Oxford Doctoral Course in Clinical Psychology

Improving the Clinical Understanding and Measurement of Dissociation

Emma Černis

A thesis submitted in partial fulfilment of the requirements of the degree of Doctor of Clinical Psychology, validated by the University of Oxford

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Abstract

'Dissociation' describes a range of anomalous perceptual, cognitive and affective experiences that occur transdiagnostically. Examples include mental blanks, and feeling 'unreal'. Whilst its ubiquity is becoming accepted by clinicians, there is currently little understanding of the mechanistic role played by dissociation in clinically important presentations. The present thesis addresses this gap in two ways: by establishing the role dissociation plays in a key clinical presentation (youth deliberate self-harm; [DSH]), and by offering an updated measure of dissociation for use in future research.

In Paper A, a review of nineteen eligible studies found an association between deliberate self-harm and dissociation, with more severe dissociation associated with more severe DSH, DSH in more locations on the body, and use of multiple methods of DSH. However, the review was unable to conclusively determine the direction of the association, largely due to limitations in studies' research designs.

In Paper B, the development and psychometric properties of a new, clinically useful and up-to-date measure of dissociation are described. Clinician and service user consultation were used in the early stages to ensure a comprehensive representation of dissociative experiences. The result is a measure with five subscales with good validity and reliability. Suggestions for further validation of the measure are also made.

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In dedication to Doug, who would have been very proud.

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Oxford Doctoral Course in Clinical Psychology

Paper A

What is the Relationship Between Dissociation and Self-Harming Behaviour in Adolescents and Young People?

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(see Appendix A for author guidelines)

What is the Relationship Between Dissociation and Self-Harming Behaviour in Adolescents and Young People?

Deliberate self-harm (DSH) in young people is an increasing clinical problem, and there is a limited understanding of the mechanisms causing or maintaining this behaviour. Dissociation has been proposed to be important in youth DSH; as an internal experience to be escaped via DSH, or as a form of emotional avoidance brought on by DSH. This systematic review is the first to evaluate the available evidence regarding the relationship between dissociation and youth DSH. Electronic and hand-searching identified nineteen relevant studies. Although these studies were limited by cross-sectional design and poor methods of measurement, some important conclusions were able to be drawn. The studies consistently found a positive correlation between dissociation and youth DSH, such that high levels of dissociation were associated with more severe DSH. There was limited evidence that dissociation has a causal role in youth DSH. Theoretical and clinical implications of the findings are discussed.

Keywords: dissociation, self-harm, youth, adolescents, self-injury

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1. Introduction

Self-harm is defined by the National Institute of Health and Clinical Excellence (NICE; 2013) as 'any act of self‐poisoning or self‐injury carried out by a person, irrespective of their motivation' (p. 6) and can include cutting, burning, pinching or ingesting harmful substances (self-poisoning) (selfharmUK, 2015a). NICE's definition reflects the many ideas regarding the possible function of self-harming behaviour. For this reason, the term deliberate self-harm (DSH) will be used in this review, rather than Non-Suicidal Self-Injury (NSSI).

Some propose that the psychological function of DSH is a form of self-punishment or chastisement (e.g. Briere & Gil, 1998). Others see DSH as a mechanism for self-soothing (Hjelmeland et al., 2002). Yet others believe DSH is an outlet for people who find it difficult to tolerate turbulent or extreme emotions, and translating this emotional pressure into physical sensation helps dissipate the experience (Hjelmeland et al., 2002). It is important to note that whilst there are associations between DSH and suicidal intent, DSH can occur independently of suicidality (Hawton & James, 2005).

The most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) has proposed two 'Conditions for Further Study' that separate self-harm behaviour by motivation – the first being 'Suicidal Behaviour Disorder' (p. 801) and the second 'Nonsuicidal Self-Injury Disorder' (p. 803) where the motivation is not an intent to die. However, this distinction does not reflect

current practice, where DSH is currently considered transdiagnostic (Gilbert et al., 2010).

Deliberate Self-Harm in Young People

Approximately 13% of people between the ages of eleven and sixteen may try DSH (selfharmUK, 2015b). Hawton and James (2005) suggest that it is particularly difficult to know the exact prevalence of DSH among adolescents, as its relatively low severity does not often result in presentation to medical services. Recently, however, there have been reports of an increase in Accident and Emergency service attendance by adolescents with DSH-related injury (Kotecha, 2014). ChildLine have reported a ten percent increase in the number of young people receiving counselling for DSH (NSPCC, 2015). It is unclear whether this indicates an increasing prevalence, increasing severity, or greater openness to receiving medical attention for DSH.

Treating mental distress early – for example, when it presents as youth DSH – is important, since 'future patterns of adult health are established' in adolescence (Sawyer et al., 2012, p. 1630). The 'very high' risk of future suicide posed by youth DSH (Hawton & Harriss, 2007, p. 1574) indicates the value of treatments for this presentation.

However, a recent review of currently available psychological interventions for youth DSH indicated that improvement is required. Labelle et al. (2015) performed a meta-analysis of cognitive behavioural treatments (CBT) for adolescent DSH and found a significant effect in only eight of the

fourteen identified studies. Further, they state the quality of evidence in this field is poor.

Unfortunately, Labelle and colleagues' (2015) review could not identify or address the role of any proposed mechanisms for the maintenance of youth DSH, due to many studies being 'not sufficiently informed by theory and early empirical evidence' (p. 374). This is important because the development of effective psychological treatment requires understanding of the maintenance mechanisms of the presenting problem.

Self-Harm and Dissociation

A set of experiences often associated with DSH is that of dissociation. Dissociation is defined by the DSM-5 (APA, 2013) as the 'disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behaviour' (p. 291). This gives rise to a wide variety of subjective experiences such as depersonalisation (perceptions of the self as unreal or unfamiliar), derealisation (perceptions of the external environment as unreal or unfamiliar), and emotional numbing (experience of affect as dulled or absent).

Like DSH, recent literature suggests that dissociation exists along a spectrum of severity (Waller et al., 1996) and presents transdiagnostically (e.g. across boundaries of psychosis diagnoses; Cernis et al., 2014).

One proposal for how DSH and dissociation interact is contained in the anti-dissociation model of DSH (Klonsky, 2007). This suggests DSH is a strategy to end a period of dissociation because of the distressing experience of feeling unreal or disconnected. Deliberate self-harm may help to

'generate' feeling (Klonsky, 2007, p. 229) and the accompanying sight of blood is a particularly important mechanism in helping the person 'feel real' (Glenn & Klonsky, 2010, p. 469).

Some, however, propose the opposite: that DSH may trigger a dissociative episode (Mollon, 1996). Schauer and Elbert (2010) suggest dissociation is part of a conditioned fear response which enables 'shutting down' of tension and emotional discomfort after an initial 'uproar' of anxiety and active defence (p. 111). They state that these responses can be triggered or cued by DSH, since DSH is an event where the skin is penetrated and pain caused.

Both models indicate DSH is used to regulate emotion, and more specifically, to alter the person's level of dissociation – either to escape it, or to use it as a means of escape. Most likely, both functions are used by individuals who engage in DSH (Matter, 2010), as DSH may be used at different times for different purposes (Suyemoto, 1998).

However, whilst these theories have been proposed, and there have been several investigations into youth DSH, as yet, there has not been a review of the specific role played by dissociation. This systematic review will use current evidence to answer the question "what is the relationship between dissociation and self-harming behaviour in adolescents and young people?". Theoretical and clinical implications will be considered in light of the findings of the review.

2. Aims

The current review aims to collate and critically evaluate the evidence that dissociation plays a specific role in youth DSH. Suggestions about the nature of this role will be extracted from the data, appraised, and discussed. Clinical implications and suggestions for further research will be highlighted.

3. Methods

The Ovid literature search engine was used, with Embase, PsychINFO, PsycARTICLES and Ovid Journals databases selected.

The following search terms were used:

Dissociation: *Dissociation; dissociative; derealisation; derealization; depersonalisation; depersonalization; numbing*.
(NB: wildcard "dissociat*" was not used as this returns many papers entitled "Dissociating… [X] and [Y]..." which are not in the dissociation or trauma literature).

Self-harm: "self harm*"; "self mutilation"; "self injur*"; "self mutilat*"; DSH; NSSI; cutting; burning; overdos*

Age-range: youth; "young people"; teen*; adolesc*; child; "young adult*"

Only studies where DSH was the primary focus were included. Due to the occurrence of dissociation and DSH as symptoms of other disorders (and 'dissociation' used in other contexts, as above), search terms were limited to title, abstract and key-words of the paper, ensuring that a full-text search did not pick up irrelevant or secondary-focus uses of the terms.

The reference lists of the resulting papers were hand-searched for further relevant studies.

Definitions

'Youth' or 'young people' is defined here as adolescents and young adults – i.e. age 12 to 24 years – since the neurodevelopmental literature indicates the brain has not fully matured until the early 20s (Giedd, 2004).

In order to recognise the multiple possible non-suicidal functions of DSH, the review will define DSH as self-inflicted physical damage performed with any purpose other than the intention to die.

Whilst dissociation is defined as the disintegration of 'consciousness, memory, identity, emotion, perception, body representation, motor control, and behaviour' (p. 291; APA, 2013), there is nevertheless a lack of clarity regarding the exact symptoms that fit these criteria. As a result, a number of symptoms that are more usually thought of as elements of a trauma-response or even psychosis have also been considered as 'dissociative' (e.g. emotional numbing, or re-experiencing; Kennedy et al., 2013). Therefore, if symptoms such as these were considered in research studies within the search results, they are included in the analysis here as dissociative symptoms, despite many readers' familiarity with them as trauma symptoms.

In this way, both dissociation and DSH are considered as transdiagnostic features, not as diagnostic terms (e.g. Harvey et al., 2004).

Inclusion Criteria

Studies were considered for inclusion if they met the following criteria: written in English language; and participants in the adolescent to young-adult age range (12 – 24 years). Only quantitative research published in peer-reviewed journals was accepted.

Papers were included where dissociation was not the primary focus of the research question, but analysed as a secondary variable of interest. For example, many papers explored the association between depression and youth DSH, and included dissociation as a secondary variable, reporting statistics regarding its role in this context. These papers were included using the same data extraction methods described below.

One paper (Weierich & Nock, 2008) was included which did not name 'dissociation' as a construct, but explored 'numbing' symptoms. Some clinicians and theorists consider emotional numbing to be dissociative (e.g. Feeny et al., 2000; Kennedy et al., 2013; see above), and therefore this paper was included.

Exclusion Criteria

Papers exploring dissociation or DSH in the context of substance misuse or medical complications were excluded, as these cannot reliably be demonstrated to feature psychogenic dissociation, and generalisation from such contexts may not be valid.

