.96[b] (7.72)
Difficulty Discarding	16.95[a] (4.49)	5.79[b] (3.03)	5.18[b] (3.45)	5.33[b] (4.01)
Clutter	22.11[a] (5.72)	4.34[b] (4.22)	4.24[b] (3.38)	4.36[b] (3.29)
Excessive Acquisition	14.39[a] (4.36)	6.72[b] (3.33)	5.79[b] (3.03)	5.28[b] (3.24)
OCI-R Total	15.56[a] (5.57)	29.98[b] (8.07)	8.20[c] (4.69)	8.84[c] (5.50)
Ordering	2.92[a] (2.38)	6.15[b] (2.84)	2.39[a] (1.86)	2.15[a] (2.22)
Hoarding	7.24[a] (2.32)	3.68[b] (2.51)	2.84[b] (1.59)	2.16[c] (1.60)
Obsessing	2.73[a] (2.36)	6.87[b] (3.57)	1.29[c] (1.73)	1.62[a, c] (2.43)

Washing	.48[a] (0.92)	4.17[b] (3.41)	.43[a] (1.11)	1.05[a] (2.27)
Checking	1.41[a] (1.75)	4.23[b] (2.85)	.72[c] (1.10)	1.48[a] (2.00)
Neutralising	0.77[a] (1.06)	4.87[b] (3.55)	.55[a] (1.00)	0.38[a] (0.81)
CBQ Total	4.56[a] (11.60)	14.21[b] (16.68)	24.91[c] (6.24)	4.43[a] (12.50)
Affinity for Collecting	4.73[a] (8.71)	7.55[a] (14.15)	14.90[b] (4.89)	-2.21[c] (10.66)
Unproblematic Collecting	-.17[a] (5.18)	6.66[b] (4.24)	10.01[c] (3.35)	6.64[b] (4.43)

Note.[a,b c, d,] Means that do not share the same superscript horizontally are significantly different on multiple comparison ($p < .05$). Abbreviations: N = Number, SD = Standard Deviation.

Analysis of Main Outcomes

Anthropomorphism Measure:

Based on the factor analysis, one of the factors ("owned-possession/unowned-objects evoke strong Feelings") relates to the individuals' emotional reaction to objects rather than attribution of human like characteristics, and therefore falls outside of our definition of anthropomorphism. We therefore only used the first factor ("owned-possession/unowned-objects are alive") in the primary analysis. A summary of descriptives related to the following analysis can be found in Table 13.

Table 13

Summary of Anthropomorphism of Owned-possessions Questionnaire (including Owned-Possessions are Alive (Alive) & Owned-Possessions Evoke Strong Feelings (ESF) Subscales), Anthropomorphism of Unowned-Objects Questionnaire (including Unowned-Objects are Alive (Alive) & Unowned-Objects Evoke Strong Feelings (ESF) Subscales), the combined Anthropomorphism score & the Beliefs About Hoarding Questionnaire (including Fear of Material Deprivation (FMD), Attachment Disturbance (AD), Harm Avoidance (HA) and Positive Emotions (PE) subscales).

Means (SD) Range	**HD Group N= 66**	**OCD Group N= 47**	**Collectors Group N= 170**	**Control Group N= 58**
AOPQ Total	-17.83[a] (17.34)	-19.28[a] (19.05)	-27.69[b] (9.77)	-31.05[b] (8.18)
ESF	-.38[a] (6.06)	-2.49[a, b] (6.67)	-3.32[b] (5.25)	-5.97[c] (4.50)
Alive	-17.45[a] (12.87)	-16.79[a] (13.59)	-24.38[b] (6.02)	-25.09[b] (4.71)
AUOQ Total	-22.50[a] (16.21)	-22.57[a] (19.65)	-32.12[b] (9.74)	-34.21[b] (7.55)
ESF	-4.38[a] (5.57)	-6.02[a, b] (5.85)	-7.34[b] (5.08)	-8.97[c] (4.21)
Alive	-18.12[a] (12.09)	-16.55[a] (14.75)	-24.78[b] (5.83)	-25.24[b] (4.59)
Anthropomorphism Total	-40.33[a] (32.56)	-41.85[a] (37.94)	-59.81[b] (18.70)	-65.26[b] (14.10)

Note.[a,b c, d,] Means that do not share the same superscript horizontally are significantly different on multiple comparison ($p < .05$). Abbreviations: N = Number, SD = Standard Deviation.

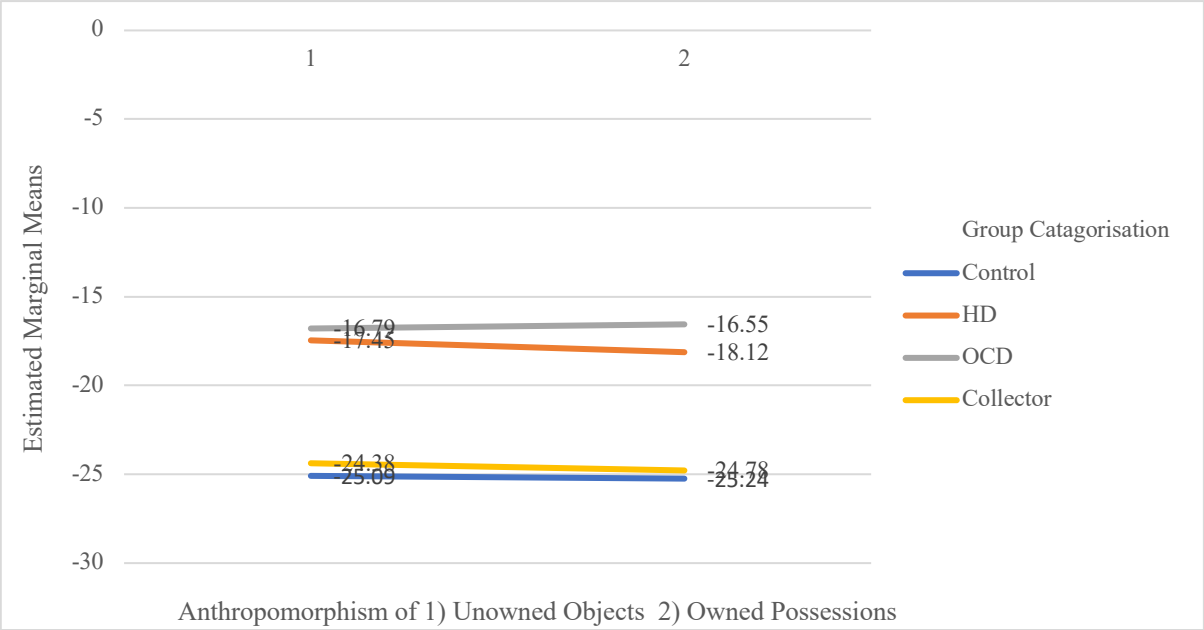
Main analysis: "Objects are Alive": Anthropomorphism (AOPQ-A and AUOQ-A):

A two (Within Subjects Factor: Item Type) x five (Between Subjects Factor: Group) ANOVA was completed to assess differences in anthropomorphism. There were 32 outliers present, however they were retained as they were thought to be genuine data points. For the entire sample, the Kolmogorov–Smirnov test of normality ($p < .001$) indicated that the data were not normally distributed however the skewness and kurtosis values were less than two, indicating an acceptable level of deviation. We proceeded with the parametric analysis as ANOVAs are fairly 'robust' to deviations from normality and we had a large sample size. Homogeneity of variances ($p < .001$) and covariances ($p < .001$) were not equal, as assessed by Levene's test of homogeneity of variances and Box's M test, respectively, therefore Dunnett T3 multiple comparisons were utilised.

There was not a significant main effect of owned-possessions vs unowned-objects ($F_{(1, 337)} = 1.303$, $p = .255$, $\eta 2 = .004$). Tests of between-subjects effects revealed there was a significant main effect of anthropomorphism by group ($F_{(3, 337)} = 18.482$, $p < .001$, partial $\eta 2 = .141$). Post Hoc tests using Dunnett T3 adjustments revealed that the HD group anthropomorphised more than the control ($p < .001$) and collectors ($p = .001$) groups but not the OCD ($p = .998$) group. There was no significant difference in anthropomorphising between collectors and controls ($p = .965$). There was no statistically significant interaction between the object type (unowned-objects vs owned-possessions) and group, $F(3, 337) = .659$, $p = .578$, partial $\eta 2 = .006$. A covariance analysis using age as a covariate was conducted due to there being differences between groups. This did not change the pattern of significance. Further, the analysis was repeated excluding the outliers, and yielded the same results.

Figure 5

Graph of between-group differences in owned-possessions and unowned-objects anthropomorphism Subscores.



DISCUSSION

The present study was designed to test the hypothesis that higher levels of anthropomorphism would be observed in individuals experiencing hoarding difficulties, relative not only to general population controls, but also to a clinical control group (OCD) and "collectors". This was partially upheld, whereby we found that individuals with hoarding difficulties anthropomorphised to a significantly greater extent towards their possessions than non-clinical controls, who crucially, were very similar in this respect to collectors. Unexpectedly, individuals with obsessive-compulsive difficulties resembled those with HD, and this finding was unlikely to be accounted for by comorbidity. We also predicted that anthropomorphising would occur to a lesser extent for objects which participants did not own across groups. This prediction was not upheld as there was no significant difference in anthropomorphising between owned possessions and unowned objects. Additionally, three new measures were developed for this study, the AOPQ, AUOQ and CBQ. All measures were shown to have good levels on internal consistency in the current sample. For the anthropomorphising measure,

one factor related to the person's feelings about objects, and has some overlap with hoarding belief; the other factor related to the idea of objects as alive and is a better measure of anthropomorphising for future use, uncontaminated by hoarding itself. Previous studies of the relationship between hoarding and anthropomorphism have been carried out in heterogenous samples and relied on correlations in unselected community samples. Typically, an association between anthropomorphism and hoarding measures has been noted without any indication of specificity (Neave et al., 2015; Neave et al., 2016; Burgess et al., 2018; Yap & Grisham, 2019; Stewart, 2019). A comparison with people with a collecting interest and those with OCD has not previously been reported. There has not previously been any indication of anthropomorphism in OCD.

An issue for the present study was the fact that two important measures were developed specifically for this study: as our novel measures have only been validated in the current sample, we cannot generalise their utility to other samples. Unfortunately we were unable to determine test-retest reliability for these measures due to time constraints. Group classification relied on self-identification of particular difficulties (in addition to scoring above a pre-determined cut off on different measures) for categorisation into groups. Although we cannot confirm whether the individuals in the clinical groups would meet diagnostic criteria for the clinical disorders they aimed to represent, this methodology allowed for the recruitment of the substantial numbers required for factor analysis of the three novel measures. Unequal sample sizes can affect the robustness of the equal variance assumption. ANOVA is considered robust to moderate departures from this assumption, however not when the sample sizes are considerably different. Where there are large standard deviations, unequal sample size alongside unequal variances can result in a reduction of power and inflated type 1 error rates. Issues with unequal sample sizes can occur in factorial ANOVA when the sample sizes are confounded in the two factors, however this is not possible in the currently sample as all participants completed both conditions of the within subject's factor. Regardless, due to the nature of the sample, Dunnett T3 post-hoc corrections were utilised within the analysis to account for the unequal variance

and unequal sample size of the sample, which allows tight Type I error control (Shingala & Rajyaguru, 2015).

Theoretical Implications

The current findings indicate that hoarding behaviours have an association with anthropomorphising. The observation of elevated levels of anthropomorphism in some individuals with hoarding difficulties may indicate that anthropomorphising is another distinct 'pathway' to hoarding, rather than anthropomorphising occurring for all people who hoard. Unlike previous literature finding differences between owned and unowned items (Wincze et al., 2007; Luchian et al., 2007; Grisham et al., 2010; Timpano & Shaw, 2013), the present study indicates that anthropomorphism does not differ between owned and unowned items, indicating that anthropomorphism may not be one of the contributing factors increasing the attachment formed with objects over time (Grisham et al., 2009).

There is not a clear explanation as to why anthropomorphism appears to occur in OCD to the same extent as HD, however, it may be that obsessional thought patterns (an inflated sense of responsibility for harm) extend to the nature of objects. Further, as both HD and OCD have been linked with loneliness, it may be that the need for 'sociality' (Epley et al., 2007) motivates these populations to anthropomorphise objects. The finding that the HD group anthropomorphised at significantly higher levels than the collectors group suggests that anthropomorphism may be a defining factor distinguishing the two collecting populations and may contribute to the adverse outcomes of HD.

Clinical Implications and Future research

Currently, treatment outcomes for HD are poor. Intervention adaptions that account for anthropomorphism may be successful in improving treatment for HD; identifying a subgroup with the highest level of anthropomorphism and evaluating its characteristics would be a helpful next step.

Future research should attempt to replicate these findings in verified clinical samples (using validated measures such as the SCID), as the current sample were only validated via self-report questionnaire cut-offs, therefore it cannot be determined whether the clinical groups met diagnostic criteria for their respective disorders. Currently, the novel measures are only validated in the current sample and have not endured rigorous reliability testing, therefore further research should aim to validate the three measures across different samples and assess test-retest reliability for these measures. Qualitative research specifically may be useful to understanding the phenomenology of anthropomorphism in both HD and OCD. This type of exploration could offer answers as to why, if individuals with OCD and HD anthropomorphise to same extent, both populations do not experience difficulties with hoarding. Further, qualitative research may be able to identify specific treatment targets.

REFERENCES

Airenti, G. (2018). The development of anthropomorphism in interaction: Intersubjectivity, imagination, and theory of mind. Frontiers in Psychology, 9, 2136.

American Psychiatric Association, D. S., & Association, A. P. (2013). Diagnostic and statistical manual of mental disorders: DSM-5 (Vol. 5). American psychiatric association Washington, DC.

Bartlett, M. S. (1954). Significance test for sphericity of a normal n-variate distribution. Journal of the Royal Statistical Society, 16, 296–298.

Barton, J. A. L., Salkovskis, P., & Walters, S. (2021). Investigating the diagnostic specificity of attachment and relational needs in hoarding disorder. Journal of Obsessive-Compulsive and Related Disorders, 30, 100659.

Blut, M., Wang, C., Wünderlich, N. v, & Brock, C. (2021). Understanding anthropomorphism in service provision: a meta-analysis of physical robots, chatbots, and other AI. Journal of the Academy of Marketing Science, 49(4), 632–658.

Burgess, A. M., Graves, L. M., & Frost, R. O. (2018). My possessions need me: Anthropomorphism and hoarding. Scandinavian Journal of Psychology, 59(3), 340–348.

Epley, N., Waytz, A., & Cacioppo, J. T. (2007). On seeing human: a three-factor theory of anthropomorphism. Psychological Review, 114(4), 864.

Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P. M. (2002). The Obsessive-Compulsive Inventory: development and validation of a short version. Psychological Assessment, 14(4), 485.

Frost, R. O., & Hartl, T. L. (1996). A cognitive-behavioral model of compulsive hoarding. Behaviour Research and Therapy, 34(4), 341–350.

Frost, R. O., Hartl, T. L., Christian, R., & Williams, N. (1995). The value of possessions in compulsive hoarding: Patterns of use and attachment. Behaviour Research and Therapy, 33(8), 897–902.

Frost, R. O., Steketee, G., & Grisham, J. (2004). Measurement of compulsive hoarding: saving inventory-revised. Behaviour Research and Therapy, 42(10), 1163–1182.

Frost, R. O., Steketee, G., & Williams, L. (2000). Hoarding: a community health problem. Health & Social Care in the Community, 8(4), 229–234.

Gordon, O. M., Salkovskis, P. M., & Oldfield, V. B. (2013). Beliefs and experiences in hoarding. Journal of Anxiety Disorders, 27(3), 328–339.

Grisham, J. R., Frost, R. O., Steketee, G., Kim, H.-J., Tarkoff, A., & Hood, S. (2009a). Formation of attachment to possessions in compulsive hoarding. Journal of Anxiety Disorders, 23(3), 357–361.

Grisham, J. R., Frost, R. O., Steketee, G., Kim, H.-J., Tarkoff, A., & Hood, S. (2009b). Formation of attachment to possessions in compulsive hoarding. Journal of Anxiety Disorders, 23(3), 357–361.

Grisham, J. R., Norberg, M. M., Williams, A. D., Certoma, S. P., & Kadib, R. (2010). Categorization and cognitive deficits in compulsive hoarding. Behaviour Research and Therapy, 48(9), 866–872.

Kaiser, M. O. (1974). Kaiser-Meyer-Olkin measure for identity correlation matrix. Journal of the Royal Statistical Society, 52(1), 296–298.

Kellett, S., Greenhalgh, R., Beail, N., & Ridgway, N. (2010). Compulsive hoarding: An interpretative phenomenological analysis. Behavioural and Cognitive Psychotherapy, 38(2), 141–155.

Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: a new depression diagnostic and severity measure. In Psychiatric annals (Vol. 32, Issue 9, pp. 509–515). SLACK Incorporated Thorofare, NJ.

Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 22 (140), 55.

Luchian, S. A., McNally, R. J., & Hooley, J. M. (2007). Cognitive aspects of nonclinical obsessive–compulsive hoarding. Behaviour Research and Therapy, 45(7), 1657–1662.

Mathes, B. M., Timpano, K. R., Raines, A. M., & Schmidt, N. B. (2020). Attachment theory and hoarding disorder: A review and theoretical integration. Behaviour Research and Therapy, 125, 103549.

Neave, N., Jackson, R., Saxton, T., & Hönekopp, J. (2015). The influence of anthropomorphic tendencies on human hoarding behaviours. Personality and Individual Differences, 72, 214–219.

Neave, N., Tyson, H., McInnes, L., & Hamilton, C. (2016). The role of attachment style and anthropomorphism in predicting hoarding behaviours in a non-clinical sample. Personality and Individual Differences, 99, 33–37.

Nordsletten, A. E., de la Cruz, L. F., Billotti, D., & Mataix-Cols, D. (2013). Finders keepers: The features differentiating hoarding disorder from normative collecting. Comprehensive Psychiatry, 54(3), 229–237.

Nordsletten, A. E., & Mataix-Cols, D. (2012). Hoarding versus collecting: Where does pathology diverge from play? Clinical Psychology Review, 32(3), 165–176.

Ong, C., Pang, S., Sagayadevan, V., Chong, S. A., & Subramaniam, M. (2015). Functioning and quality of life in hoarding: A systematic review. Journal of Anxiety Disorders, 32, 17–30.

Postlethwaite, A., Kellett, S., & Mataix-Cols, D. (2019). Prevalence of hoarding disorder: A systematic review and meta-analysis. Journal of Affective Disorders, 256, 309–316.

Seaman, C., Oldfield, V. B., Gordon, O., Forrester, E., & Salkovskis, P. M. (2010). The impact of symptomatic hoarding in OCD and its treatment. Behavioural and Cognitive Psychotherapy, 38(2), 157–171.

Shingala, M. C., & Rajyaguru, A. (2015). Comparison of post hoc tests for unequal variance. International Journal of New Technologies in Science and Engineering, 2(5), 22–33.

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. Archives of Internal Medicine, 166(10), 1092–1097.

Steketee, G., & Frost, R. (2003). Compulsive hoarding: current status of the research. Clinical Psychology Review, 23(7), 905–927.

Stewart, B. A. (2019). The emotional lives of objects: the role of affective anthropomorphism in hoarding disorder. University of British Columbia.

Timpano, K. R. & Shaw, A. M. (2013). Conferring humanness: The role of anthropomorphism in hoarding. Personality and Individual Differences, 54(3), 383–388.

Tinsley, H. E. A., & Kass, R. A. (1979). The latent structure of the need satisfying properties of leisure activities. Journal of Leisure Research, 11(4), 278–291.

Tolin, D. F., Frost, R. O., Steketee, G., Gray, K. D., & Fitch, K. E. (2008). The economic and social burden of compulsive hoarding. Psychiatry Research, 160(2), 200–211.

Urquiza-Haas, E. G., & Kotrschal, K. (2015). The mind behind anthropomorphic thinking: attribution of mental states to other species. Animal Behaviour, 109, 167–176.

Wan, E. W., & Chen, R. P. (2021). Anthropomorphism and object attachment. Current Opinion in Psychology, 39, 88–93.

Wincze, J. P., Steketee, G., & Frost, R. O. (2007). Categorization in compulsive hoarding. Behaviour Research and Therapy, 45(1), 63–72.

Yap, K., Eppingstall, J., Brennan, C., Le, B., & Grisham, J. R. (2020). Emotional attachment to objects mediates the relationship between loneliness and hoarding symptoms. Journal of Obsessive-Compulsive and Related Disorders, 24, 100487.

Yap, K., & Grisham, J. R. (2019). Unpacking the construct of emotional attachment to objects and its association with hoarding symptoms. Journal of Behavioral Addictions, 8(2), 249–258.

EXECUTIVE SUMMARY

What do we already know? Hoarding disorder (HD) is a diagnosable condition whereby individuals excessively collect belongings, leading to the development of 'clutter'. Such clutter leads to individuals with HD being unable to access and/or use their living space as intended: for example, they may not be able to use their kitchen to prepare and cook meals. This disorder has a detrimental impact on the wellbeing of the individual with the disorder but also to those around them, such as family, friends, and neighbours. It is thought that there are multiple ways by which an individual can develop this disorder: for example, HD may develop because people have difficulties forming connections with other people and therefore they seek comfort from objects, people may have difficulty throwing items away in fear of the items harming other people or they fear not having the items that they need in the future. Another way in which people may develop HD is thought to be 'anthropomorphising', in other words, viewing non-human objects as if they were human-like. A number of previous studies have found evidence that anthropomorphising is associated with hoarding difficulties.

What were our aims? The current study aimed to assess whether individuals with HD anthropomorphised more than individuals with similar thought processes and/or behaviours. For example, people with obsessive compulsive disorder (OCD) or people who consider themselves to be 'collectors'. Alike HD, OCD is a disorder whereby individuals have obsessive thoughts and compulsive behaviours, but do not experience hoarding difficulties. Similarly, collectors have similar collecting behaviours to HD, but this behaviour does not cause them distress or impact their functioning. This study also compared HD to individuals from the general population who did not have significant collecting or obsessive-compulsive behaviours, and a group of people experiencing both difficulties with hoarding and OCD.