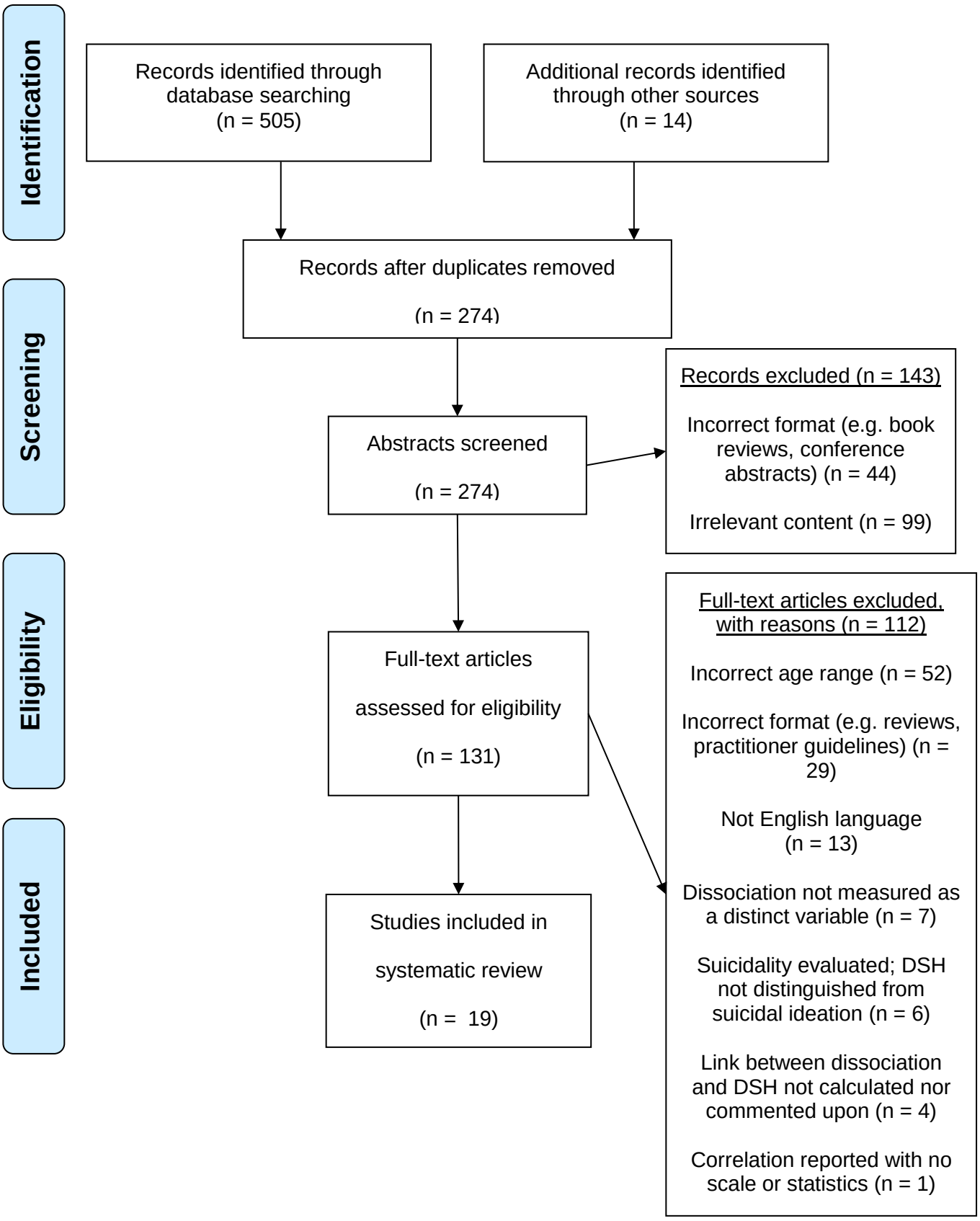
There were no limits set regarding the earliest date of publication, but the search was closed on 1st June 2016.

Data Extraction

To ensure that pertinent information was extracted and reported clearly, PRISMA checklists (Moher et al., 2009), and the Cochrane Handbook (Higgins & Green, 2011) were consulted. These documents informed the development of the data extraction tool (Appendix B).

The quality of the reviewed papers was assessed using prompts from the Cochrane Handbook (Higgins & Green, 2011), the Downs and Black checklist (Downs & Black, 1998), and the Critical Appraisal Skills Programme (CASP, 2014). Given no studies included in the review were randomised controlled trials, quality scores could not be calculated using Downs and Black's (1998) checklist.

Figure 1 - PRISMA 2009 Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

4. Results

Electronic database and hand-searching produced 274 results (after duplicates were removed). During abstract screening, 143 studies were excluded (99 because the study did not concern DSH or dissociation, and 44 because they were not in the format of a peer-reviewed published paper).

Of the remaining 131 papers, a further 112 were excluded. In most cases the age range did not fit the inclusion criteria (N = 52). A total of 19 papers met inclusion criteria and are included in the current review (Figure 1). These are detailed in the results table in Appendix C.

Results are discussed in four sub-groups, divided by the population sampled (community, clinical, youth offending, and care). This is because there is not sufficient evidence to suggest that the relationship between dissociation and DSH is the same in each of these populations. In particular, the clinical, care, and youth offending populations may be expected to have their own unique pressures which may also impact upon levels of dissociation and DSH (such as experiences of sexual abuse, or clinical levels of psychological distress).

4.1. Studies with Community, School and University Samples

The majority of papers (ten out of 19) used samples from the community, primarily from educational establishments (schools, colleges or

universities, N = 8). The studies were mainly carried out in Europe (N = 4) and the USA (N = 4).

Demographics and Key Features

One study (Rodriguez-Srednicki, 2002) used a female-only sample, whilst nine used mixed-gender samples (Armey & Crowther, 2008; Cerutti et al., 2011; Laukkanen et al., 2013; Rallis et al., 2012; Sho et al., 2009; Tolmunen et al., 2008; Weierich & Nock, 2008; Zetterqvist et al., 2014; and Zoroglu et al., 2003).

Reported mean ages of samples ranged from 15.9 years (Zoroglu et al., 2003) to 20.6 (Rodriguez-Srednicki, 2002). Four studies did not state a mean age, but gave an age range. Of these, Sho et al. (2009) stated only school grades (i.e. 5th to 12th grade students). Of those that reported ethnicity (only four studies), the largest ethnic group was Caucasian, except for Rodriguez-Srednicki (2002) where it was Hispanic (40.4%). The demographic details for each study sample can be found in Appendix C.

These ten studies comprise a sample of 8947 young people. However, this total is approximate as Laukkanen et al. (2013) and Tolmunen et al. (2008) used the same initial sample, but it is unclear how far their final samples overlap once they have been grouped according to DSH variables.

Note also that Rallis et al. (2012) and Weierich and Nock (2008) used the same sample of 86 participants. Further, this shared sample is the only one not recruited exclusively from an educational establishment. Instead, participants were recruited 'from the community using advertisements placed in local psychiatric clinics, newspapers, community bulletin boards, and on

the internet' (Weierich & Nock, 2008, p. 40). It is unclear whether this sample differs significantly from those recruited from schools and universities, as the influence of advertising in psychiatric clinics is not explored in either paper. As a result, Rallis et al. (2012) and Weierich and Nock (2008) are considered community samples here.

All ten studies followed a cross-sectional design requiring participants to complete self-report questionnaires at a single time-point.

To measure DSH, three studies used the SITBI (Self-Injurious Thoughts and Behaviours Interview; Nock et al., 2007), two used the DSHI (Deliberate Self Harm Inventory; Gratz, 2001), and five did not use a formal measure of DSH. For example, Cerutti et al. (2011) used questions about self-cutting based on a previously-published qualitative study, and Rodriguez-Srednicki (2002) used a background questionnaire to ask about recent and historical DSH.

To measure dissociation, five papers used the ADES (Dissociative Experiences Scale – Adolescent version; Armstrong et al., 1997), one used the TSC (Trauma Symptom Checklist; Briere & Runtz, 1989), one used the child version of the TSC (TSCC; Briere, 1996), one used the DES (Dissociative Experiences Scale; Bernstein & Putnam, 1986), one used the DES-II (Dissociative Experiences Scale – second edition; Carlson & Putnam, 1993), and one used the PTSD module of the K-SADS-PL (Kiddie Schedule for Affective Disorders and Schizophrenia - Present and Lifetime Version, Kaufman et al., 1997).

Key Findings

Nine papers used linear models of analysis: either parametric or non-parametric analyses of correlation or regression.

Only one paper (Rodriguez-Srednicki, 2002) did not reliably find a direct correlation between dissociation and DSH. A weak positive association was found when dissociation was measured using the Trauma Symptom Checklist (TSC) (Briere & Runtz, 1989), but when it was measured using the DES (Bernstein & Putnam, 1986), no correlation was found. Rodriguez-Srednicki (2002) suggests 'a possible difference in the underlying constructs measured by the two instruments' (p. 87) may be the cause of this mixed result. This seems an appropriate explanation, given that the DES was designed to measure depersonalisation and derealisation experiences, whilst the TSC measures broader symptoms of distress arising from trauma, and its dissociation scale consists of only six items ('flashbacks', 'spacing out', 'dizziness', 'memory problems', 'feeling that things are 'unreal'', and 'feeling you are not always in your body').

The remaining eight papers which used linear models of analysis found a positive correlation between dissociation and DSH in young adults and adolescents. Weierich and Nock (2008) and Rallis et al. (2012) both found that the presence and frequency of DSH were positively correlated with dissociation. Tolmunen et al. (2008) used logistic regression to determine that the group with high ADES scores had a higher risk of current cutting and DSH than the low-scoring group. This pattern was replicated by Sho et al. (2009) and Zoroglu et al. (2003), who used ANOVA analyses to show that groups with high dissociation scores had significantly higher DSH scores than groups with low dissociation scores.

Adding further detail, Laukkanen et al. (2013) found different strengths of correlation between DSH and dissociation depending on the location of the self-cutting. Cutting only on the arms was associated with less severe dissociation than cutting that also included other parts of the body (e.g. thighs, groin, or breasts).

As well as demonstrating a positive correlation between dissociation and youth DSH, Weierich and Nock (2008) also found that the PTSD symptoms of re-experiencing and numbing act as a mediator between childhood sexual abuse (CSA) and DSH. Since some clinicians consider these experiences to be dissociative (Kennedy et al., 2013, p. 2), this implies that these aspects of dissociation have a role in the development and maintenance of DSH in young people who have experienced CSA.

Zetterqvist et al. (2014) expand this further by exploring the role of dissociation in relation to Nock and Prinstein's (2004) distinction between 'automatic' and 'social' functions of DSH. According to this theory, sometimes DSH is carried out because it fulfils a function that is 'automatically reinforcing' (p. 885), such as helping achieve emotion regulation. It is also sometimes carried out for 'socially reinforcing' (p. 885) reasons, such as eliciting concern or care-giving from others, or providing escape or avoidance from social interaction. Zetterqvist et al. (2014) demonstrated that dissociation and depression together mediate between all three types of childhood abuse (sexual, emotional, and physical) and automatic functions of DSH. In addition, dissociation and anxiety together mediate between childhood physical abuse and social functions of youth DSH.

Whilst the tenth paper sampling from the community or education (Armey & Crowther, 2008) also found a positive correlation between dissociation and DSH, it used a non-linear 'cusp catastrophe' model. Armey and Crowther (2008) found that the relationship between dissociation and DSH fits a non-linear model. That is, dissociation contributes to DSH in such a way that at low levels, changes in dissociation have only limited impact upon DSH. At higher levels, even small variations can effect large changes in DSH. This relationship is in addition to the contribution of other factors, such as (low) positive affect, (high) sadness, rumination, hostility, fear, and shame. This finding is theoretically compatible with the positive correlation found by the two types of paper using linear models of analysis, as both demonstrate severe dissociation is associated with severe DSH.

Summary

Key findings from studies using samples from the community and educational establishments demonstrate that dissociation has a significant association with youth DSH. However, Rodriguez-Srednicki's (2002) result illustrates that the way in which dissociation is defined and measured is important in replicating this result. Where dissociation is defined as a range of depersonalisation and derealisation experiences (in the DES; Bernstein & Putnam, 1986) it is found not to correlate with DSH. However, when the focus is restricted to symptoms more frequently experienced as part of a trauma-response (as in the TSC dissociation subscale; Briere & Runtz, 1989) a significant association is found. Perhaps this is because Rodriguez-Srednicki's (2002) sample, whilst recruited from a general population,

compared students with and without CSA, and trauma-related symptoms might be expected to distinguish the two groups, even if both had high levels of general dissociation symptoms.