What did we do? To assess this, an anonymous online survey was used to collect data from a total of 499 participants. The survey included measures on depression, anxiety, hoarding behaviours, obsessive compulsive behaviours, collecting behaviours and anthropomorphism. 72 participants were excluded as they indicated that they had high levels of collecting behaviours that were problematic, but they did not meet criteria for the HD group. They were excluded to ensure that all other groups were sufficiently distinct from the HD group. The remaining 347 participants were categorised into four groups dependant on their self-reported identification and difficulties, or lack of: HD, OCD, 'collectors' and controls. Three new questionnaires on collecting behaviours and anthropomorphism were created for this study, in order to distinguish collecting behaviours from hoarding behaviours and to assess our primary research question relating to anthropomorphism.

What did we find? The results revealed that the new measures were fit for purpose. Statical analysis also revealed both the HD and OCD groups anthropomorphised more than the collectors and the control groups. Individuals who took part in this study did not anthropomorphise to different extents towards their own belongings compared to general objects.

What does this mean? In summary, unexpectedly, individuals with OCD anthropomorphised to the same extent as individuals with HD. This may be because their obsessional thoughts processes also applied to the nature of objects. The findings also suggest that individuals with HD may anthropomorphise because they have difficulties connecting to other people. Future studies should try to understand why people with OCD anthropomorphise alike individuals with HD, however, do not develop hoarding difficulties. Currently, treatment outcomes for HD are poor and it may be helpful for treatment plans to include interventions targeting anthropomorphism for individuals with HD who anthropomorphise.

Psychological research has always been a passion of mine, hence one of the reasons why Oxford was my CDlin choice of preference. When I first started the doctorate, I found myself enthusiastic and motivated by the prospect of my research projects: however, I began to experience difficulties committing to research topics and I wished I would have spent more time prior to training exploring my research interests. Throughout this process, I have been confronted by my perfectionistic tendencies and have taken from this experience that my desire for excellence often negatively impacts the quality of my outputs. I found it reassuring to be guided through the research development process by several incredible academics, who have assisted me to focus my ideas and embrace realistic targets.

Academically and clinically, I have always been drawn towards anxiety related disorders. I recall one of my supervisors advocating that I ensure that my research projects were topics that I was passionate about, warning otherwise I would make this already difficult process increasingly challenging. Only now do I realise the true sentiment of this advice. My projects may seem quite diverse on the surface, however their cohesion is apparent when digging slightly deeper. All of my projects incorporate themes of attachment and relational difficulties across diverse presentations- 'hyper sentimentality' in relation to possessions, experiences of betrayal and interpersonal difficulties in the context of trauma. Below are further specific reflections on the three projects that comprise my thesis:

SIP

My SIP quickly reminded me of the time-consuming nature of qualitative research. This project was particularly meaningful to me as I had the opportunity to witness the direct impact research can have on quality of care first-hand. During the interviews, I noted that I was drawn to the negative service user feedback, over and above positive reflections on the intervention. I identified this bias early on

and became more aware of when this was happening during the interview and data analysis process, which allowed me to bring myself back to a more objective stance. Overall, I believe my SIP highlighted the importance of feasibility when developing a service-related project- in hindsight, I should have narrowed the scope of this project as it delayed progress with my other research and I will take this knowledge forward with me. Further, I realised the importance of allowing myself time to immerse myself in the data (rather than stepping in and out of the analysis) when conducting qualitative research. Further, I can now see the value in being somewhat distanced from the service you are evaluating to allow for impartiality. Interestingly, I noticed a sense of loss when leaving this service as I felt I had contributed significantly to their development by filling a gap in service provision, but rest assured that our work has made meaningful improvements to quality of care.

CRL

I noticed that my CRL caused the most procrastination of all three projects and acknowledge this was likely as mass amounts of reading and sustained attention were required. I found the monotony and isolation of this type of project challenging: reviewing hundreds of papers, combining qualitative and quantitative findings, and interpreting the overall picture independently was a momentous task that I often questioned my ability to achieve. This project allowed me to recognise the importance of essential (albeit time-consuming) reviews, as I believe my findings highlighted (hopefully fruitful) future directions, including gaps in this field. My CRL demonstrated the utility of considering the 'bigger picture', even when individual pieces of evidence may seem compelling at first glance. Further, I will make sure to consider the impact of betrayal experiences on all service users I work clinically with in the future.

TDRP

My TDRP was the project I was most passionate about initially, however COVID-19 impacted this study substantially, imposing numerous delays and amendments. This project provided me with many

new learning opportunities: designing several novel questionnaires with the support of a service user, managing online abuse in a professional manner and recruiting a large number of participants independently. The most enjoyable aspect of this project was the opportunities I had to connect with service users and engage members of the public with psychological research: I found this process extremely rewarding and insightful. I was struck by the messages I received from participants expressing the validation they gained purely from the knowledge that a researcher was interested in their stigmatised experiences. Although this project was the most challenging and anxiety-provoking, it was also the project via which I gained the most knowledge. I learned to embrace a 'good-enough philosophy' in light of adversity, that I could achieve seemingly implausible recruitment goals and demonstrated that I can still draw upon skills I have not utilised for years. Going forward, I can reassure myself that I can be flexible and lower my standards whilst still achieving meaningful results.

FUTURE DIRECTIONS

Post-qualification, I have always intended to incorporate research into my practice: I am still undecided whether this will be in a formal academic role or incorporated into my clinical work, or both! I have noticed that when I have been job searching, service improvement opportunities are at the forefront of my requirements. I very much look forward to attempting to publish all three projects and sharing my findings with the service users and members of the public who took their time to contribute to our research. However, I am aware I need to prioritise rest and recuperation before pursuing this goal.

ACKNOWLEDGEMENTS

Firstly, I would like to thank all of the participants and service users who took the time to participate in our studies or assist with the development of our projects, this research would not have been possible without their contributions. I also wish to thank the numerous charities that supported with recruitment, most notably Jo Cooke from Hoarding Disorders UK.

A special thank you to my main supervisor, Professor Paul Salkovskis, for the time he has dedicated to supporting my research and his endless enthusiasm. Further, thank you to my other supervisors (Dr Susannah Jenner, Dr Helen Close, Dr Cat Penn, Dr Ciorsdan Anderson, Dr Brynjar Halldorsson and Dr Victoria Bream) and to my course tutor, Dr Clare Borsay, for all of their contributions and assistance.

I would like to thank my cohort for their ongoing support and words of encouragement throughout the last three years. Also, thank you to my friends for their support and patience with my extended absences over this period. Last but not least, I would like to thank my husband, Stefan, for his unwavering belief in me and his (reluctant) willingness to hold the fort whilst I have been otherwise occupied!

APPENDICES

Appendix A: *Author Guidelines for Journal of Obsessive-Compulsive and Related Disorders*

You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. Only when your paper is at the revision stage, will you be requested to put your paper in to a 'correct format' for acceptance and provide the items required for the publication of your article.

SUBMISSION TYPES

Research paper: Clinical and non-clinical research dealing with all aspects of obsessive-compulsive disorder (OCD) and related conditions (OC spectrum disorders; e.g., trichotillomania, hoarding, body dysmorphic disorder)

Review: The journal welcomes systematic reviews and meta-analysis that make valuable contributions on all aspects of OCD-related disorders.

Short communication: A condensed paper with a brief scientific message.

Correspondence: Letters in response to papers published in journal.

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:

Manuscript:

• Include keywords

• All figures (include relevant captions)

• All tables (including titles, description, footnotes)

• Ensure all figure and table citations in the text match the files provided

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

Graphical Abstracts / Highlights files (where applicable)

Supplemental files (where applicable)

Further considerations

• Manuscript has been 'spell checked' and 'grammar checked'

• All references mentioned in the Reference List are cited in the text, and vice versa

• Permission has been obtained for use of copyrighted material from other sources (including the Internet)

• A competing interests statement is provided, even if the authors have no competing interests to declare

• Journal policies detailed in this guide have been reviewed

• Referee suggestions and contact details provided, based on journal requirements

Ethics in publishing

If the work involves the use of human subjects, the author should ensure that the work described has been carried out in accordance with The Code of Ethics of the World Medical Association

(Declaration of Helsinki) for experiments involving humans. The manuscript should be in line with the Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals and aim for the inclusion of representative human populations (sex, age and ethnicity) as per those recommendations. The terms sex and gender should be used correctly.

Authors should include a statement in the manuscript that informed consent was obtained for experimentation with human subjects. The privacy rights of human subjects must always be observed.

Informed consent and patient details

Studies on patients or volunteers require ethics committee approval and informed consent, which should be documented in the paper. Appropriate consents, permissions and releases must be obtained where an author wishes to include case details or other personal information or images of patients and any other individuals in an Elsevier publication. Written consents must be retained by the author but copies should not be provided to the journal. Only if specifically requested by the journal in exceptional circumstances (for example if a legal issue arises) the author must provide copies of the consents or evidence that such consents have been obtained. For more information, please review the Elsevier Policy on the Use of Images or Personal Information of Patients or other Individuals. Unless you have written permission from the patient (or, where applicable, the next of kin), the personal details of any patient included in any part of the article and in any supplementary materials (including all illustrations and videos) must be removed before submission.

Declaration of interest

All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest

include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. If no such conflict of interest exists, please include the statement 'The authors declare no conflict of interest.' Authors should upload this statement as a separate file to the submission system at the Attach/Upload Files step.

Editors for JOCRD must disclose this position and how it was handled within the review process as part of their conflict of interest statement. We recommend using the following text: Given their role as Editor/Associate Editor/Guest Editor, [NAME] had no involvement in the peer-review of this article and has no access to information regarding its peer-review. Full responsibility for the editorial process for this article was delegated to [NAME of delegated editor].

Submission declaration and verification

Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.

Preprints

Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

Use of inclusive language

Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns ("clinicians, patients/clients") as default/wherever possible to avoid using "he, she," or "he/she." We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. When coding terminology is used, we recommend to avoid offensive or exclusionary terms such as "master", "slave", "blacklist" and "whitelist". We suggest using alternatives that are more appropriate and (self-) explanatory such as "primary", "secondary", "blocklist" and "allowlist". These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

Author contributions

For transparency, we encourage authors to submit an author statement file outlining their individual contributions to the paper using the relevant CRediT roles: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing - original draft; Writing - review & editing. Authorship statements should be formatted with the names of authors first and CRediT role(s) following. More details and an example.

Changes to authorship

Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors after the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

Language (usage and editing services)

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's Author Services.

Systematic Review or Meta-analysis

For systematic reviews and meta-analysis the journal recommends following the PRISMA guidelines (http://www.prisma-statement.org/)(http://www.prisma-statement.org/).

References

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct.

Formatting requirements

There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions.

If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes.

Divide the article into clearly defined sections.

Please ensure the text of your paper is double-spaced—this is an essential peer review requirement.

Figures and tables embedded in text

Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file. The corresponding caption should be placed directly below the figure or table.

Article structure

Introduction

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results. If the focus of the paper is on a disorder other than OCD (as defined in DSM-IV.TR), provide a rationale for including the disorder as an obsessive-compulsive related disorder (see Editorial Guidance section).

Methods

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

Theory/calculation

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results

Results should be clear and concise.

Discussion

This should explore the significance of the results of the work, not repeat them. Avoid extensive citations and discussion of published literature. Be sure to include limitations of the present study and suggestions for future research.

Conclusions

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information

• Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

• Author names and affiliations. Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.

• Corresponding author. Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.