Nevertheless, throughout these ten papers, more severe dissociation was repeatedly found to positively correlate with more severe DSH (both in terms of frequency and number of locations harmed on the body). This was true whether the relationship was hypothesised to be linear, or non-linear (Armey & Crowther, 2008).

Some researchers (Weierich & Nock, 2008; Zetterqvist et al., 2014) found additionally that dissociation mediates the relationship between childhood abuse and adolescent DSH, possibly in conjunction with depression or anxiety.

4.2. Studies from Clinical Settings

Four papers used samples from mental health patient populations: two inpatient samples (Lüdtke et al., 2016; Swenson et al., 2008), one used a mix of outpatient and community participants (Glenn et al., 2014), and one a mix of in- and out-patient respondents (Ohmann et al., 2008).

Demographics and Key Features

Two studies were carried out in the USA, one in Austria, and the fourth in Switzerland and Germany.

In total, the studies included 615 participants with mean ages ranging from 14.91 (Swenson et al., 2008) to 17.34 years (Glenn et al., 2014). Only

two studies reported ethnicity and the largest ethnic group in their samples was Caucasian. Two studies used female-only samples.

All four studies used a cross-sectional design whereby participants were interviewed and / or completed self-report measures within a single assessment session.

Glenn et al. (2014) also included a between-group comparison of pain tolerance in self-injuring and non-self-injuring participants. Pain tolerance was measured using a physical apparatus which administered pressure pain to the participants' fingertip.

To measure DSH, all four studies used different measures or methods. Glenn et al. (2014) used the SITBI (Nock et al., 2007); Lüdtke et al. (2016) used a structured interview to determine the presence of the criteria proposed for the 'Condition for Further Study' of NSSI Disorder (p. 803, DSM-5; APA, 2013); Swenson et al. (2008) used chart reviews corroborated with the 'physical self-damaging acts' section of the K-SADS-PL (Kaufman et al., 1997); and Ohmann et al. (2008) do not state a clear measure or methodology.

Three studies used the ADES (Armstrong et al., 1997) to measure dissociation (two using the German translation), and one used the dissociation subscale of the TSCC (Briere, 1996).

Key Findings

Of these studies, only Swenson et al. (2008) found results similar to the papers using community samples. Following ANOVA analyses, Swenson et al. (2008) found a significant difference in dissociation levels between those

who engaged in self-cutting, and those who did not. They also found that the cutting group scored higher on dissociation. Swenson et al. (2008) argue that because their "noncutting" control group was also a psychiatric sample, their results indicate a role for dissociation in DSH beyond that of general psychological distress. They suggest that dissociation may thus have a causal or maintaining role in cutting behaviour. Swenson et al.'s (2008) statistical analysis, however, is not able to support this suggestion, and the opposite may be true.

If Swenson et al. (2008) are correct that dissociation acts as a causal or maintaining factor for DSH, then Glenn et al. (2014) indicate this is not because dissociation confers pain tolerance. In their study, Glenn et al. (2014) did not find a significant correlation between the ADES and measures of pain threshold or pain endurance, and thus rejected the theory that dissociative states are associated with inhibited processing of pain stimuli. The role of dissociation in youth DSH is therefore not one of reducing the perception of pain, according to Glenn et al.

In contrast to the conclusions thus far, Ohmann et al. (2008) and Lüdtke et al. (2016) conclude - following regression analysis - that dissociation is not a significant predictor of DSH. Ohmann et al. (2008) suggest this may be because 'adolescents, independently of their psychiatric disorder, escape more often and more easily into dissociative states when compared to adults' (pg. 233).

It is of interest that Ohmann et al.'s (2008) and Lüdtke et al.'s (2016) results disagree with those of Swenson et al. (2008), as all three include

inpatient participants, so it is unlikely that the severity of dissociation, DSH, or other mental health factors have influenced this difference in results.

Perhaps the difference is because Swenson et al. (2008), like Rodriguez-Srednicki (2002), measured trauma-related symptoms of dissociation, rather than more general experiences (as measured by the DES; Bernstein & Putnam, 1986). Perhaps where dissociation is expected to be high in either group (as in a clinical sample), the trauma-related dissociation symptoms distinguish between young people who engage in DSH and those who do not.

Summary

On the whole, the findings of studies using samples from clinical settings disagree with those found using samples from educational and community settings.

Swenson et al. (2008) did find that young people with high severity of DSH also score highly on measures of dissociation. However, when the definition of DSH is expanded beyond cutting alone, this pattern is no longer replicated by other studies in this population (Lüdtke et al., 2016; Ohmann et al., 2008).

The paper by Glenn et al. (2014) provides evidence to rule out one hypothesis about the role of dissociation in youth DSH by demonstrating that dissociation does not enable young people to better tolerate pain stimuli caused by DSH. However, it is important to note that this conclusion is made on the basis of one study alone, and that further study is required to corroborate Glenn et al.'s (2014) findings. Furthermore, this finding was the

result of an artificial laboratory situation, rather than being reflective of the usual context in which youth DSH occurs.

4.3. Studies with Young Offenders

Three papers used samples from young offender populations recruited from juvenile detention centres. One study took place in the USA (Chaplo et al., 2015), and two are from the same research group in Japan, using the same sample (Matsumoto et al., 2004, 2005).

Demographics and Key Features

Seven-hundred and twenty-six participants took part in these three studies, with a total age-range of 12 to 19 years, and very similar mean ages of 16.11 and 16.8 years. Only Chaplo et al. (2015) report ethnicity, stating that 56.6% are Caucasian.

Matsumoto et al. (2004, 2005) assessed DSH via a series of self-report questions asking about self-cutting (2004) and self-burning (2005). No validated DSH measures were used. Chaplo et al. (2015) used "a survey modified from the Lifetime-Suicide Attempt Self-Injury Count" (Linehan & Comtois, 1996) to assess DSH.

All three studies used the ADES (Armstrong et al., 1997) to measure dissociation (Matsumoto et al. 2004, 2005, used the Japanese version).

All studies used a cross-sectional design, with participants completing measures in one session, and measures compared within groups and between DSH and control groups.

Key Findings

Matsumoto et al. (2004, 2005) found an association between DSH and dissociation, using non-parametric correlation analyses. Young offenders with higher levels of dissociation are more likely to engage in self-cutting and self-burning, rather than only one of these (Matsumoto et al., 2005). Moreover, different locations of cutting may have different strengths of correlation with dissociation (Matsumoto et al., 2004). Matsumoto et al. (2004) found cutting around the arms is more strongly correlated with both dissociation and emotional reasons for engaging in DSH (e.g. 'out of anger', p. 380). Cutting on the wrists, however, was more strongly correlated with intent to die.

The interrelation of dissociation and emotion regulation found by Matsumoto et al. (2005) is supported by the third paper to use a sample of young offenders. Chaplo et al. (2015) used Hayes' (2013) macro to test for mediation and moderation, and found that dissociation does not independently mediate the relationship between trauma (specifically, CSA) and DSH. Instead, it does so in combination with the additional factor of emotional dysregulation, which may suggest that the function of dissociation here is also emotion regulation.

Summary

Chaplo et al.'s (2015) and Matsumoto et al.'s (2004) findings suggest a specific role for dissociation as part of an emotion- or self-regulation process in DSH. Chaplo et al. (2015) also support Weierich and Nock (2008) and

Zetterqvist et al.'s (2014) suggestions that dissociation may be particularly important in the context of DSH after childhood trauma (particularly CSA).

However, the finding by Matsumoto et al. (2005) that more severe dissociation is associated with engaging in multiple methods of DSH does not fit the hypothesis regarding Lüdtke et al. (2016) and Ohmann et al.'s (2008) inconsistent findings. The suggestion that when the definition of DSH is expanded beyond cutting alone, the association between high dissociation and more severe DSH fails, is not supported by Matsumoto et al. (2005). One possibility is that there are some methods of DSH that do not follow the same pattern in relation to dissociation as do self-cutting and self-burning. These other methods (e.g. self-pinching, self-poisoning, or head-banging) may have been included by Lüdtke et al. (2016) and Ohmann et al. (2008). However, this is unclear since these two papers do not report the DSH methods included in their samples.

4.4. Studies with Young People in Care

Two studies used samples of young people in care or 'protective placement', one carried out in Canada (Cyr et al., 2005), and one in Israel (Lev-Wiesel & Zohar, 2014).

Demographics and Key Features

Together, these studies incorporate 242 females (both used female-only samples) between the ages of 13 and 18, with sample mean ages of

14.3 years (Cyr et al., 2005), and 15.14 years (Lev-Wiesel & Zohar, 2014). Neither paper reported on ethnicity.

Lev-Wiesel and Zohar (2014) used a cross-sectional design, with participants completing one set of measures in a single session. Cyr et al. (2005) also used a cross-sectional design, but included a nine-month follow-up assessment. Thus, there is change-over-time data for 66 young people recruited from care service settings.

Deliberate self-harm was assessed via self-report by Lev-Wiesel and Zohar (2014) and via the Self-Destructive Behaviours Inventory (Sadowski, 1995) by Cyr et al. (2005).

Lev-Wiesel and Zohar used the Hebrew version of the ADES (Armstrong et al., 1997) to measure dissociation, whilst Cyr et al. used the TSCC, which includes a dissociation subscale (Briere, 1996).

Both studies incorporated childhood abuse into their research questions and analysis. Cyr et al. (2005) had an entry criterion that included a history of CSA, and Lev-Wiesel and Zohar (2014) - who collected information about history of abuse in the demographics – reported CSA histories in 76.3% of their sample.

Key Findings

Both papers suggest a high rate of DSH in adolescent females in care who have also experienced CSA (e.g. 63.4%; Lev-Wiesel & Zohar, 2014, p. 827).

Cyr et al. (2005) report the results of a logistic regression showing that their high DSH group had significantly higher levels of dissociation than the

low (or no) DSH group. The high DSH group scored in the clinical range for dissociation on the TSCC.

By carrying out a multinomial logistic regression, Cyr et al. (2005) were able to demonstrate that a decrease in dissociation score accounted for the difference between participants who reduced DSH between the first and second time-point, and those that maintained DSH. Those who showed reduced dissociation scores also had reduced DSH, implying that dissociation has a causal or maintaining relationship with DSH, rather than either one being merely a risk factor for the other.

Lev-Wiesel and Zohar's (2014) study supports this finding. These authors carried out a multiple regression analysis to determine which of a number of factors predicted changes in DSH frequency, and found that only dissociation as measured by the DES did so. Peri-traumatic dissociation (as measured by the Peritraumatic Dissociative Experiences Questionnaire; Marmar et al., 1997), age, CSA, depression, and potency (a measure of self-confidence, self-control, and mastery) did not produce a statistically significant result.

Given the high rate of CSA in these samples, it could be argued that the results also support Weierich and Nock (2008) and Zetterqvist et al.'s (2014) suggestions that dissociation may be particularly important in the context of DSH after childhood trauma.

Indeed, Cyr et al. (2005) state that 'abused adolescents in the high [DSH] group were more than eight times as likely as those in the low [DSH] group to present with clinical levels [of depression and dissociation]' (p. 58). This pattern is expanded by Lev-Wiesel and Zohar (2014), who report that in

participants who did not engage in DSH, the presence of a CSA history did not result in high levels of dissociation. However, in adolescents who did engage in DSH, those who had also experienced CSA had higher levels of dissociation than adolescents who did not. This suggests that the presence of CSA alone does not result in high dissociation, but that young people presenting with both DSH and a history of CSA can be expected to score highly on measures of dissociation.

Summary

Both papers support the majority of the previously discussed research, in that they implicate dissociation in youth DSH. They expand on previous correlational findings by demonstrating causation: changes in dissociation levels lead to changes in levels of DSH.

These results also suggest that CSA alone does not elevate dissociation levels, but that the combination of CSA and DSH is associated with particularly high levels of dissociation. However, from these results it is not possible to determine causality: that is, whether CSA and DSH result in high dissociation, or whether CSA and high dissociation result in DSH.

This is particularly problematic given the previously discussed mediation analyses (e.g. Chaplo et al., 2015) which indicate that dissociation may also partially mediate the relationship between CSA and DSH.

Models of DSH which incorporate dissociation will need to be able to explain and incorporate both of these results.

5. Critical Review

5.1. Definition of Key Concepts

With concepts as complex and potentially broad as dissociation and DSH, it is particularly important for researchers to clarify exactly what they mean when they use these terms. This enables comparison across studies and allows readers and reviewers to determine whether mixed results might be due to studies measuring different phenomena but using the same name for the concept.

Dissociation

The majority of studies (N = 11) did not define what they meant by 'dissociation'. This may be an artefact of the research questions: most often, dissociation was one of many variables investigated in relation to youth DSH, rather than the primary variable of interest (e.g. in Swenson et al., 2008).

Of those that did offer some definition of dissociation (N = 8), conceptualisations varied. Tolmunen et al. (2008) described a broad range of symptoms, including amnesia, depersonalisation, derealisation, identity alteration, and absorption; Rodriguez-Srednicki (2002) refers to dissociation as a 'defence mechanism' (p. 77); and Chaplo et al. (2015) refer to it as a 'posttraumatic symptom' (p. 274). Some studies (N = 3) (e.g. Zoroglu et al., 2003) simply stated that dissociation is a 'frequent concomitant of self-injury' (p. 120), rather than elucidating its properties, or offering a definition of the construct in its own right.

It is unclear whether this variability in definitions is intentional. It may be that the researchers have decided to look at a particular aspect of dissociation, or it may simply reflect the general confusion in the field as to how best to define 'dissociation'. The latter explanation better accounts for the lack of detail in the majority of the definitions given.

Chaplo et al.'s (2015) definition highlights another difficulty: the potential confound between PTSD and dissociation. As discussed below, five papers use PTSD or trauma scales to measure dissociation. In fact, Weierich and Nock (2008) do not use the term 'dissociation' at all in their paper. Dissociation is known to be a major feature of trauma responses, including in PTSD (e.g. van der Hart et al., 2005). Indeed, a 'dissociative type' of PTSD has now been included in DSM-5 (p. 274, APA, 2013). Nevertheless, there is still uncertainty in the field as to what symptoms constitute dissociation (Kennedy et al., 2013). This means that some elements of PTSD (e.g. re-experiencing) may not be considered by all researchers to be dissociative in nature, but have been included in these analyses.

Self-Harming Behaviour

There was greater consistency among studies in definitions of DSH, perhaps aided by coherent characterisations supplied by NICE (2013), DSM-5 (APA, 2013), the International Society for the Study of Self-Injury (ISSS) (2007), and Nock (2010). Indeed, the majority of studies paraphrased the ISSS definition of DSH ('deliberate, self-inflicted destruction of body tissue without suicidal intent'). This definition has many merits, as it is non-blaming and neutral in stance, covers a wide range of forms of DSH, and does not

presume a particular function of the behaviour. This is therefore a strength of the literature.

Some studies specified a particular method of DSH that they wished to assess, such as self-cutting or self-burning. However, some did not specify what forms of DSH were captured in their sample. This is a limitation of the literature, as it is unclear whether findings can be generalised across different methods of DSH.

5.2. Measures

Using valid and reliable measures with good psychometric qualities ensures that data is of good quality. Scales with high validity can be expected to be measuring the factor of interest, without also including confounding variables, whilst scales with high reliability are not unduly influenced by the specific sample being tested. This is important for confidence in the results obtained by a study, and therefore its conclusions.

Moreover, where studies use the same measure of a construct, pooling of data or comparisons across studies can more easily be carried out.

Dissociation

Table 1 summarises the different dissociation measures used in the nineteen eligible papers, as well as their psychometric properties. It shows that the vast majority of studies (N = 14) used a version of the Dissociative Experiences Scale, with most using the adolescent version (Adolescent Dissociative Experiences Scale, ADES; Armstrong et al., 1997) (N = 10).

This is a strength of the literature, as the ADES is more appropriate than the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) or the DES-II (Carlson & Putnam, 1993) for this population, as it is designed to be used with young people.

The DES and the Trauma Symptoms Checklist for Children (TSCC; Briere, 1996) were the next most-popular measures (N = 4 and N = 3 studies respectively). Although the use of the TSCC is appropriate to the age range of the samples, it is less helpful for exploring the role of dissociation in youth DSH than the ADES, since dissociation is only measured by one subscale of the TSCC.

This is also true of the Trauma Symptoms Checklist (TSC; Briere & Runtz, 1989), which is additionally limited by being designed for an adult population.

Since dissociation was defined by the present study as encompassing emotional numbing, one study (Weierich & Nock, 2008) is included which uses a PTSD measure, rather than a measure of dissociation or trauma responses. Weierich and Nock (2008) use the PTSD module of the Kiddie Schedule for Affective Disorders and Schizophrenia – Present and Lifetime Version (K-SADS-PL) (Kaufman et al., 1997). This presents limitations to the conclusions drawn from their study, since emotional numbing symptoms form part of the 'avoidance/numbing' subscale, and therefore findings may be confounded by avoidance symptoms, which may not be dissociative. Similarly, scales measuring trauma responses (e.g. TSCC; Briere, 1996) may also confound PTSD and dissociative symptoms, particularly as it is currently unclear how best to distinguish between the two.

The relative consistency in researchers' choice of primary measure for dissociation, however, is a strength, as it allows better comparison across studies.

The majority of researchers report the internal consistency (Cronbach's alpha) for their chosen dissociation measure using their own participant sample, and these tended to be very high. This is helpful to determine the internal consistency of the scale, but does not indicate its test-retest reliability or convergent validity. Some researchers state psychometric properties found by other researchers, which allows a general indication of the quality of the measure. However, it is important to note that these statistics are likely to be different when applied to a new participant sample, and so do not necessarily represent the psychometric properties of the measure in the current sample.

Many researchers used translations of a dissociation measure where there are few or no available statistics. The majority stated at least internal consistency psychometrics to demonstrate the scale's reliability. However, neither Laukkanen et al. (2013) nor Tolmunen et al. (2008) report psychometrics from their own sample, instead stating that a back-translated version of the ADES was accepted by the author of the ADES '(Armstrong, 2004, personal communication)' (p. 769; Tolmunen et al., 2008). Both cite papers which report good psychometrics for the English version of the ADES, but nevertheless, the psychometric properties of Finnish version used are unclear.

Further, where statistics for the psychometric properties of the scales were available, the majority concerned reliability, rather than validity. This is

important, as the validity of the scale determines whether it is measuring the intended construct (i.e. dissociation).

Table 1
Summarising the dissociation measures used by the nineteen research papers with their psychometric properties.

Measure	No.	Studies	Reliability & Validity (Statistics are from the paper's own sample unless otherwise stated)
ADES (Armstrong et al., 1997)	10	Chaplo et al. (2015);	Cronbach's alpha = 0.94
		Glenn et al. (2014);	Cronbach's alpha = 0.95
		Rallis et al. (2012)	Cronbach's alpha = 0.95
		Finnish translation	
		Laukkanen et al. (2013); Tolmunen et al. (2008)	*No psychometric properties available.*
		German translation	
		Ohmann et al. (2008)	Cite the publishers of the measure (Testzentrale), whose website reports: Cronbach's alpha = 0.94 Split half reliability: r = 0.90 Inter-rater reliability: kappa = 0.82
		Italian translation	
		Cerutti et al. (2011)	Cronbach's alpha = 0.91
		Japanese translation	
		Matsumoto et al. (2004, 2005);	Cronbach's alpha = 0.94
		Sho et al. (2009)	Cite Matsumoto's figure of 0.94.
DES (Bernstein & Putnam, 1986)	4	Rodriguez-Srednicki (2001);	Cite the authors of the scale: Bernstein & Putnam (1986): <u>Test-Retest Reliability:</u> r = 0.84, p < 0.001 <u>Split-half Reliability:</u> r = 0.71, p < 0.001
		German translation	
		Lüdtke et al. (2016);	Cronbach's alpha = 0.91
		Hebrew translation	
		Lev-Wiesel & Zohar (2014);	Cronbach's alpha = 0.93
		Turkish translation	

		Zoroglu et al. (2003)	Cronbach's alpha = 0.91 Spearman-Brown split-half reliability = 0.84, $p < 0.001$
Dissociation subscale of TSCC (Briere, 1996)	3	Cyr et al. (2005);	Cite Briere (1996) and Jouvin et al. (2002) as reporting reliability and validity data for the English and French versions of the TSCC, respectively. Do not state which they have used, or psychometrics from their own sample.
		Swenson et al. (2008);	Cite Briere's (1996) Cronbach alphas which range from 0.82 to 0.89.
		Zetterqvist et al. (2014)	Dissociation subscale: Cronbach alpha = 0.87 Test-retest reliability: r = 0.81 Concurrent and criterion-related validities 'satisfactory' (p. 5).
DES-II (Carlson & Putnam, 1993)	1	Armey & Crowther (2008)	Cite Bernstein & Putnam (1986)'s split-half reliabilities of 0.96 for a clinical sample, 0.71 for a non-clinical sample, and 0.95 for a college sample. Do not state psychometrics from their own sample.
Dissociation subscale of TSC (Briere & Runtz, 1989)	1	Rodriguez-Srednicki (2001)	Cite the authors of the scale (incorrectly): Briere & Runtz (1989): Dissociation subscale: Cronbach's alpha = 0.75
PTSD module of K-SADS-PL (Kaufman et al., 1997)	1	Weierich & Nock (2008)	<u>Interrater Reliability:</u> kappa = 0.93 <u>Kaufman et al. (1997):</u> <u>Test-Retest Reliability:</u> kappa = 0.60 – 0.67

Key:	
r	*Pearson's r, a statistic for correlation.*
ADES	Adolescent Dissociative Experiences Scale
DES	Dissociative Experiences Scale
DES-II	Dissociative Experiences Scale II
K-SADS-PL	Kiddie Schedule for Affective Disorders and Schizophrenia – Present and Lifetime Version
TSC	Trauma Symptoms Checklist
TSCC	Trauma Symptoms Checklist for Children

Self-Harming Behaviour

Table 2 summarises the different DSH measures used, and their psychometric properties. It shows that over half the studies (N = 11) did not use a validated measure of DSH, or used modified measures without sufficient detail for replication.

For example, Chaplo et al. (2015) used a 'modified' version of an existing measure (the Lifetime-Suicide Attempt Self-Injury Count; Linehan & Comtois, 1996), without providing detail on how it had been altered. Lüdtke et al. (2016) used a 'structured interview' based on DSM-5 (APA, 2013) criteria, but again, did not give enough detail for replication.

As a result, the majority of measures of DSH used in these studies have unknown psychometric properties. This is a severe limitation of the studies, since the data collected cannot be judged to be valid or reliable. This in turn has implications for the validity of any conclusions drawn from the analysis of the data.

Of those that used a validated measure of DSH, the most popular two scales were the Self-Injurious Thoughts and Behaviours Interview (SITBI; Nock et al, 2007) (N = 3) and the Deliberate Self-Harm Inventory (DSHI; Gratz, 2001) (N = 2). Both measures have good psychometric properties, as stated in Table 2, although Latimer et al. (2013) state that they are 'most relevant to a narrow conceptualisation of DSH methods' (p. 10). The SITBI has the most robust psychometric validation of all DSH scales used, including inter-rater and test-retest reliability, as well as internal consistency statistics, all of which indicate a high quality measure.

Table 2
Summarising the measures of Deliberate Self-Harm (DSH) used by the nineteen research papers, with their psychometric properties.