• Present/permanent address. If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Highlights

Highlights are mandatory for this journal as they help increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

Abstract

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Formatting of funding sources

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, it is recommended to include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Math formulae

Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more

conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.

Figure captions

Ensure that each illustration has a caption. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Data references

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

References in a special issue

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference management software

Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. Using citation plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

Reference formatting

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

Reference style

Text: Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Seventh Edition, ISBN 978-1-4338-3215-4, copies of which may be ordered online.

List: references should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Supplementary material

Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

Research data

This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

Mendeley Data

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

Data in Brief

You have the option of converting any or all parts of your supplementary or additional raw data into a data article published in Data in Brief. A data article is a new kind of article that ensures that your data are actively reviewed, curated, formatted, indexed, given a DOI and made publicly available to all upon publication (watch this video describing the benefits of publishing your data in Data in Brief). You are encouraged to submit your data article for Data in Brief as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to Data in Brief where it will be editorially reviewed, published open access and linked to your research article on ScienceDirect. Please note an open access fee is payable for publication in Data in Brief. Full details can be found on the Data in Brief website. Please use this template to write your Data in Brief data article.

Data statement

To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for

example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

Appendix B: ***Author Guidelines for Journal of Traumatic Stress***

Free format submission

Journal of Traumatic Stress now offers **Free Format submission** for a simplified and streamlined submission process.

Before you submit, you will need:

- Your manuscript: this should be an editable file including text, figures, and tables, or separate files—whichever you prefer. All required sections should be contained in your manuscript, including abstract, introduction, methods, results, and conclusions. Figures and tables should have legends. Figures should be uploaded in the highest resolution possible. References may be submitted in any style or format, as long as it is consistent throughout the manuscript. Supporting information should be submitted in separate files. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers, and the editorial office will send it back to you for revision.
- An ORCID ID, freely available at https://orcid.org. *(Why is this important? Your article, if accepted and published, will be attached to your ORCID profile. Institutions and funders are increasingly requiring authors to have ORCID IDs.)*
- The title page of the manuscript, including:
    - Your co-author details, including affiliation and email address. *(Why is this important? We need to keep all co-authors informed of the outcome of the peer review process.)*
    - Statements relating to our ethics and integrity policies, which may include any of the following *(Why are these important? We need to uphold rigorous ethical standards for the research we consider for publication)*:

- data availability statement
- funding statement
- conflict of interest disclosure
- ethical standards statement
- patient consent statement
- permission to reproduce material from other sources
- clinical trial registration

Important: the journal operates a double-blind peer review policy. Please anonymize your manuscript and supply a separate title page file.

To submit, login at **https://mc.manuscriptcentral.com/jots** and create a new submission. Follow the submission steps as required and submit the manuscript.

Open Access

This journal is a subscription journal that offers an open access option. You'll have the option to choose to make your article open access after acceptance, which will be subject to an APC, unless a waiver applies. Read more about **APCs here**.

Preprint policy:

Please find the Wiley preprint policy **here.**

This journal accepts articles previously published on preprint servers.

Journal of Traumatic Stress will consider for review articles previously available as preprints. You

may also post the submitted version of a manuscript to a preprint server at any time. You are requested to update any pre-publication versions with a link to the final published article.

JTS operates a double-blind peer review process. Authors are responsible for anonymizing their manuscript in order to remain anonymous to the reviewers throughout the peer review process (see "Main Text File" above for more details). Since the journal also encourages posting of preprints, however, please note that if authors share their manuscript in preprint form this may compromise their anonymity during peer review.

Data Sharing and Data Availability

This journal expects data sharing. Review **Wiley's Data Sharing policy** where you will be able to see and select the data availability statement that is right for your submission.

Data Citation

Please review **Wiley's Data Citation policy**.

Data Protection

By submitting a manuscript to or reviewing for this publication, your name, email address, and affiliation, and other contact details the publication might require, will be used for the regular operations of the publication. Please review **Wiley's Data Protection Policy** to learn more.

Funding

You should list all funding sources in the Acknowledgments section. You are responsible for the accuracy of their funder designation. If in doubt, please check the **Open Funder Registry** for the correct nomenclature.

Authorship

All listed authors should have contributed to the manuscript substantially and have agreed to the final submitted version. Review **editorial standards** and scroll down for a description of authorship criteria.

ORCID

This journal requires ORCID. Please refer to **Wiley's resources on ORCID**.

Reproduction of Copyright Material

If excerpts from copyrighted works owned by third parties are included, credit must be shown in the contribution. It is your responsibility to also obtain written permission for reproduction from the copyright owners. For more information visit **Wiley's Copyright Terms & Conditions FAQ**.

The corresponding author is responsible for obtaining written permission to reproduce the material "in print and other media" from the publisher of the original source, and for supplying Wiley with that permission upon submission.

Title Page

The title page should contain**:**

1. A brief informative title containing the major key words. The title should not contain abbreviations (see Wiley's best practice SEO tips);
2. A short running title of less than 40 characters;
3. The full names of the authors;
4. The author's institutional affiliations where the work was conducted, with a footnote for the author's present address if different from where the work was conducted;
5. Acknowledgments.

Important: the journal operates a double-blind peer review policy. Please anonymize your manuscript and prepare a separate title page containing author details.

Main Text File

Please ensure that all identifying information such as author names and affiliations, acknowledgements or explicit mentions of author institution in the text are on a separate page.

The main text file should be in Word format and include:

- A short informative title containing the major key words (the title should not contain abbreviations).
- Abstract
- Up to seven keywords
- Main body, formatted as:
    - Method
        - Participants
        - Procedure
        - Measures
        - Data Analysis
    - Results
- References
- Tables (each table complete with title and footnotes)
- Figure legends: Legends should be supplied as a complete list in the text. Figures should be uploaded as separate files (see below).

Reference Style

Journal of Traumatic Stress uses APA reference style. However, because *JTS* offers Free Format submission, you do not need to format the references in your article until the revision stage when your article is more likely to be accepted.

Figures and Supporting Information

Figures, supporting information, and appendices should be supplied as separate files. You should review the **basic figure requirements** for manuscripts for peer review, as well as the more detailed post-acceptance figure requirements. View **Wiley's FAQs** on supporting information.

Peer Review

This journal operates under a double-blind **peer review model**. Papers will only be sent to review if the Editor-in-Chief determines that the paper meets the appropriate quality and relevance requirements.

In-house submissions, i.e. papers authored by Editors or Editorial Board members of the title, will be sent to Editors unaffiliated with the author or institution and monitored carefully to ensure there is no peer review bias.

Wiley's policy on the confidentiality of the review process is **available here**.

Refer & Transfer Program

Wiley believes that no valuable research should go unshared. This journal participates in Wiley's **Refer & Transfer program**. If your manuscript is not accepted, you may receive a recommendation to transfer your manuscript to another suitable Wiley journal, either through a referral from the journal's editor or through our Transfer Desk Assistant.

Guidelines on Publishing and Research Ethics in Journal Articles

The journal requires that you include in the manuscript details IRB approvals, ethical treatment of human and animal research participants, and gathering of informed consent, as appropriate. You will be expected to declare all conflicts of interest, or none, on submission. Please review Wiley's policies surrounding **human studies, clinical trial registration, and research reporting guidelines**.

This journal follows the core practices of the **Committee on Publication Ethics (COPE)** and handles cases of research and publication misconduct accordingly (**https://publicationethics.org/core-practices**).

This journal uses iThenticate's CrossCheck software to detect instances of overlapping and similar text in submitted manuscripts. Read **Wiley's Top 10 Publishing Ethics Tips for Authors** and **Wiley's Publication Ethics Guidelines**.

1. **Article Types**

Article Type	Description	Word Limit	Abstract	Other Requirements
Research Article	Report of new research findings or conceptual analyses that make a significant contribution to knowledge	7,500 words, including abstract, references,	Yes	Data Availability Statement IRB Statement

		tables, and figures		
Brief Report	Preliminary findings of research in progress or a case report of particular interest	4,500 words, including abstract, references, tables, and figures	Yes	Data Availability Statement IRB Statement
State of the Art Article	Overview of developments in the field or current lines of thought; synthesizes multiple sources of information and has long list of references	7,500 words, including abstract, references, tables, and figures	Yes	Data Availability Statement IRB Statement
Commentary	Evidence-based opinion piece on a recently published *JTS* article	1,000 words, including references,	No	N/A

tables, and

figures

Appendix C: ***Expert by Experience Feedback from Pre-Group Consultation***

WEEK 1: INTRODUCTION TO THE GROUP

Amendments:

- Wording should be changed from "why are people here", as this is problem focused
- Ground rules: develop them based on group feedback and then make suggestions if group doesn't come up with them independently
- "what's your favourite colour" changed to where would you be if you were able to go on holiday? Refers to strange situation we are all in (COVID)
- Ordering: People will be anxious about meeting new people, so ground rules should come after intro & people's own expectations

WEEK 2: THE THREAT SYSTEM

Amendments:

- Need to elaborate on dissociation: explain what it is/ what it looks like (slide added)
- Insert sloth image for 'flag'
- Good idea to include fainting goats video but without the scaring

WEEK 3: MEMORIES

Amendments:

- Make sure to refer to brain areas throughout filing cabinet analogy

- 54321 would be a good exercise to have for final exercise break

WEEK 4: GROUNDING & STIMULUS DISCRIMINATION

Amendments:

- To elaborate on kite analogy– kite could be pulling forwards (rather than backwards) for worry/flashforwards
- Take out 54321 as covered last session and amend slide that references 54321
- Include unhelpful coping mechanisms e.g. self-harm, alcohol to make people aware that they may be engaging in understandable yet harmful ways of coping. Suggest alternative helpful coping mechanisms (slide added)
- Include window of tolerance in this session
- Change grounding plan slide as misleading (looks like 54321)

WEEK 5: SELF-SOOTHING/COMPASSION

Amendments:

- Change "using our senses to access the soothing system" as too wordy. Compassion a better word to use
- Make sure to give examples for attributes of compassion e.g. how to be non-judgemental?
- Although SU did not find safe space imagery helpful, others in his PTSD group did so it would be good to introduce her rather than just repeating soothing rhythm breathing

WEEK 6: CONSOLIDATION AND WHAT NEXT

Amendments:

- Make sure to highlight that people should only use techniques that are helpful to them- Don't force it. "cultivating things that are helpful, letting go of things that are unhelpful"
- leaves on stream mentioned but not covered in slides. If space include as could be helpful but if not delete from slide 117

OVERALL COMMENTS:

Amendments:

- prefers recap of content at end, rather than summary of content at start, as participants in previous group found it difficult to recall what they had covered. Take away points are useful
- Times new roman font too formal. Change to more rounded text

Missed:

- General wellbeing e.g. foundation of sleep, exercise, eating well (SU thinks this is especially important. Thinks this should be incorporated somewhere towards the middle of sessions following psycho ed. Would be helpful to give self-help resources for general wellbeing rather than signpost as more likely to use
- Differences between CPTSD & PTSD. Important to emphasise differences but can create hierarchy in the group. Participants should not disclose own diagnosis

Tips:

- Should be a general attitude of acceptance throughout the delivery of group, rather than problem focused content (encourage people not to think of themselves or their complications/issues in a negative light)

- To open the floor for discussion wherever possible (noted SU has not taken part in an online group previously so not sure how this would go)
- Helpful to give people something to take away e.g. slides after each session