Measure	No. Studies	Studies	Reliability & Validity (for DSH items only unless otherwise stated; statistics taken from the measure's original publication article unless otherwise stated)
No validated measure of DSH	11	Chaplo et al. (2015) ('survey modified from the Lifetime-Suicide Attempt Self-Injury Count'; Linehan & Comtois, 1996) Ohmann et al. (2008) (no detail given) Laukkanen et al. (2013); Tolmunen et al. (2008) (questionnaire based on a qualitative study) Lev-Wiesel & Zohar (2014) (self-report, method not stated) Lüdtke et al. (2016) ('assessed using the proposed DSM-5 criteria' for NSSI Disorder) Matsumoto et al. (2004,2005); Zoroglu et al. (2003) (self-report questionnaire designed by the authors) Rodriguez-Srednicki (2001) ('extensive demographic and background questionnaire') Sho et al. (2009) (direct question with multiple choice answer)	*No psychometric properties available.*
SITBI (Nock et al, 2007)	3	Glenn et al. (2014); Rallis et al. (2012); Weierich & Nock (2008)	<u>Interrater Reliability:</u> kappa = 1.0 (excellent) <u>Test-Retest Reliability:</u> kappa = 1.0 (excellent) <u>Construct Validity:</u> K-SADS-PL DSH: kappa = 0.74 (good) FASM DSH presence: kappa = 1.0 (perfect) FASM DSH lifetime frequency: kappa = 0.99 (excellent)

DSHI (Gratz, 2001)	2	Armey & Crowther (2008); Cerutti et al. (2011)	<u>Internal Consistency:</u> Cronbach's alpha = 0.82 (high) Cerutti et al. (2011) used an Italian translation and reported Cronbach's alpha = 0.68 (adequate) <u>Test-Retest Reliability:</u> r = 0.92, p < 0.001 <u>Construct Validity:</u> Borderline Personality Organisation measure: r = 0.48, p < 0.001 Suicide Behaviours Questionnaire: r = 0.35, p < 0.001
Self-Destructive Behaviours Inventory (Sadowski, 1995)	1	Cyr et al. (2005)	*Unpublished measure.* <u>Internal Consistency:</u> Cyr et al. (2005) for the nine DSH items: Cronbach's alpha = 0.68. Wright et al. (2004) report adequate reliability for the 16-item version: Cronbach's alpha = 0.77.
Non-Suicidal Physical Self-Damaging Acts module of the K-SADS-PL (Kaufman et al., 1997)	1	Swenson et al. (2008)	*No psychometric properties available.* Kaufman et al. (1997) does not state psychometric properties for the DSH module.
FASM (Lloyd et al., 1997) Swedish translation: Zetterqvist et al. (2013)	1	Zetterqvist et al. (2014)	*Unpublished measure: poster presentation.* *Swedish Version:* <u>Internal Consistency:</u> Cronbach's alpha = 0.84 <u>Test-Retest Reliability:</u> r = 0.51-1.0 (average r = 0.76) <u>Concurrent Validity:</u> Judged against the DSHI: r = 0.11 – 0.82 (average r = 0.60)

Key:

r	*Pearson's r, a statistic for correlation.*
DSHI	Deliberate Self-Harm Inventory
FASM	Functional Assessment of Self-Mutilation
K-SADS-PL	Kiddie Schedule for Affective Disorders and Schizophrenia – Present and Lifetime Version
SITBI	Self-Injurious Thoughts and Behaviours Interview

5.3. Recruitment

The majority of studies recruited from community educational settings. This is a convenient way of gaining large samples of children and young people, but does have ethical implications.

For example, Zoroglu et al. (2003) do not give specific details, but appear to have introduced their study within the classroom environment and taken completion of questionnaires as evidence of informed consent (i.e. an 'opt out' method). This has its benefits, as there is less chance of self-selecting bias as in 'opt in' studies. However, the 'opt out' method also has its drawbacks, particularly considering the power differential between educational and / or research staff, and the students being asked to complete the research forms. This may affect the validity of the data, as participants may be less honest in their answers and presents ethical implications, for example, regarding perceived coercion.

A similar dynamic may be present in Armey and Crowther's (2008) study, where participants were undergraduates on a psychology degree course. It is unclear whether or not the research was introduced in the context of the students' lectures (e.g. immediately after a university lecture), and what effect this may have had on recruitment and students' perceived ability to decline to participate.

It is also of note that Armey and Crowther (2008) encouraged participants to complete the questionnaires 'in small groups' (p. 11). As well as having implications for confidentiality, this method potentially compromises the validity of the responses, for example, due to the impact of social expectations, or shame responses.

In general, researchers recruiting from educational settings (N = 8) did not include enough detail about their recruitment methods for replication to occur. On a more positive note, of those recruiting school-age children (N = 6), the majority (N = 5) explain that they gained parental consent (Zoroglu et al., 2003, do not).

Other methods included poster advertisement (e.g. Glenn et al., 2014) or approaching all young people entering a service or setting within a particular timeframe (e.g. Ohmann et al., 2008). The former has the benefit of ensuring that participants are aware that their contributions are voluntary, whereas the latter may raise issues of power (i.e. between the staff proposing the research and the patient), and therefore coercion. Nevertheless, the latter may have a better response rate, as people are able to ask questions about participation immediately, rather than needing motivation to enquire further.

Only two studies stated that a financial incentive was offered, and only one study stated that they decided against financial incentives 'to eliminate any perceptions of coercion' (Chaplo et al., 2015, p. 276). There is not enough information to determine whether the studies which offered financial incentives did so in a way that was coercive. This is also true for the studies that do not state whether or not they used rewards for participation.

5.4. Participants

Ages

All studies reported either an age-range, mean age, or both for their sample (see Appendix C).

Generalisability

The majority of studies are from Western cultures (seven from USA, one from Canada, and six from Northern or Western Europe). Three studies came from Japan, one from Israel, and one from Turkey. Where studies reported ethnicity, the majority recorded Caucasian as their largest ethnic group. Therefore, the results found by these papers appear to be most applicable to White Western young people, with limited evidence for generalisation outside of these parameters.

It is also important to note the variation within the research samples in terms of abuse history. Whilst some studies used an inclusion criterion of a history of known abuse (e.g. Cyr et al., 2005), others used a university community sample without recording abuse histories (e.g. Armey & Crowther, 2008). This makes it difficult to determine whether these results are generalizable to young people without a history of childhood abuse, and whether samples such as Cyr et al.'s (2005) and Armey and Crowther's (2008) can be compared.

5.5. Design

The design of a study is crucial to understanding what conclusions may be drawn about its findings.

All but one of the nineteen studies used a cross-sectional design (Cyr et al., 2005), which analyse data taken at a single time point. While a convenient design, the relative lack of longitudinal studies, and absence of experimental designs mean it is difficult to draw conclusions about causality. As a result, it is not possible to tell from many of these studies whether dissociation acts on DSH, or vice versa. This means it is difficult to determine whether the "dissociation-inducing" or the "dissociation-escaping" hypothesis of youth DSH is better supported by the available evidence.

Cyr et al. (2005) use a longitudinal design which included a 9-month follow-up time-point, where the same questionnaires were repeated from the first time point. They state this was done 'on an exploratory basis' to identify 'psychological correlates of the persistence of self-mutilating behaviour' (p. 61). It is tempting to believe that this design, with the multinomial logistic regression carried out by Cyr et al. (2005) infers causation. The analysis determined which factors at Time One could explain changes in DSH at Time Two. However, there was no analysis to determine whether any factors at Time One explained changes in *dissociation* at Time Two, and it is possible that this may have resulted in DSH being implicated – thus leading once more to no clear answer as to the direction of causality.

5.6. Analysis

As expected from the designs of the studies, analysis focused primarily on correlation and regression (N = 16), some with mediation analyses incorporated (N = 4). Some studies also made use of ANOVA or Mann-Whitney U tests to determine differences between low and high scoring groups (N = 3). These analyses are appropriate for the study designs, but are somewhat limited in their explanatory power. For instance, correlation and simple regression analyses cannot determine the direction of the relationship (i.e. causation), and there is disagreement as to whether or not mediation analyses are able to do so (Green et al., 2010).

Studies that attempted to move beyond this limitation were those that used logistic regression (e.g. Laukkanen et al., 2013; Tolmunen et al., 2008) to calculate odds ratios (e.g. the odds of being in a 'high DSH' group given a particular increase in score on the dissociation measure). However, as with simple regression, the direction of causality in this relationship is determined by the researchers, and therefore can be incorrect.

The reporting of statistics is variable, with most papers reporting basic effect sizes, such as the r statistic for correlation, but some omitting effect sizes in further analyses (e.g. Cramer's V in Chi-Square analyses in Cerutti et al., 2011, and Glenn et al., 20104; or Eta-Squared in ANOVA analyses in Cyr et al., 2005).

No study reports a power calculation to justify their sample size or analysis, and eight do not clearly state whether they checked the assumptions of parametric tests in their data prior to analysis. Generally, the papers appear to have large sample sizes; however, once the sample is sub-

divided into groups, the adequacy of the sample size is called into question. For example, Matsumoto et al. (2004) begin with a sample of 201 adolescents who engaged in DSH, but this gave much smaller group sizes. Their group of adolescents who engaged in arm-cutting had n of 19, the wrist-cutting group had five, and the group of adolescents who cut in both locations contained only nine participants. These group sizes are particularly low.

Of note is the analysis carried out by Armey and Crowther (2008), which differed from the analyses in all other studies in that it was non-linear. Here, the research aim was to test a cusp catastrophe model, which was achieved using a statistical software program (Hartelman's 1996 Cuspfit program). This analysis adds further detail to our understanding of the correlation between youth DSH and dissociation as reported by other studies, as it indicates a more complex relationship between the two.

6. Discussion

A major strength of the current review is the consistency of the findings described by the included studies. Despite their limitations, there are only two papers which do not support the finding that more severe dissociation is associated with more severe DSH. This consistency is evident despite differences in methodology (including choice of measures), indicating that this is a valid result.

This review is the first to explore the role of dissociation in self-harm, and is therefore valuable in better understanding the connection between these two important and clinically challenging phenomena.

However, it is important to note that this review is provisional, and requires replication. Replication of this review in future will capture more up-to-date research as this is ongoing in the field. It would also potentially offer different opinions on the studies' strengths and limitations.

Review limitations

The evidence with which the current review makes its conclusions is of mixed quality. Definitions of the key concepts of dissociation and youth DSH are omitted or vary between papers, meaning that it is difficult to be sure that the same constructs are being measured across studies.

The generalisability of the findings are limited by participant demographics or lack of detail regarding recruitment. For example, the majority of participants were White, female, and from the USA or Europe. It is difficult, therefore, to determine how well these findings would generalise to other ethnic and cultural groups. The relatively small sample sizes used

by many studies once their original sample had been divided into subgroups are also problematic.

A further point which may prove a limitation of the current review is the age-range used to define 'youth' (12 to 24 years). Whilst neuropsychological literature supports the idea that brain development is still ongoing throughout this period, it is important to note that this is a wide-ranging age group, and that a twelve-year-old may be expected to function very differently from a 24-year-old.

Suggestions for Future Research

Future research would be aided by reaching a consensus on how best to measure and report DSH, providing more fine-grained detail, agreeing on a definition of dissociation, and moving beyond cross-sectional designs. In order to address the aforementioned limitations of generalisability, future studies should also aim to use more diverse samples.

Measuring DSH is a challenge because some researchers prefer to treat the concept as a demographic variable (i.e. the young person does or does not have a history of DSH), whilst some treat it more as a symptom of distress (i.e. intensity of DSH within the past week). It may be more helpful for analysis to measure youth DSH following the latter structure, as this is more in-keeping with the way in which other variables, such as low mood or anxiety, are currently measured. It may also be more clinically helpful, as it better captures the person's experiences of DSH and their current risk.