Likes:

- Key words highlighted (caps, bold, green) on slides to draw attention
- Lots of repetition and referring to previous learning
- “Fresh” look of slides and reference to growth

Appendix D: ***Idiosyncratic Measures Regarding Engagement with One-to-One Therapy***

Patients were provided with the following summary of one-to-one TF therapy: ***one to one trauma focused reliving work involves talking through your traumatic experience/s in great detail. This is to help you to reprocess what has happened so that you can integrate the event into your memory more effectively which should help to reduce the negative symptoms that you are experiencing in the here and now (for example flashbacks, nightmares, intrusive memories, hypervigilance, dissociation etc).***

Patients were asked how they feel about engaging in one-to-one trauma focused interventions prior to engaging with the stabilisation online group via the questions:

1. 'if you were to be offered one to one trauma focused therapy (including reliving work) how confident would you feel in engaging with this?' (0-10 likert scale, 0 being no confidence, 10 being total confidence)
2. 'if you were to be offered one to one trauma focused therapy (including reliving work) how likely are you to engage with therapy?' (0-10 likert scale, 0 being would not engage, 10 being would definitely engage)

And following the online stabilisation group via the questions:

1. 'Having now attended the psycho education group, if you were to be offered one to one trauma focused therapy (including reliving work) how confident would you feel in engaging with this?' (0-10 likert scale, 0 being no confidence, 10 being total confidence)

2. ‘Having now attended the psycho education group, if you were to be offered one to one trauma focused therapy (including reliving work) how likely are you to engage with therapy?’ (0-10 likert scale, 0 being would not engage, 10 being would definitely engage)

Appendix E: ***Quantitative Self-Report Questionnaire***

Please answer the following questions about your experience of the

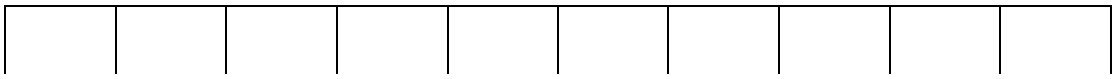
Understanding & Managing Trauma group

---

1. **Did you find the group helpful?**

YES	NO

2. **How helpful did you find the group on a scale of 0-100?**

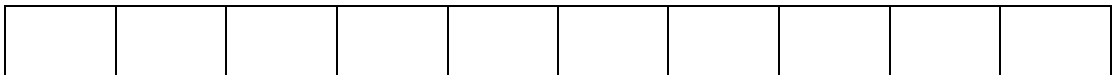


0	***50***	***100***
not helpful at all	*moderately helpful*	*extremely helpful*

3. **Did the group help you to better understand your PTSD?**

YES	NO

4. **How much more do you feel that you understand your PTSD (compared to before the group) on a scale of 0-100?**



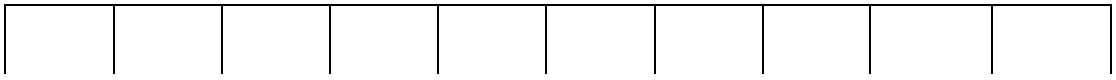
0 ***50*** ***100***

Much less understanding of PTSD | *About the same* | *Complete understanding of PTSD*

5. **Did the group help you to better cope with your symptoms of PTSD?**

YES	NO

6. **How much more do you feel able to cope with symptoms of PTSD after the group (as opposed to before the group) on a scale of 0-100?**



0 ***50*** ***100***

much less able to cope | *About the same* | *totally confident you can cope with symptoms*

7. **Did you find the group setting supportive?**

YES	NO

8. **Were the online features of the group adequately explained to you before or at the start of the group?**

YES	NO

9. **Was the content of the sessions appropriate?**

YES	NO

10. **Was the content of the sessions explained well?**

YES	NO

11. **Were the sessions delivered by the facilitators well?**

YES	NO

12. **Was the group interactive/ experiential enough (through use of exercises, conversations etc)?**

YES	NO

13. **Did you find the homework tasks helpful?**

YES	NO

14. **Was the size of the group:**

TOO SMALL	JUST RIGHT	TOO BIG

15. **Was the duration of the group (6 two-hour sessions):**

TOO SHORT	JUST RIGHT	TOO LONG

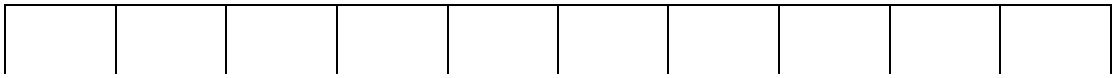
16. **Did the group meet your needs or do you feel you require further support?**

MET NEEDS	REQUIRE FURTHER SUPPORT

17. **If you were to be offered Trauma Focused one-to-one therapy following the group, do you think the group helped you prepare for this?**

YES	NO

18. **Following the group, how much do you understand about the next steps you need to make toward your recovery, on a scale of 0-100?**



0	***50***	***100***
no understanding of next steps towards recovery	*moderate understanding about next steps towards recovery*	*complete understanding of new steps towards recovery*

Appendix F: Semi-Structured Qualitative Interview Protocol

Introduction: We are keen to understand our service users' experiences in order to improve our service delivery. We are particularly interested in how you found the group e.g. what you found helpful and not helpful etc…

First, we would find it helpful to talk about your experiences before you started the group. Secondly, we will think about your experiences during the group, including your experience of it being delivered online. Lastly, we would really value your opinion of what could have been done differently.

Confidentiality statement: The anonymised findings of this interview will be used as part of a service improvement project. This discussion will be confidential within our NHS team & University research team, unless we believe there is risk to yourself or others. If we must break confidentiality, we will always aim to inform you before this happens unless this would lead to increased risk.

Before the Group:

How did you feel when you were offered the group?

What made you decide to join the group?

What were you expecting it to be like?

What did you hope to get from the group?

Did you have any worries/apprehensions about the group before it started?

During the Group:

How did you find the group?

What was it like coming to the group? How many sessions did you get to? What got in the way of attending all sessions? Was that known in advance?

What aspects of the group were helpful? (**prompts:** *content, relationships, online, hosts, felt connection, validation, more/less exercises, slides, talking/discussions, break out rooms?)*

What aspects were challenging? (**Similar prompts** – NB challenging not necessarily bad)

What aspects of the group were unhelpful? (**Similar prompts)**

Did the group help you better understand PTSD? If so, how did it do this? If not, why do you think this was the case?

Did the group help you cope with your symptoms of PTSD? If so, in which ways/how did it achieve this? If not, why do you think this was the case?

How did you find the explanation of the online features? Could anything be improved?

How did the 2 hours work/How did you find the two-hour sessions? Is there anything that could have improved this? Do you think a break would have helped? Can you see any problems that might have arisen if you had a break (e.g. people dropping away?)

After the Group:

So overall what was your impression of the group? Was it helpful/unhelpful overall?

Is there anything you would like to change about it? If so, what?

Has anything changed in your life since doing the group?

Can you think of different ways in which the group could be delivered?

Do you think this group would have been more helpful if it were delivered in a face-to-face setting? How and why?

How was your experience of the group setting? Could anything be improved?

How was your experience of the online setting? Could anything be improved?

What are your thoughts on the content of the sessions? Could anything be improved?

How do you feel the sessions were delivered by the facilitators? Could anything be improved?

Was the group interactive/experiential (e.g. through exercises, conversations etc.) or didactic (being spoken to, like a lesson)? Could anything be improved?

How did you find the homework tasks? Could anything be improved?

How did you find the size of the group? Could anything be improved?

How do you feel about the duration of the group (6 one-hour sessions)? Could anything be improved?

Did your feel that the group met your needs? How could the group better meet your needs?

Do you think you need further input/therapy? Do you have any ideas about how this might look?

If there was an option to have no group but wait longer and get the same information individually (i.e. one to one face to face or online sessions), would that be preferable?

Appendix G: ***Author Guidelines for Journal of Clinical Psychology***

---

1. Submission and Peer Review Process

New submissions should be made via the **Research Exchange submission portal**. Should your manuscript proceed to the revision stage, you will be directed to make your revisions via the same submission portal. You may check the status of your submission at anytime by logging on to submission.wiley.com and clicking the "My Submissions" button. For technical help with the submission system, please review our **FAQs** or contact **submissionhelp@wiley.com**.

For help with article preparation **Wiley Editing Services** offers expert help with English Language Editing, as well as translation, manuscript formatting, and figure preparation.

Free format submission

Journal of Clinical Psychology now offers free format submission for a simplified and streamlined submission process.

Before you submit, you will need:

- Your manuscript: this can be a single file including text, figures, and tables, or separate files—whichever you prefer. All required sections should be contained in your manuscript, including abstract, introduction, methods, results, and conclusions. Figures and tables should have legends. References may be submitted in any style or format, as long as it is consistent throughout the manuscript. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers. If your manuscript is difficult to read, the editorial office may send it back to you for revision.
- The title page of the manuscript, including statements relating to our ethics and integrity policies (see information on these policies below in Section 1):
- data availability statement

- funding statement
- conflict of interest disclosure
- ethics approval statement
- patient consent statement
- permission to reproduce material from other sources
- clinical trial registration

(Important: the journal operates a double-blind peer review policy. Please anonymize your manuscript and prepare a separate title page containing author details.)

- Your co-author details, including affiliation and email address.
- An ORCID ID, freely available at https://orcid.org.

If you are invited to revise your manuscript after peer review, the journal will also request the revised manuscript to be formatted according to journal requirements as described below.

Open Access

This journal is a GREEN Open Access title. See **here** for details. Submissions will be subject to an Article Processing Charge (APC) if accepted and published in the journal. For more information about APCs, and to see if you're eligible for a waiver (through your institution or because the corresponding author belongs to a waiver country) please go **here** .

Preprint policy:

Please find the Wiley preprint policy **here.**

This journal accepts articles previously published on preprint servers.

Wiley's Preprints Policy statement for subscription/hybrid open access journals:

Journal of Clinical Psychology will consider for review articles previously available as preprints. Authors may also post the submitted version of a manuscript to a preprint server at any time. Authors are requested to update any pre-publication versions with a link to the final published article.

Data Sharing and Data Availability

This journal expects data sharing. Please review Wiley's policy **here**, where you will be able to see and select the availability statement that is right for your submission.

Data Citation

Please review Wiley's data citation policy **here.**

Funding

Authors should list all funding sources in the Acknowledgements section. Authors are responsible for the accuracy of their funder designation. If in doubt, please check the Open Funder Registry for the correct nomenclature: **https://www.crossref.org/services/funder-registry/**

Authorship

All listed authors should have contributed to the manuscript substantially and have agreed to the final submitted version. Please see **here** and scroll down for a description of authorship criteria.

Wiley's Author Name Change Policy

In cases where authors wish to change their name following publication, Wiley will update and republish the paper and redeliver the updated metadata to indexing services. Our editorial and production teams will use discretion in recognizing that name changes may be of a sensitive and private nature for various reasons including (but not limited to) alignment with gender identity, or as a result of marriage, divorce, or religious conversion. Accordingly, to protect the author's privacy, we

will not publish a correction notice to the paper, and we will not notify co-authors of the change. Authors should contact the journal's Editorial Office with their name change request.