Further, the majority of studies reviewed here did not specify what method of DSH they were studying, or else limited their sample to cutting

only. There is some suggestion in the results (see above discussion of the differences between Swenson et al., 2008, and Lüdtke et al., 2016 and Ohmann et al., 2008) that different types of DSH have different associations with dissociation, and therefore future research should aim to provide more detail regarding the types of DSH present in their sample.

With regards to dissociation, whilst there is still uncertainty within the field about what experiences are dissociative, and whether any PTSD symptoms may also be included in this definition, there will continue to be difficulty comparing across studies purporting to measure dissociation. It would therefore be of benefit to the scientific community for the concept of dissociation to be clarified. Ideally this should be done in a 'bottom-up' manner, incorporating a broad range of service user experiences to ensure that the result is ecologically valid.

Future research would also benefit from consideration of study designs that move beyond correlational analysis and give a more sophisticated picture of the relationship between dissociation and youth DSH. This work has been started by Cyr et al. (2005), which requires further replication. However, the field would also be improved by consideration of experimental or manipulation design studies. These would need to be very carefully planned due to the ethical implications of manipulating youth DSH. Perhaps this could be addressed via a study evaluating the results of an intervention for dissociation on measures of youth DSH, since the evidence available here would hypothesise that such an intervention would reduce, not increase, youth DSH.

Theoretical Implications

In light of the current review, it is still not possible to determine whether dissociation is induced by DSH as a means of escape from the internal world, or whether it is an experience to be escaped, which can be achieved via DSH generating emotional experience. Although Rallis et al. (2012), suggest that their results support the hypothesis that DSH is used to escape dissociation and generate feelings again.

Both of these functions – escaping negative emotion, and emotion generation – are defined as 'automatic' functions (e.g. Matter, 2010), and the current review therefore supports the theory that DSH occurs for these automatic, or internal regulatory, functions. This was demonstrated in particular by the studies which found that DSH is closely associated with emotion-regulation (e.g. Matsumoto et al., 2005; Chaplo et al., 2015). Indeed, dissociation may constitute one of the processes within emotion-regulation. This association requires further delineation in future research.

Evidence for so-called 'social functions' of youth DSH (Matter, 2010), however, is minimal in the current review. The social outcomes of bringing others closer, or distancing oneself by using DSH were not mentioned in the majority of the studies. In fact, only one study (Zetterqvist et al., 2014) mentioned these functions at all. Perhaps the search method of this review did not find papers where social functions of DSH were the main focus because when researchers explore the social functions of DSH, they do not also measure dissociation.

It is difficult to draw any further theoretical implications from the current review due to the limitations of the available evidence.

Clinical Implications

The positive correlation between youth DSH and dissociation found in this review has implications for how clinicians work with young people presenting with one of these difficulties. If a young person presents with either dissociation or DSH, it may be clinically useful to also ask about the other construct, as this can reasonably be expected to be present too.

Expanding on this, the severity of one may be a clue as to the severity of the other, and this may be helpful to consider during psychological and risk assessments.

It could be argued that the current review highlights the importance of asking about dissociation during assessment and intervention. High levels of dissociation were repeatedly demonstrated by researchers within these 19 studies, and yet dissociation is still under-recognised and poorly understood in the clinical domain (Simeon, 2004).

Treatment development may benefit from bearing these conclusions in mind. The results of this preliminary review imply that successful treatments for youth DSH may need to also address dissociation, or consider its impact upon intervention delivery. Further, developing interventions for dissociation itself may also be clinically useful for young people.

7. Conclusion

Dissociation is implicated in the maintenance of youth DSH, with some limited evidence that it plays a causal role as part of an emotion-regulation process. This may be particularly important in young people with a history of CSA. The review found consistent reports that more severe dissociation is associated with more severe youth DSH.

However, the evidence from which these conclusions are drawn are limited by measurement difficulties, cross-sectional designs, and inconsistent definitions of key constructs.

Clinicians should nevertheless be aware of the association between youth DSH and dissociation, and be prepared to ask about one construct if it is clear that the other is present. Development of interventions for youth DSH should also take this association into account, and may wish to incorporate techniques which aim to reduce dissociation.

Future research must address the limitations described here and expand on the current findings by studying different methods of DSH and using more diverse samples. Clarification of the construct of dissociation would be of particular benefit to future research.

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Oxford Doctoral Course in Clinical Psychology

Paper B

Developing a New Measure of Dissociation

Emma Černis

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Abstract

The field of dissociation is receiving increasing attention, despite a lack of coherent conceptualisation of the construct. Advances in the field would be aided by a measure that reflects service user experiences of dissociation and can be easily scored. The current study describes the development of a new measure of dissociative experiences that aims to fulfil these criteria. Resource searching and feedback from clinicians (n = 3) and service users (n = 6) were used to develop an extensive item pool. An online sample (n = 691) provided data for a factor analysis of the item pool. This produced a measure with five subscales: 'unreality', 'numb and disconnected', 'memory blanks', 'zoned out', and 'vivid internal world'. Analysis indicated that the new measure has high internal consistency and high convergent, divergent, and discriminant validity. Areas for further development of the scale are outlined.

Keywords: *dissociation, psychometrics, measure, scale, scale-development, depersonalization, derealisation, dissociative disorders*

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1. Developing a New Measure of Dissociation

'Dissociation' according to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association [APA], 2013) involves 'disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behaviour.' (p. 291). The fourth edition of the DSM states that this 'disturbance may be sudden or gradual, transient or chronic.' (p. 477; DSM-IV-TR; APA, 2000).

Whilst the DSM-5 (APA, 2013) and the International Statistical Classification of Diseases and Related Health Problems, tenth edition (ICD-10; World Health Organisation, 1992) categorise distinct 'dissociative disorders', dissociative symptoms cut across many different diagnoses. Previous estimates report that they occur at a rate of 15-30% in post-traumatic stress disorder (PTSD; Wolf et al., 2012), 12% in eating disorders (Vanderlinden, Vandereycken, Van Dyck, & Vertommen, 1993), 24% in panic disorder (Segui et al., 2000), up to 50% in psychosis (Renard et al., 2016), as well as being present in Axis II disorders, such as borderline personality disorder (over 50%, Korzekwa, Dell, Links, Thabane, & Fougere, 2009). Furthermore, it has been demonstrated to be prevalent at a rate of 3.4% in the general population (Maaranen et al., 2005).

Experiences of dissociation can cause considerable distress and disruption. In fact, at the most severe end of the spectrum of severity (where dissociation presents in a form that would meet criteria for diagnosis of Dissociative Identity Disorder; DID) the rate of attempted suicide has been reported as being as high as 78% (Ross, 1997), and dissociative symptoms have been demonstrated to be the strongest predictor of a person making multiple suicide attempts (Foote, Smolin, Neft, & Lipschitz, 2008). In addition, there is a high level of non-suicidal self-injury (NSSI) in this population (Sar, 2011).

Clinically, working with clients experiencing dissociation can be particularly challenging, and may increase the complexity of a presentation and subsequent intervention. For example, Boon, Steele and Van der Hart (2011) warn that 'patients with a complex dissociative disorder are at significant risk of being destabilized and may even decompensate when they are exposed prematurely to traumatic memories' (p. xii), and Rufer et al. (2006) demonstrate that co-morbid dissociation makes psychological treatment for Obsessive Compulsive Disorder (OCD) more complex and less likely to succeed.

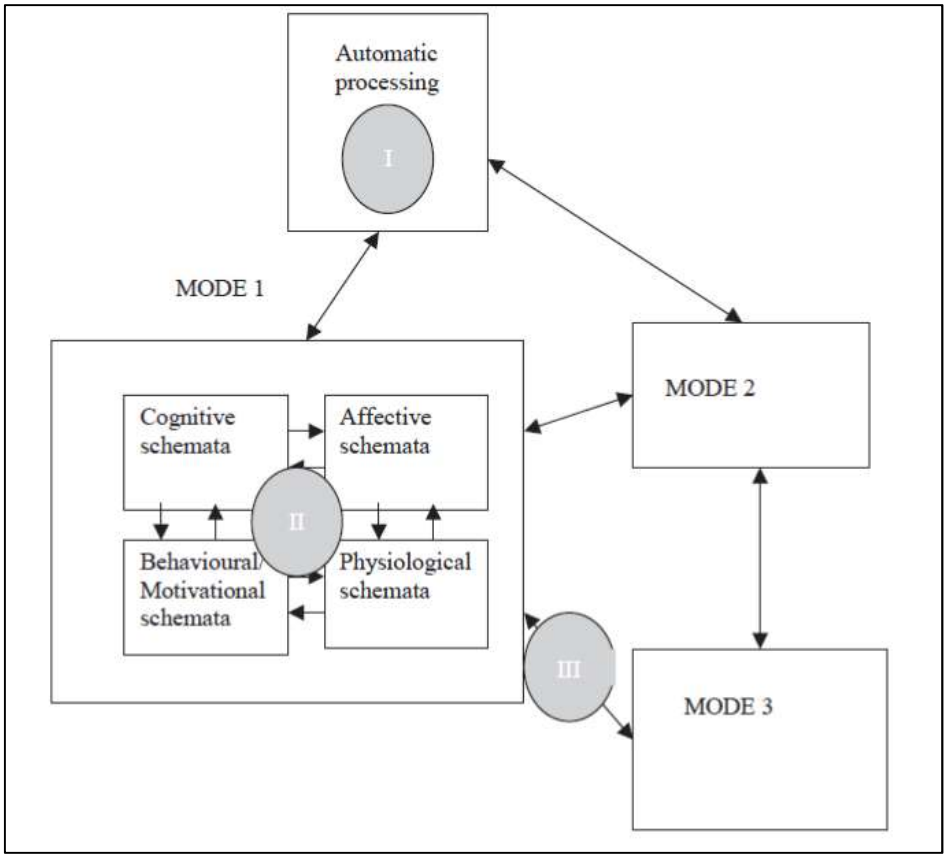
Its impact, therefore, is considerable, and it is understandable that clinical interest in the treatment of dissociation (particularly experiences of oneself as 'unreal', referred to as 'depersonalisation') is increasing, as illustrated by a recently published protocol in the area (Farrelly et al., 2016).

Theories of Dissociation

With this recent revived interest in the field of dissociation, a small number of new psychological theories of dissociation are emerging. Given the prevalence and clinical importance of dissociation, these are welcome additions to the field of dissociation.

Kennedy et al. (2004) propose that dissociative symptoms arise from disruption of information processing, which follows three stages and involves sets of cognitive schemas ('modes', Beck, 1996, as cited in Kennedy et al., 2004, p. 28). Under intense stress, the flow of information within and between modes can break down. According to this theory, a breakdown of processing can happen at any one of three stages, resulting in three types of dissociation: stage 1 Automatic Dissociation, stage 2 Within-Mode Dissociation, and stage 3 Between-Mode Dissociation (Figure 1).

Figure 1. Kennedy et al.'s (2004) model of dissociation.



Automatic Dissociation describes dissociation at a 'pre-conscious' level (before modes are brought online), where information is determined as threatening or non-threatening. Disruptions at Stage 1 therefore 'may result in the abnormal storage of memory traces', which can lead to fragments of the traumatic experience re-occurring (for example, as hallucinations).