ORCid

This journal requires ORCid. Please see Wiley's resources on ORCID **here.**

Reproduction of Copyright Material

If excerpts from copyrighted works owned by third parties are included, credit must be shown in the contribution. It is the author's responsibility to also obtain written permission for reproduction from the copyright owners. For more information visit Wiley's Copyright Terms & Conditions FAQ at **http://exchanges.wiley.com/authors/faqs---copyright-terms--conditions_301.html**

The corresponding author is responsible for obtaining written permission to reproduce the material "in print and other media" from the publisher of the original source, and for supplying Wiley with that permission upon submission.

Title Page

The title page should contain**:**

- A brief informative title containing the major key words. The title should not contain abbreviations (see Wiley's best practice SEO tips);
- A short running title of less than 40 characters;
- The full names of the authors;
- The author's institutional affiliations where the work was conducted, with a footnote for the author's present address if different from where the work was conducted;
- Acknowledgments.

Main Text File

Manuscripts can be uploaded either as a single document (containing the main text, tables and figures), or with figures and tables provided as separate files. Should your manuscript reach revision stage, figures and tables must be provided as separate files. The main manuscript file can be submitted in Microsoft Word (.doc or .docx) format

Please ensure that all identifying information such as author names and affiliations, acknowledgements or explicit mentions of author institution in the text are on a separate page.

The main text file should be in word or PDF format and include:

- A short informative title containing the major key words. The title should not contain abbreviations
- The full names of the authors with institutional affiliations where the work was conducted, with a footnote for the author's present address if different from where the work was conducted;
- Acknowledgments;
- Abstract structured (objective(s)/methods/results/conclusion)
- Up to six keywords;
- Main body:
    0. regular section formatted as introduction, materials & methods, results, discussion, conclusion
    1. In Session (invitation only) formatted as introduction, Case Illustration (including separate sections on Presenting Problem & Client Description, Case Formulation, Course of Treatment, Outcome and Prognosis), Clinical Practices and Summary, and Selected References & Recommended Readings
- References (for In Session, please provide no more than 20 references};
- Tables (each table complete with title and footnotes);
- Figures: Figure legends must be added beneath each individual image during upload AND as a complete list in the text.

Reference Style

This journal uses APA reference style. Find more information on reference style guidelines **here**.

Figures and Supporting Information

Figures, supporting information and appendices should be supplied as separate files. **Click here** for the basic figure requirements for figures submitted with manuscripts for peer review, as well as the more detailed post-acceptance figure requirements. **Click here** for Wiley's FAQs on supporting information.

2. Article Types

Article Type	Description	Abstract / Structure	Other Requirements
Original Papers	reports of new research findings or conceptual analyses that make a significant contribution to knowledge	Yes, Structured	Data Availability Statement
Comprehensive Reviews	critical reviews of the literature, including systematic reviews and meta-analyses	Yes, unstructured	

Training and Professional Issues	Original research and training methods related to the education and training of professional psychologists	Yes, structured	Data Availability Statement
Case Reports (by invitation only)	original articles illustrated through case reports	Yes, unstructured	Data Availability Statement

Peer Review

This journal operates under a double-blind peer review model. You can read more about peer review model here. Papers will only be sent to review if the Editor-in-Chief determines that the paper meets the appropriate quality and relevance requirements.

In-house submissions, i.e. papers authored by Editors or Editorial Board members of the title, will be sent to Editors unaffiliated with the author or institution and monitored carefully to ensure there is no peer review bias.

Wiley's policy on the confidentiality of the review process is **available here**.

Guidelines on Publishing and Research Ethics in Journal Articles

Please review Wiley's policies surrounding human studies, animal studies, clinical trial registration, biosecurity, and research reporting guidelines **here.**

This journal follows the core practices of the **Committee on Publication Ethics (COPE)** and handles cases of research and publication misconduct accordingly (**https://publicationethics.org/core-practices**).

This journal uses iThenticate's CrossCheck software to detect instances of overlapping and similar text in submitted manuscripts. Read Wiley's Top 10 Publishing Ethics Tips for Authors **here**. Wiley's Publication Ethics Guidelines can be found **here**.

3. After Acceptance

Wiley Author Services

When an accepted article is received by Wiley's production team, the corresponding author will receive an email asking them to login or register with **Wiley Author Services**. The author will be asked to sign a publication license at this point.

Cover Image Submissions

This journal accepts artwork submissions for Cover Images. This is an optional service you can use to help increase article exposure and showcase your research. For more information, including artwork guidelines, pricing, and submission details, please visit the **Journal Cover Image page.**

Author Licensing

Authors may choose to publish under the terms of the journal's standard copyright agreement, or **OnlineOpen** under the terms of a Creative Commons License.

General information regarding licensing and copyright is available **here**. To review the Creative Commons License options offered under OnlineOpen, please **click here.** *Funder Open Access*: Please click **here** for more information on Wiley's compliance with specific Funder Open Access Policies.

Self-Archiving Definitions and Policies: Note that the journal's standard copyright agreement allows for self-archiving of different versions of the article under specific conditions. Please click **here** for more detailed information about self-archiving definitions and policies.

Funder Open Access: Please click **here** for more information on Wiley's compliance with specific Funder Open Access Policies.

Proofs

Authors will receive an e-mail notification with a link and instructions for accessing HTML page proofs online. Authors should also make sure that any renumbered tables, figures, or references match text citations and that figure legends correspond with text citations and actual figures. Proofs must be returned within 48 hours of recipes of the email.

4. In Session Author Guidelines

The *Journal of Clinical Psychology: In Session* is dedicated to assisting mental health practitioners in selecting and using the most effective assessments, treatments, and relationships. Each issue is devoted to a distinct patient population or a significant therapeutic problem. The Journal promotes the integration of diverse treatments as well as the synthesis of science and practice. We look forward to working with you.

MANUSCRIPT PREPARATION

Format. Manuscripts should be word-processed double-spaced with a 1" margin on all sides. Number all pages of the manuscript sequentially (top right hand corner).

Style. Please follow the stylistic guidelines detailed in the *Publication Manual of the American Psychological Association, sixth edition,* available from the American Psychological Association.

Length. Due to space constraints, we ask that you limit your manuscript to 30 double-spaced typewritten pages, including title page, abstract, references, and tables.

Avoid Theoretical Jargon. Although theory-based jargon provides a rich network of meaning when speaking with like-minded colleagues, it can serve to obfuscate meaning for those with differing theoretical backgrounds. When preparing your manuscript, please keep in mind that the *Journal of*

Clinical Psychology: In Session addresses a broad professional audience with a variety of theoretical orientations.

In short, we ask authors to refrain, as much as possible, from technical “jargon” (i.e., terms from a particular theoretical perspective that don’t translate easily to other perspectives). Wherever possible, please translate your own orientation's language system into ordinary English. For example, "dynamic focus" may be reworded as referring to the patient's ongoing thematic interpersonal conflict; "genuineness" may be depicted as the therapist's open and honest expression of thoughts and feelings. It may be helpful to show a draft of your manuscript to a colleague from a different orientation, asking her to flag any terms or phrases that need "translation."

Reader-Friendly Style. The editorial team tries to make each journal issue as practical and reader-friendly as possible. We try to reduce what James Joyce called “the true scholastic stink” to bearable levels. For example, we do not publish footnotes, which tend to impede the flow of articles. Incorporate important content into the text; list acknowledgements and funding sources on the bottom of the title page. For another example, we highlight the central findings and clinical implications of a study, as opposed to highlighting the researcher’s name. Whenever possible, place an author’s names in parentheses.

In a related vein, we aim to **keep the reporting of statistics to a minimum**; we also discourage the use of statistical tables. Thus, if stats are included in your article, keep them simple. The primary goal of your article—even if based on research—is to translate findings (or cases) into principles that will be helpful to practitioners. Thus, discussion of “further research directions” is almost always the wrong path; discussion of “implications for practitioners” is almost always the right path.

Furthermore, because our primary readership consists of practitioners interested in how research or theory can be translated or best used in the service of clinical practice, we ask that you **restrict the number of references cited**. U

MANUSCRIPT ELEMENTS

Title Page. The title page should include the following information: Title of the article; author's name, highest degree, and affiliation; corresponding author's complete mailing address and e-mail address.

Abstract. Abstracts are required for all articles. Abstracts are to be 200 words or less, and should be intelligible without reference to the text.

Keywords. Kindly list five or six keywords for indexing purposes on the Abstract page.

Text. To promote uniformity of presentation, we ask that each article typically contain the following sections: Introduction (untitled); Case Illustration (including separate sections on Presenting Problem & Client Description, Case Formulation, Course of Treatment, Outcome and Prognosis); Clinical Practices and Summary; and Selected References & Recommended Readings. Each of these elements is described below.

Introduction (untitled). The introductory section should provide a concise overview (approximately 1/3 of the length of the manuscript) of the therapeutic approach being illustrated. Please include a brief discussion of the theoretical foundations and treatment principles. Summarize the outcome research in a paragraph or two.

Case Illustration. The topic of the thematic issue and your therapeutic experience will, no doubt, influence the case presentation. However, we would ask that each presentation include the following headings (you may include additional subheadings if needed):

Presenting Problem & Client Description: Concise summary of the presenting problem, and a description of the client's history, background, and life experiences. All identifying client details must be altered to prevent recognition. Please complete the Case Illustration Checklist indicating the client details that have been altered. The Checklist must be submitted with your final manuscript.

Case Formulation: In light of the presenting problem, describe how you formulated the case and how the formulation impacted on your treatment selection. Please avoid the use of jargon.

Course of Treatment: Describe the therapeutic process, focusing on the therapist's observations, the therapy relationship, specific interventions, and client reactions. Please use examples of therapist-client interactions to illustrate your approach. You may either reconstruct prototypical exchanges or use excerpts from actual transcripts.

Outcome and Prognosis: Case presentations should conclude with a summary of the treatment outcome and a discussion of the client's prognosis. Pre-post measures of change are particularly encouraged. Authors may also elect to integrate personal reflections on the course of treatment and the therapeutic outcome in this section.

Clinical Practices and Summary. In this conclusion section, please discuss the implications of the case for future applications of the therapeutic approach and dealing with this type of patient in the future.

References. Due to space limitations, we ask that you **provide no more than 25 references**. Please adhere to stylistic guidelines set forth in the APA *Publication Manual* (sixth edition) when preparing your reference list. Journal or monograph series titles should not be abbreviated.

ILLUSTRATIVE MATERIAL

Tables. All tables should have descriptive titles or captions and clearly worded column headings. Tabular material should be organized as simply as possible, eliminating vertical rules and (where possible) special typography (e.g., Greek). Indicate in the text where tables should be inserted.

Figures. Any necessary figures should be submitted in a form suitable for direct reproduction. Identify each figure by number, either on an overlay or written with a soft pencil on the

back (e.g., "Fig. 3"). All illustrations should be numbered consecutively within the article. Figures should be separated from the text.

PERMISSIONS

Reproduction of an unaltered figure, table, or block of text from any non-federal government publication requires permission from the copyright holder. Acknowledgment of source material cannot substitute for written permission. It is the author's responsibility to obtain such written permission.

All direct quotations should have a source and page citation. If the material being quoted is lengthy and is not in the public domain, you may have to obtain such written permission from both the publisher of the work and the author.

Only the form of presentation is covered by copyright protection, not the content, so permission is necessary only when material is being reproduced without change. You may quote facts, express them in your own words, or construct a table or figure from published data without permission.

Manuscripts submitted for publication must be unique; previously published manuscripts are not acceptable.

PDFs and COPYRIGHT TRANSFER FORM

The Journal, through its publisher (Wiley), requires that authors sign up for “Author Services,” whereby authors can track their articles through the production process, receive notification when published, and download PDF’s of their articles. This sign-up process occurs after their article is accepted, rather than during submission. Authors will get an email requesting them to register for Author Services and sign necessary copyright forms electronically. Authors are given the option of choosing either the “OnlineOpen” option, if their article was funded, or the standard copyright transfer agreement. The majority of authors will probably choose the latter options, and there are FAQs just in case they aren’t sure.

RELEASE FOR TRANSCRIPT USE

In keeping with ethical guidelines, *Journal of Clinical Psychology: In Session* requires that all identifying details about the client (e.g., name, age, occupation) be disguised to prevent identification. If the case presentation includes verbatim excerpts from transcripts of therapy sessions, then it may be advisable to obtain a signed release from the client. Because the identity of patients may be confidential, we ask that you do not submit the signed release forms with the manuscript; you must, however, keep them in your files. By signing the Copyright Transfer Agreement, you acknowledge that you have obtained all necessary written releases.

Appendix H: Collecting Behaviours Questionnaire (CBQ)

In this part of the questionnaire we're going to ask you about things which you collect. A collection is a physical group of objects that someone has collected as a hobby or an investment. To classify as a collection, this set of linked or themed objects or items must be kept and categorised in an ordered way. This does not include an unsystematic accumulation of things. Please rate the extent to which you agree with each of the following statements in relation to your collection/s.

Do you consider yourself to be a "Collector"- someone who collects things of a specified type (professionally or as a hobby) and who stores their objects in an organised way so that they do not affect the use of the living space in their home?

- No
- Yes

1. My collected possessions have a theme or fit within a category/ies

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

2. My collected possessions are organised using rules that non collectors could understand

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

3. I feel in control of my collection/s

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

4. I usually plan in advance to collect items

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

5. My collection/s is a positive force in my life

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

6. I focus my search for specific items to add to my collection/s to enhance it

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

7. Although I have a large collection/s, it doesn't clutter other areas of my life

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

8. I have a collection/s which is displayed or stored in an orderly way and is easy for me and / or others to see and find

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

9. The main rooms in my home are used for their intended purpose (e.g. the kitchen, bathroom and bedroom are all available and in use)

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

10. There is a particular place where my collection/s is focused

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

11. My collecting behaviour causes significant difficulties in my relationships ***(Reverse Scored)***

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

12. I would find it difficult to replace one of my items with a better item ***(Reverse Scored)*** Item removed following Factor Analysis

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

13. My items are carefully chosen

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

14. If an item doesn't fit with my collection/s, I can easily get rid of it

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

15. There are other people who share enthusiasm for my collection/s

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

16. I think that my collecting behaviours are a problem because they interfere with other important areas of my life ***(Reverse Scored)***

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

17. I am happy to exchange existing items in my collection/s for additional items

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

18. My collection/s bring me happiness

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

Affinity for Collecting Subscale Items: 1, 5, 6, 15, 2, 18, 13, 4, 10, 8, 3

Unproblematic Collecting Subscale Items: 16, 11, 7, 9, 14

Appendix I: Anthropomorphism of Owned-Possessions Questionnaire (AOPQ)

In this part of the questionnaire we are going to ask you how you feel about the possessions that you have in your home (***things that belong to you***). Please rate the extent to which you agree with each of the following statements in relation to your possessions.

1. I treat my possessions similarly to how I treat humans

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

2. I often talk to my possessions

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

3. I feel affectionate towards my possessions

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

4. I feel as if my possessions can be lonely

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

5. I often give my possessions names

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

6. If I lost my possessions, I would mourn them

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

7. I often think my possessions understand me

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

8. I feel as if I rely on my possessions

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

9. I feel that I am responsible for my possession's feelings

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

10. I think that my possessions can feel rejected

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

11. I think that my possessions sometimes appear sad and/or happy

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

12. I tend to think that my possessions have human-like qualities

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

13. I often think that my possessions have personalities

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

14. I have the sense that my possessions can behave badly and/ or be well behaved

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

15. I feel strong respect for my possessions

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

16. It seems to me that my possessions deserve loyalty

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

17. I often think it’s very important that I don’t let my possessions down

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

Owned-Possessions are Alive (AOPQ-A) Subscale Items: 4, 5, 7, 9, 10, 11, 12, 13, 14, 17

Owned-Possessions Evoke Strong Feelings (AOPQ-F) Subscale Items: 1, 2, 3, 6, 8, 15, 16

Appendix J: Anthropomorphism of Unowned-Objects Questionnaire (AUOQ)

Now we're going to ask you how you feel about objects in general (***things that DO NOT belong to you***). Please rate the extent to which you agree with each of the following statements in relation to objects in general.

1. I treat objects similarly to how I treat humans

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

2. I often talk to objects

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

3. I feel affectionate towards objects

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

4. I feel as if objects can be lonely

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

5. I often give objects names

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

6. If I lost an object, I would mourn them

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

7. I often think objects understand me

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

8. I feel as if I rely on objects

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

9. I feel that I am responsible for an object's feelings

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

10. I think that objects can feel rejected

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

11. I think that objects sometimes appear sad and/or happy

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

12. I tend to think that objects have human-like qualities

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

13. I often think that objects have personalities

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

14. I have the sense that objects can behave badly and/ or be well behaved

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

15. I feel strong respect for objects

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

16. It seems to me that objects deserve loyalty

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

17. I often think it’s very important that I don’t let objects down

Totally disagree	Very much disagree	Disagree slightly	Neutral	Agree slightly	Very much agree	Totally agree

Unowned-Objects are Alive (AUOQ-A) Subscale Items: 4, 7, 9, 10, 11, 12, 13, 14, 16, 17

Unowned-Objects Evoke Strong Feelings (AUOQ-F) Subscale Items: 1, 2, 3, 5, 6, 8, 15

Appendix K: Ethics Approval

MEDICAL SCIENCES INTERDIVISIONAL RESEARCH ETHICS COMMITTEE
Research Services, Boundary Brook House, Churchill Drive, Headington, Oxford, OX3 7GB
Tel: +44(0)1865 616575
ethics@medsci.ox.ac.uk

CONFIDENTIAL

Victoria Skibsted Nielsen
Oxford Insitute of Clinical Psychology Training and Research
Isis Education Centre
Warneford Hospital
Oxford

23 November 2021

Dear Victoria,

Research Ethics Approval - CUREC 2

Ethics Approval Reference: R77127/RE001

Study title: Is anthropomorphism unique to hoarding disorder in relation to similar yet distinct clinical and non-clinical populations? Within this context, is anthropomorphism associated with hyper-mentalisation?

Short title: How we think about and relate to possessions

The above application has been considered on behalf of the Medical Sciences Interdivisional Research Ethics Committee (MS IDREC) in accordance with the University's procedures for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to the IDREC, the proposed research has been judged as meeting appropriate ethical standards, and approval has been granted for a period of **18 months**, commencing on **24th November 2021.**

You will be required to submit an annual progress report on each anniversary of study approval, until the study is completed, and your study may be selected for review during an annual audit.

Amendments

Should there be any subsequent changes to the study, you should submit details to the MS IDREC for consideration and approval. Details of changes must be listed on an amendment form.

Yours Sincerely

H. Barnby-Porritt

Dr Helen Barnby-Porritt
Research Ethics Manager

Appendix L: Governance Information

An informed consent and debrief call was offered to participants if requested with endorsement of an online version. Participants were informed that their data would be stored anonymously on a secure system, and that they have the right to withdraw at any point during the study. Confidentially policies were adhered to at all stages of the study. The debrief sheet included crisis service contact details and contact details of the supervisory team.

Appendix M: Information Sheet (including Informed Consent)

Oxford Institute of Clinical Psychology Training and Research
Isis Education Centre
Warneford Hospital, Headington
Oxford OX3 7JX
Telephone: +44 (0) 1865 226431
Email: oxicpt-admin@hmc.ox.ac.uk

Principal Investigator: Professor Paul Salkovskis
PA to Prof Salkovskis: 01865 22643
University e-mail: Paul.Salkovskis @hmc.ox.ac.uk

How we think about and relate to possessions

CUREC Approval Reference: R77127/RE001

General Information

We appreciate your interest in participating in this online questionnaire. Please note that people with Severe Mental Illness (specifically Bipolar disorder, Psychosis or severe depression) or a history of substance dependence will not be able to take part in this study.

We know that people often think about non-living things as if they were alive, or even as people. Common examples of this include when we refer to ships as "she", or the many films that personify animals and/or objects, such as Walt Disney's *Beauty and the Beast*. This study focuses on the way people relate to their own possessions or objects in general, because we think this might affect their lifestyle. For example, people can see possessions as being like a friend and/or providing them with comfort in the same or similar way to another human being.

We, Victoria Skibsted Nielsen & Professor Paul Salkovskis (Oxford Institute of Clinical Psychology Training and Research), would be very happy to answer questions you may have to help you to decide whether or not to take part.

You will be expected to complete several questionnaires and we expect this to take approximately 30 minutes. The questions included relate to symptoms of mental health difficulties (including depression, anxiety, obsessive compulsive disorder and suicidal thoughts), the items that you have in your home, how you relate to other people and how you relate to objects.

No background knowledge is required. This information with be analysed by Victoria Skibsted Nielsen to assess how we think about, and relate to, possessions. This information will be completely anonymous and the data will be accessible to only Victoria Skibsted Nielsen & Professor Paul Salkovskis.

Do I have to take part?

Please note that your participation is voluntary. If you do decide to take part, you may withdraw at any point during the questionnaire for any reason before submitting your answers by closing the browser.

How will my data be used?

Your answers are completely anonymous and would never be identifiable. Your data will be stored in a password-protected file and may be used in academic publications. Your IP address will not be stored. Research data will be stored de-identified for a minimum of three years after publication or public release.

Who will have access to my data?

Qualtrics is the data controller with respect to your personal data and, as such, will determine how your personal data is used. Please see their privacy notice here https://www.qualtrics.com/privacy-statement/.

Qualtrics will share only de-identified data with the University of Oxford, for the purposes of research.

We would also like your permission to use your de-identified data in future studies, and to share data with other researchers (e.g. in online databases).

Responsible members of the University of Oxford and funders may be given access to data for monitoring and/or audit of the study to ensure we are complying with guidelines, or as otherwise required by law.

This questionnaire is for a Doctoral project. The Principal Researcher is Victoria Skibsted Nielsen., who is attached to the Oxford Institute of Clinical Psychology Training and Research at the University of Oxford, and supervised by Professor Paul Salkovskis.

This project has been reviewed by, and received ethics clearance through, a subcommittee of the University of Oxford Central University Research Ethics Committee R77127/RE001

Who do I contact if I have a concern about the study or I wish to complain?

If you have a concern about any aspect of this study, please speak to Victoria Skibsted Nielsen (Victoria.nielsen@psy.ox.ac.uk) or Professor Paul Salkovskis (paul.salkovskis@hmc.ox.ac.uk) and we will do our best to answer your query. We will aim to acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Medical Sciences Interdivisional Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

Email: ethics@medsci.ox.ac.uk; Address: Research Services, University of Oxford, Boundary Brook House, Churchill Drive, Headington, Oxford, OX3 7GB.