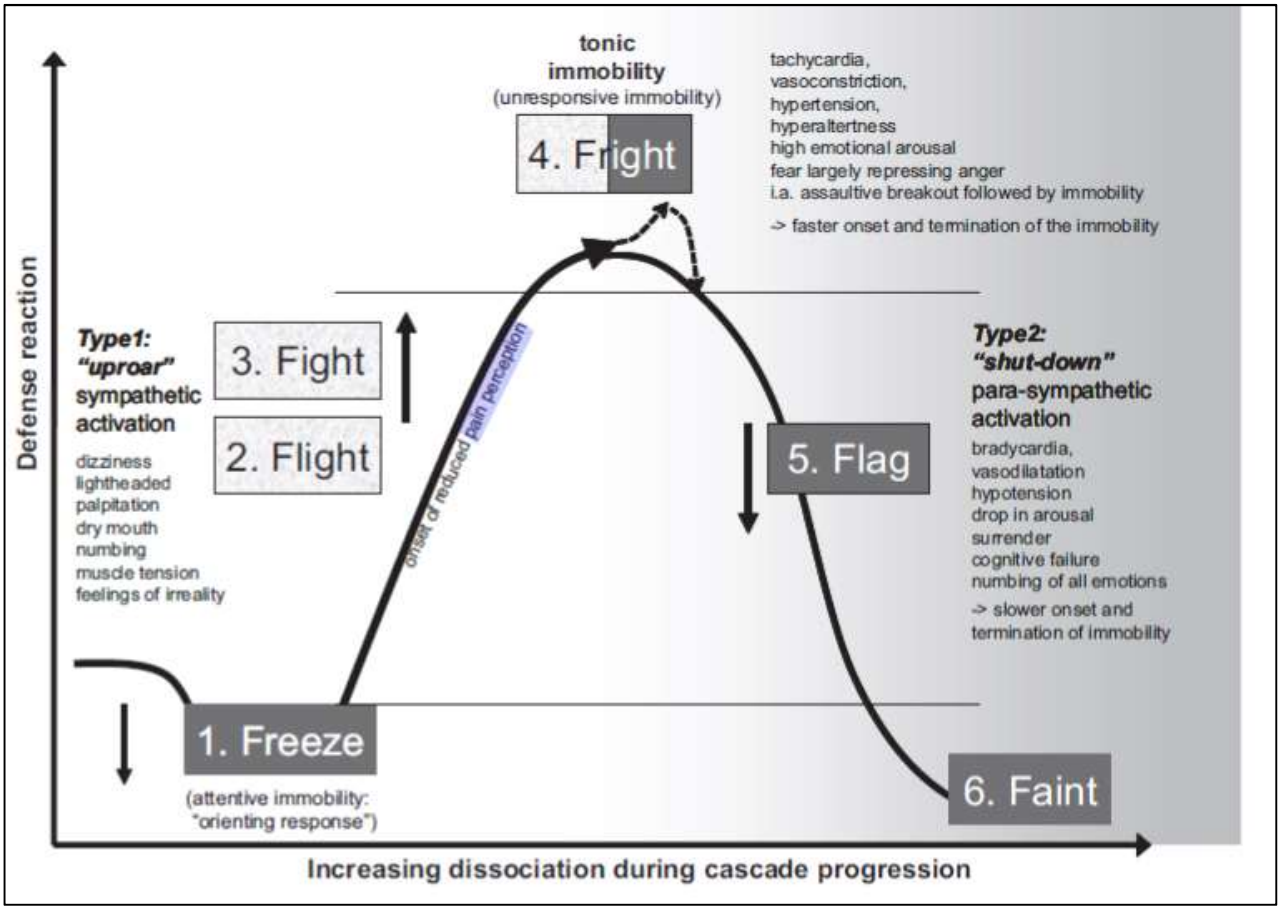
Stage 2 Within-Mode Dissociation occurs when information is prevented from being processed within a mode between schemas that are closely associated with each other. This results in intrusive thoughts – or, on the other end of the spectrum of memory-access difficulties – 'blanking', due to disrupted integration of information into the schemas.

Finally, Between-Mode Dissociation, which results in state-switching or 'multiple personalities', is thought to be caused by disruption of processing between modes. In this

model, depersonalisation and derealisation are thought to describe the subjective experience of undergoing a Stage 3 'Between-Mode Dissociation' state-switch.

Alternatively, Schauer and Elbert (2010) suggest that dissociation may be a conditioned fear response brought about through experiences that overwhelm the individual and result in acute feelings of helplessness.

Figure 2. Schauer and Elbert's (2010) '6 F' model of fear response, with the latter half consisting of dissociative responses.



During a dangerous event, Schauer and Elbert (2010) propose that humans do not only undergo 'freeze-flight-fight' as is familiar in anxiety literature, but also three further stages: 'fright-flag-faint' (Figure 2). These latter stages can be conceptualised as 'shut-down' or dissociative reactions, and are survival responses designed to protect oneself. The emotional experience of danger and helplessness facilitates strong conditioning of

these responses to stimuli within the scene. Such a model might explain why people report being 'triggered' into dissociation by elements within their environment which bear some resemblance to stimuli present at the time of the original event.

Current Measures of Dissociation

In order to validate these theories, and use them to develop new clinical interventions for dissociation, further research is required. An important tool in facilitating theory-practice development is a reliable and valid measure of the clinical variable, which incorporates all aspects of the variable of interest. There are a number of measures of dissociation currently available to researchers in the field.

The longest-standing and likely most widely-used measure of dissociation, the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) consists of twenty-eight items that are intended to screen for dissociative symptoms indicative of a dissociative disorder (e.g. 'Some people find evidence that they have done things that they do not remember doing.'). This measure is not diagnostic, but indicates the likelihood of the presence of a dissociative disorder such as Dissociative Disorder Not Otherwise Specified or Multiple Personality Disorder (which was still a valid diagnosis at the time of the development of the DES). The DES-II (Carlson & Putnam, 1993) uses the same items, but features an updated scale that asks about symptoms over a defined time period (rather than lifetime symptoms).

A major weakness of the DES-II, however, is that it uses the same items as the original DES, which is now thirty years old, and therefore does not incorporate any new understanding of dissociation gained over the last three decades. At the time of writing the DES-II, dissociation was still being discussed in terms of psychodynamic theories of self and identity. Many of the items of the DES-II reflect this focus on multiple-identity-type

presentations (e.g. ‘some people sometimes find that they are approached by people that they do not know, who call them by another name or insist that they have met them before.’). However, the kind of experiences now considered as dissociative are broader and more complex – including experiences related to one’s ‘memory’ (e.g. amnesia), ‘sense of self’ (e.g. depersonalisation), ‘consciousness/perception’ (e.g. ‘losing time’), ‘somatic/bodily symptoms’ (e.g. non-organic pain) and ‘other phenomena’ (i.e. emotional numbness, mental blanking, and mutism) (Kennedy, Kennerley, & Pearson, 2013, p.2).

Furthermore, the DES-II does not provide a clear conceptualisation of dissociation. Kennedy et al. (2004) highlight that the DES-II does not have a ‘consistent subscale structure’ (p. 32). This means that the DES-II allows an understanding of dissociation only in terms of a ‘relatively global construct’ (p. 32), not in the detail that may be required for further work in the field.

Therefore, the DES-II omits many experiences now considered to be dissociative, particularly at the less severe end of the spectrum, and does not facilitate better understanding of the nature of dissociation. It could be argued therefore that the DES-II is limited as an outcome measure, which has implications if it is used for developing, evaluating, or guiding clinical interventions.

The Wessex Dissociation Scale (WDS) (Kennedy et al., 2004) might offer a solution to this problem. Published in 2004, it is less than 15 years old, and has a theoretical basis in Kennedy et al.’s (2004) aforementioned cognitive model of dissociation.

However, the WDS consists of forty items that were generated without direct input from service users, and without a review of phenomenological research. Items were developed ‘by the authors on the basis of their clinical experience according to [their]

cognitive model' (Kennedy et al., 2004, p 31). This presents a limitation, as the item development and selection was therefore open to bias.

The cognitive model, to date, has not been validated by other researchers, and Kennedy et al.'s own (2004) analysis of the factor structure of the WDS found inadequate support for their model of dissociation. An exploratory factor analysis - which was run after a confirmatory analysis failed to support the model – only supported two of the model's three factors (i.e. two of the three 'stages' posited by the cognitive model). Further, only 50% of the variance in the data was accounted for by the resulting factors.

This calls into question both the validity of the measure – as it is not fully measuring what Kennedy et al. propose in their cognitive model – and the validity of the scientific method used to produce the WDS, since carrying out both of these factor analyses is unusual methodologically.

To date (April 2017), the WDS has been used in two published research studies, and two research theses. Although Kennedy et al.'s (2004) paper has been cited 34 times by research papers, theses, and books, the majority of these are due to references to Kennedy et al.'s model of dissociation (n = 30), not the use of the WDS. This suggests that researchers are opting not to use the WDS as an outcome measure. This may be because - whilst the cognitive model has produced items that are clearly relevant, and has been cited by other theorists – the subscale structure based on 'stages of processing' is less intuitive to use than the DES-II, which uses more thematic subscales (e.g. 'amnesia').

Whilst Kennedy et al.'s cognitive model contributes to the updating of dissociation research, it could however be argued that the WDS (Kennedy et al., 2004) is not clinically intuitive to use, does not fully support the proposed cognitive model (meaning that it, too, does not facilitate a better understanding of the construct of dissociation), and is therefore limited in its usefulness as a measure.

There are six other scales which claim to measure dissociation specifically. This is excluding scales which measure related constructs, such as depersonalisation (Sierra & Berrios, 2000), anomalous perceptions (Bell, Halligan and Ellis, 2006; Sanders, 1986), or hypnotisability (Tellegen & Atkinson, 1974).

Table 1 describes the limitations of these six dissociation measures in clinical and research domains.

Table 1.
Summary of existing measures of dissociation (DES-II and WDS omitted).

Measure	**Detail**
Multidimensional Inventory of Dissociation (MID); Dell (2006)	The MID consists of 218 items (168 dissociation items, and 50 validity items). This is too lengthy to use as a clinical routine outcome measure, or to add into a battery of assessments in research trials where dissociation is not the primary variable.
Multiscale Dissociation Inventory (MDI); Briere (2002)	The MDI is a self-report 30-item measure, which its author states has been 'normed and standardized' and has good internal consistency. It is only available by request from the author via email, and prior to this required purchase from a publisher.
Somatoform Dissociation Questionnaire (SDQ-20); Nijenhuis, Spinhoven, Van Dyck, Van Der Hart, & Vanderlinden (1996)	The authors specify that 'somatoform dissociation' is distinct from 'psychological dissociation', meaning that this measure does not comprehensively represent the construct of dissociation as a whole.
Dissociative Processes Scale (DPS); Harrison & Watson (unpublished / 1992)	The DPS is described in an unpublished manuscript by Harrison and Watson in 1992, and is unavailable online.
Dissociation Questionnaire (Dis-Q); Vanderlinden, Van Dyck, Vandereycken, & Vertommen (1991)	The Dis-Q is a 63-item self-report measure. This, too, may be considered too lengthy by many clinicians and researchers. Additionally, like the DES-II, its subscales reflect a less broad and nuanced view of dissociation than is currently held.
Questionnaire on Experiences of Dissociation (QED); Riley (1988)	Like the DES-II, the items of the QED reflect a less broad and nuanced view of dissociation than is currently held. Indeed, it has been described as 'interchangeable' with the DES-II (Anguilo & Kihlstrom, unpublished).

Aims of the Current Study

This study will therefore seek to develop an updated, comprehensive measure of dissociation. The new measure will bring clarity to the conceptualisation of dissociation, and be an easy-to-score, easy-to-interpret tool for clinical and research purposes.

It is hoped that this new measure will encompass the full range of dissociative experiences, be straightforward for clients to complete and for clinicians to score, and give clinicians a clear indication of what kind of challenges their client is currently experiencing.