Please note that you may only participate in this survey if you are 18 years of age or over.

☐ I certify that I am 18 years of age or over

If you have read the information above and agree to participate with the understanding that the data (including any personal data) you submit will be processed accordingly, please check the relevant box below to get started. If you do not wish to take part, please close this browser window.

☐ Yes, I agree to take part

Appendix N: Debrief

Oxford Institute of Clinical Psychology Training and Research
Isis Education Centre
Warneford Hospital, Headington
Oxford OX3 7JX
Telephone: +44 (0) 1865 226431
Email: oxicpt-admin@hmc.ox.ac.uk

Principal Investigator: Professor Paul Salkovskis
PA to Prof Salkovskis: 01865 22643
University e-mail: Paul.Salkovskis @hmc.ox.ac.uk

How we think about and relate to possessions

CUREC Approval Reference: R77127/RE001

Debrief

Thank you so much for taking the time to complete the questionnaires and contribute towards our research. If you would like to be sent a copy of the results of this study, please contact the lead researcher via Victoria.Nielsen@hmc.ox.ac.uk.

We know that people often think about non-living things as if they were alive, or even as people. Common examples of this include when we refer to ships as "she", or the many films that personify animals and/or objects, such as Walt Disney's *Beauty and the Beast*. This study focuses on the way people relate to their own possessions or objects in general, because we think this might affect their lifestyle. For example, people can see possessions as being like a friend and/or providing them with comfort in the same or similar way to another human being. The full aims of this study were not revealed in the information sheet, as research has previously shown that disclosing the full aims of a study may affect participant answers.

The study you have just participated in focuses on the way people relate to their own possessions or objects in general, because we think this might affect their lifestyle. For example, people can see possessions as being like a friend or as providing them with comfort in the way that people might. We think that this tendency to think of objects as being alive might be related to particular types of sensitivity. We also think it may be possible that this sensitivity may cause people to have problems, one example being throwing things away. This may lead to issues of hoarding. For other people, such as those who collect things as a hobby, there seems to be a different relationship with possessions. We've asked people with a range of difficulties and people with no perceived difficulties, to answer questions about themselves and the things they own. We think that understanding this better might help us to develop better ways to help people who struggle to control how many possessions they have.

Can I withdraw from the study at this stage?

Please note again that your participation is voluntary. If you do decide to withdraw, you may do so by selecting the tick box below.

Who do I contact if I have a concern about the study or I wish to complain?

If you have a concern about any aspect of this study, please speak to Victoria Skibsted Nielsen (Victoria.nielsen@psy.ox.ac.uk) or Professor Paul Salkovskis (paul.salkovskis@hmc.ox.ac.uk) and we will do our best to answer your query. We will aim to acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Medical Sciences Interdivisional Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

Email: ethics@medsci.ox.ac.uk; Address: Research Services, University of Oxford, Boundary Brook House,

Churchill Drive, Headington, Oxford, OX3 7GB.

Further Support?

Some of the topics included in this questionnaire are of a sensitive nature and may have caused you distress. If you feel that you would benefit from further support, please contact your GP so that they can refer you to the most appropriate service to provide you with support. If you feel that you would like to talk to someone anonymously, please free phone the Samaritans on: 116 123 https://www.samaritans.org/

DO YOU WISH TO WITHDRAW FROM THIS STUDY?

☐ No
☐ Yes

Appendix O: Collecting Behaviours Questionnaire (CBQ) Factor Analysis Overview and Item Loadings

---

The Collecting Behaviours Questionnaire ***(CBQ)***

A principal component factor analysis was conducted on the original 18 items with varimax rotation. The Kaiser-Meyer-Olkin measure was .88 (Kaiser, 1974) and the Bartlett's test of sphericity was significant ($p < .001$) (Bartlett, 1954) indicating that the measure was suitable for factor analysis.

Two factors were retained, which together explained 55% of the variance and a qualitative review of the items indicated acceptable coherence in construct. The item clustering suggests that Factor One represents 'affinity for collecting' (CBQ- A): the highest loading was on item 5: 'My collection/s are a positive force in my life'). Conversely, Factor Two represented '(un)problematic collecting' (CBQ-U): the highest loading was on item 16: 'I think that my collecting behaviours are a problem because they interfere with other important areas of my life' (this item was reverse scored). Five items (18, 3, 7, 12 & 10) loaded highly and similarly on both factors and so were not included in any subsequent analysis; therefore 13 items were retained in the two factors.

Rotated Component Matrix[a]

	Component	
	1	2
5 My collection/s are a positive force in my life	**.797**	.230
1 My collected possessions have a theme or fit within a category/ies	**.786**	.018
6 I focus my search for specific items to add to my collection/s to enhance it	**.784**	.055

15 There are other people who share enthusiasm for my collection/s	**.779**	.232
18 My collection/s bring me happiness	**.763**	.249
2 My collected possessions are organised using rules that non collectors could understand	**.694**	.044
4 I usually plan in advance to collect items	**.661**	.239
13 My items are carefully chosen	**.632**	.192
16 I think that my collecting behaviours are a problem because they interfere with other important areas of my life	-.001	**.861**
11 My collecting behaviour causes significant difficulties in my relationships	-.060	**.840**
9 The main rooms in my home are used for their intended purpose (e.g. the kitchen, bathroom and bedroom are all available and in use)	.359	**.601**
14 If an item doesn't fit with my collection/s, I can easily get rid of it	.275	**.526**
17 I am happy to exchange existing items in my collection/s for additional items	.296	**.383**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Appendix P: Anthropomorphism of Unowned-Objects Questionnaire (AUOQ) Factor Analysis Overview and Item Loadings

---

Anthropomorphism of Unowned-Objects Questionnaire (***AUOQ)***

A principal component factor analysis was conducted on the original 17 items with varimax rotation. The Kaiser-Meyer-Olkin measure was .94 (Kaiser, 1974) and the Bartlett's test of sphericity was significant ($p < .001$) (Bartlett, 1954) indicating that the measure was suitable for factor analysis.

Two factors were retained, which together explained 70.67% of the variance and a qualitative review of the items indicated acceptable coherence in construct. Factor One represents 'Unowned-Objects are Alive' (AUOQ-A): the highest loading was on item 11: 'I think that objects sometimes appear sad and/or happy'). Factor Two represented 'Unowned-Objects Evoke Strong Feelings' (AUOQ-F): the highest loading was on item 6: 'If I lost an object, I would mourn them'). Four items (1, 2, 5 & 16) loaded highly and similarly on both factors and so were not included in any subsequent analysis; therefore 13 items were retained in the two factors.

Rotated Component Matrix[a]

	Component	
	1	2
11 I think that objects sometimes appear sad and/or happy	**.861**	.254
12 I tend to think that objects have human-like qualities	**.850**	.246

10 I think that objects can feel rejected	**.844**	.315
4 1 I feel as if objects can be lonely	**.830**	.324
13 I often think that objects have personalities	**.812**	.276
14 I have the sense that objects can behave badly and/ or be well behaved	**.771**	.197
9 I feel that I am responsible for an object's feelings	**.768**	.359
7 I often think objects understand me	**.761**	.349
17 I often think it's very important that I don't let objects down	**.732**	.426
6 If I lost an object, I would mourn them	.214	**.801**
8 I feel as if I rely on objects	.236	**.748**
15 I feel strong respect for objects	.277	**.730**
3 I feel affectionate towards objects	.348	**.674**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Appendix Q: Anthropomorphism of Owned-Possessions Questionnaire (AOPQ) Factor Analysis Item Loadings

Rotated Component Matrix[a]

	Component	
	1	2
11 I think that my possessions sometimes appear sad and/or happy	**.881**	.257
12 I tend to think that my possessions have human-like qualities	**.875**	.260
10 I think that my possessions can feel rejected	**.848**	.288
9 I feel that I am responsible for my possession's feelings	**.838**	.297
13 I often think that my possessions have personalities	**.805**	.298
7 I often think my possessions understand me	**.798**	.291
4 I feel as if my possessions can be lonely	**.791**	.338
14 I have the sense that my possessions can behave badly and/ or be well behaved	**.782**	.146
17 I often think it's very important that I don't let my possessions down	**.766**	.353
6 If I lost my possessions, I would mourn them	.171	**.821**
3 I feel affectionate towards my possessions	.236	**.780**

15 I feel strong respect for my possessions	.251	**.700**
8 I feel as if I rely on my possessions	.330	**.576**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Appendix R: Post hoc analyses (with Dunnett T3 adjustments) for Questionnaire Measures

---

For the PHQ-9 (Welch's $F_{(3, 115.11)} = 23.18$, $p < .001$) and GAD-7 (Welch's $F_{(3, 118.14)} = 21.63$, $p < .001$), there was a significant main effect of group.

For the SI-R, A three (DD vs C vs EA) x four (group) ANOVA was completed to assess differences in the SI-R measure between groups. There was a significant main effect of subscale ($F_{(1.93, 650.96)} = 22.80.19$, $p < .001$) and of group ($F_{(5.80, 650.96)} = 36.31$, $p < .001$). This was modified by a significant interaction ($F_{(3, 337)} = 432.21$, $p < .001$). Simple main effects indicated a main effect of group on each of the subscales: SI-R DD ($F_{(3, 337)} = 173.59$, $p < .001$), SI-R C ($F_{(3, 337)} = 343.12$, $p < .001$), SI-R EA ($F_{(3, 337)} = 113.26$, $p < .001$).

For the OCI-R, A six (W vs OB vs H vs OR vs C vs N) x four (group) ANOVA was completed to assess differences between groups. There was a significant main effect of subscale ($F_{(4.66, 1571.75)} = 82.17$, $p < .001$) and group ($F_{(3, 337)} = 202.83$, $p < .001$). These were modified by a significant interaction ($F_{(13.99, 1571.75)} = 28.31$, $p < .001$). Simple main effects indicated a main effect of group on each of the subscales: OCI-R W ($F_{(3, 337)} = 55.99$, $p < .001$), OCI-R OB ($F_{(3, 337)} = 75.80$, $p < .001$), OCI-R H ($F_{(3, 337)} = 101.26$, $p < .001$), OCI-R OR ($F_{(3, 337)} = 39.84$, $p < .001$), OCI-R C ($F_{(3, 337)} = 50.76$, $p < .001$), OCI-R N ($F_{(3, 337)} = 99.32$, $p < .001$).

For the CBQ, A two (A vs U) x four (group) ANOVA was completed to assess differences between groups. There was not a significant main effect of subscale ($F_{(1, 337)} = .81$, $p = .369$) however there was a significant main effect of group ($F_{(3, 337)} = 91.14$, $p < .001$). This was modified by a significant interaction ($F_{(3, 337)} = 42.45$, $p < .001$). Simple main effects indicated a main effect of group on each of the subscales, CBQ A ($F_{(3, 337)} = 66.12$, $p < .001$) and CBQ-U ($F_{(3, 337)} = 99.46$, $p < .001$).

There were 14 outliers for the OCI-R, 4 for the SIR, 6 for the CBQ, 3 for the GAD-7, 4 for the PHQ-9, as assessed by examination of studentized residuals for values greater than ±3 (for factorial ANOVA) or by inspection of a boxplot for values greater than 1.5 box-lengths from the edge of the box (for one-way ANOVA). The analysis for all of the measures were repeated excluding the outliers and yielded the same results.