This will be achieved by developing a measure without a predetermined model in mind, but by conducting a thorough review of the phenomenological evidence and consulting with service users. An exploratory factor analysis will be used, rather than trying to fit the data to a specific theoretical model (i.e. by using confirmatory factor analysis). It is hoped that this will better reflect the phenomenology of dissociation and enable a data-driven approach in an area that is still not clearly understood by theorists.

The current study will therefore address the following research questions:

Question 1. What are the main themes in dissociation identified by the new measure (i.e. what factors arise)?

Question 2. Does the new measure have convergent, divergent and discriminant validity with existing measures of dissociation (i.e. is the measure valid)?

2. Methods

2.1. Participants

Participant group 1: Consultation with Clinicians and Service Users

Three clinicians with experience of dissociative presentations (CC[1], MC[1], FW) were identified by the author from the local NHS Trust, and contributed to item development via email. There were no other inclusion or exclusion criteria.

A group of service users (aged over 18 years) who had experienced dissociation was consulted to guide item selection for the new measure. Participants were recruited from mental health centre 'drop in' events run by Mind in Oxford (see *2.3 Procedure*).

Six service user participants were consulted (see *3.1 Demographics of the Samples*). All met the inclusion criteria of lived experience of dissociation in any form (i.e. there was no specific inclusion criterion regarding diagnosis), and adequate command of the English language. There were no exclusion criteria. Lived experience was assessed via self-report after a brief layman's description of dissociation was supplied (Appendix B).

Participant group 2: Internet-Based Validation Sample

After a provisional list of items had been selected, an internet-based sample of n = 691 responded to the items, giving data to enable selection of the final items for the measure.

These participants were recruited via the internet (see *2.3 Procedure*) and were required to be aged 18 or above. To reduce possible cultural heterogeneity in responses,

[1] Note that CC and MC also acted as supervisors for this dissertation project.

the information sheet (Appendix C) asked participants to contribute only if they have familiarity with English-speaking countries with a "Western" culture (i.e. Ireland, USA, Canada, New Zealand, Australia).

An eligibility screening question was used to ensure that only participants with experiences of dissociation completed the survey. This question asked respondents to indicate whether they had had 'odd or unusual experiences' whilst *not* under the influence of drugs or alcohol. Where respondents indicated that they had not had these experiences, the survey skipped to the final (debrief) page, rather than continuing to the survey questions.

There were no other inclusion or exclusion criteria. This was to ensure a representative sample of the general public as far as possible.

Participants were given the option to submit an email address into a prize draw of £50 (or equivalent of their local currency) of Amazon vouchers (see Appendix R).

2.2. Measures

No formal measures or interview schedule was used for the service user consultation group. Semi-structured questions - developed with the help of service users during university research seminars - were used to prompt discussion (Appendix D).

Demographics of both the consultation group and internet respondent group were collected. This was done verbally with the consultation group (i.e. asking whether the author could record their age, gender, and ethnicity), and via specific questions in the online survey for the internet group (Appendix F).

In the online survey, participants were also asked to respond to a pool of potential items for the new measure (see *2.3 Procedure*). They were asked to rate each item as 'not

at all', 'rarely', 'sometimes', 'often' or 'most of the time'. A five-point scale was chosen in order to provide a scale that was easy for clinicians to score, and in order to elicit more definitive answers from respondents than might a seven-point scale. Additionally, it was noted that many popular and clinically useful measures make use of a five-point scale (e.g. the Green Paranoid Thoughts Scale; Green et al., 2008).

Participants were also asked to complete the following measures (Appendix E):

Dissociative Experiences Scale II (DES-II) – Carlson & Putnam (1993)

This scale was included as a measure of convergent validity. The DES-II includes 28 items intended to screen for dissociative symptoms (e.g. 'some people have the experience of looking in a mirror and not recognizing themselves'). Respondents are asked to indicate the percentage of the time that items happen to them in their daily life (increments of 10% from: '0% - Never' to '100% - Always'). Higher scores indicate stronger likelihood of a dissociative disorder, but are not diagnostic.

The DES-II has been demonstrated to be a reliable and valid measure. Kennedy et al. (2004) report internal consistency of Cronbach's alpha = 0.901 for their non-clinical group and Cronbach's alpha = 0.949 for their clinical group. Carlson and Putnam (1993) report that the DES has good convergent validity with the Perceptual Alteration Scale (r = 0.52), the Tellegen Absorption Scale (r = 0.39), and the Ambiguity Intolerance Scale (r = 0.24). Further, they state that the DES also has good discriminant validity, citing Bernstein and Putnam (1986) who found no correlation between the DES and sex or socio-economic status (p. 20).

Wessex Dissociation Scale (WDS) – Kennedy et al. (2004)

This measure was also included to assess convergent validity. The WDS consists of 40 items scored on a six-point Likert scale from '0 – never' through to '5 – all the time'. Items include statements developed by Kennedy et al. (2004) to reflect the way dissociation presents in their clinical work (e.g. 'I just feel numb and empty inside' and 'unwanted thoughts come into my head').

Its authors have demonstrated adequate internal consistency (Cronbach's alpha = 0.899, non-clinical group; Cronbach's alpha = 0.947 in clinical group) in the WDS and good convergent validity with the DES-II (non-clinical group: $r = 0.65$, $p < 0.001$; clinical group: $r = 0.80$, $p < 0.001$).

Hospital Anxiety and Depression Scale (HADS) – Zigmond and Snaith (1983)

The HADS is a widely-used brief measure of anxiety and depression symptoms, with 14 items (seven anxiety, seven depression). Anxiety items include 'worrying thoughts go through my mind' and depression items include 'I feel as if I am slowed down'. It has been demonstrated to have good internal consistency (mean Cronbach's alpha for the anxiety subscale = 0.83; mean Cronbach's alpha for the depression subscale = 0.82; Bjelland, Dahl, Haug, & Neckelmann, 2002). Bjelland et al. (2002) also state that the HADS has good validity, correlating well with other anxiety and depression questionnaires (r between 0.49 and 0.83; p. 69).

This scale was used to control for participants' mood, ensuring that the responses could be interpreted as being more likely to be related to their dissociative experiences.

2.3. Procedure

Developing and selecting items

The aim of this stage of the procedure was to generate an item pool that reflected the breadth of dissociative experiences and was fully comprehensive.

A literature search covering the types of dissociation and the current understanding of symptoms was undertaken. Journal articles and book chapters identified by database searches (Embase, PsychINFO, PsycARTICLES and Ovid Journals) were scanned for descriptors of dissociative phenomena. These descriptors and items from established measures of dissociation were compiled into an item database (Appendix G).

Search terms used in the literature search were: *dissociation; dissociative; derealisation; derealization; depersonalisation; depersonalization; numbing*. (NB: the wildcard "dissociat*" was not used as this returns many papers entitled "Dissociating… [X] and [Y]..." which are not in the dissociation or trauma literature).

Additionally, web searches for qualitative descriptions of dissociation were carried out. These were added to the item pool database. A full description of the search strategy can be found in Appendix H.

Next, input was sought from three clinicians experienced with dissociative phenomena (CC, MC, FW) (Appendix I). The clinicians were identified by the author from the local Trust. The aim of the measure development was explained, and they were asked to read the item pool and suggest any amendments or additions based on their clinical experience. They were also invited to highlight which items in the pool appeared to be particularly relevant, or less relevant. Informal feedback on the pooled items was undertaken separately with all clinicians via email.

Service User Consultation

After some reduction of replication within the item pool (i.e. deleting items where the same exact phrase or adjectives had already been used in another item), a service user consultation group was recruited to describe their experiences of dissociation, and what they felt to be the main themes.

This was done via the author attending a local Mental Health charity "drop in" (unstructured time) session to speak about the study and its aims, and returning the following week to speak to any service users interested in participating. The author sat in a public area with signage about the study (Appendix J), and spoke with service users who approached the author to volunteer. During this unstructured time, the author was also directly introduced to service users by volunteer staff if they felt that the service user would be interested in the study. Each contributor was offered £5 in compensation for their time.

To each service user who spoke with the author, the study was described. If the service user indicated that they were interested in participating, further information was given and verbal consent obtained (Appendix D). Thereafter, a brief informal interview was carried out discussing the service user's experiences of dissociation, and what they felt would be important to include in a measure of dissociation.

If they expressed interest, consulting service users were also shown sections of the item pool relating to the themes they had identified in conversation (n =3). The purpose of this was for them to provide feedback and comment on the items already gathered.

Validating the new measure

Once an initial 99-item version of the measure had been developed, 691 participants completed the new measure and the other scales (see *2.2 Measures*) via internet survey (Qualtrics, 2017).

The internet survey was publicised via social media (Appendix K) (Facebook and Twitter). Promotion by the British Psychological Society on Facebook was particularly effective, reaching a wide audience (200,000+ people).

2.4. Data Analysis

Data from the 691 internet survey participants underwent various analyses, the required statistical assumptions for which were checked prior to analysis (Appendix L). Data were also checked for random error and anomalous responses.

Exploratory factor analysis was performed. A promax rotation was chosen since the items in the pool were expected to closely correlate, as they all describe different kinds of dissociative experience. The scree plot and eigenvalues were inspected when determining the number of factors.

Subscales were created by retaining high loading items on each factor. Cronbach's alpha was then calculated to assess internal reliability of the subscales produced and correlations to explore the relationship between subscales.

Additionally, correlation analyses were calculated to determine convergent validity between the subscales of the new measure and existing dissociation measures (DES-II and WDS). Divergent validity of the new subscales from a variable expected to have no bearing on dissociation (age; e.g. Cardeña & Weiner, 2004) was also calculated using correlation analyses.

High and low scorers on the new subscales were compared on the DES-II to check for discriminant validity (via a Mann-Whitney U test).

Analysis was carried out using SPSS version 22 for Windows (IBM, 2013).

2.5. Ethics and Data Security

Ethical approval for the study was granted by the Research Subcommittee of the Oxford Institute of Clinical Psychology Training, and by the University of Oxford (R44285/RE001) (Appendix M).

Informed consent to participate was obtained both for the consulting group (via oral consent; Appendix D) and the internet survey sample (Appendix C). Online, this was achieved by following the British Psychological Society guidelines for obtaining informed consent in online surveys (British Psychological Society, 2007).

Contact details of supportive organisations for follow-up care were provided at the end of the online survey to ensure that participants were signposted to appropriate support if required (British Psychological Society, 2007) (Appendix N).

All data were anonymised and stored securely. Email addresses for the prize-draw were stored in a separate file and folder from the rest of the data, and were deleted after the prize draw was complete.

The online software used (Qualtrics, 2017) meets high standards of security, in that it has 'Safe Harbor' certification, encrypts data as it is transferred into storage, and does not continue to store data on its servers after the end of the project.

3. Results

Data were checked for anomalous responses, and none were identified.

3.1. Demographics of the Samples

Participant Group 1. Consultation with Clinicians and Service Users

All three clinicians were qualified clinical psychologists, female, and currently working in the Oxfordshire area. For further information see Appendix I.

Six service users participated in the informal consultation stage. There were the same number of males as females, and the majority were White British. Details of the participants' demographics can be found in Table 2.

Diagnosis was not requested by the author, but those spontaneously disclosed included PTSD, Social Anxiety, Depression, Generalized Anxiety Disorder, Dissociative Disorder, and Autistic Spectrum Disorder 'traits'.

Table 2.
Demographics of the Service User Consultants

Service User Consultant	Gender	Age	Ethnicity
A	Female	56	White British
B	Male	42	White British
C	Male	50's	White British
D	Female	28	British Asian
E	Female	38	White British
F	Male	53	White British

Participant Group 2: Internet-Based Validation Sample

In total, 1354 people responded to the online questionnaire containing the item pool. Of these, 1343 indicated that they were willing to participate (99.2%), and 1222 completed the consent form (90.2%).

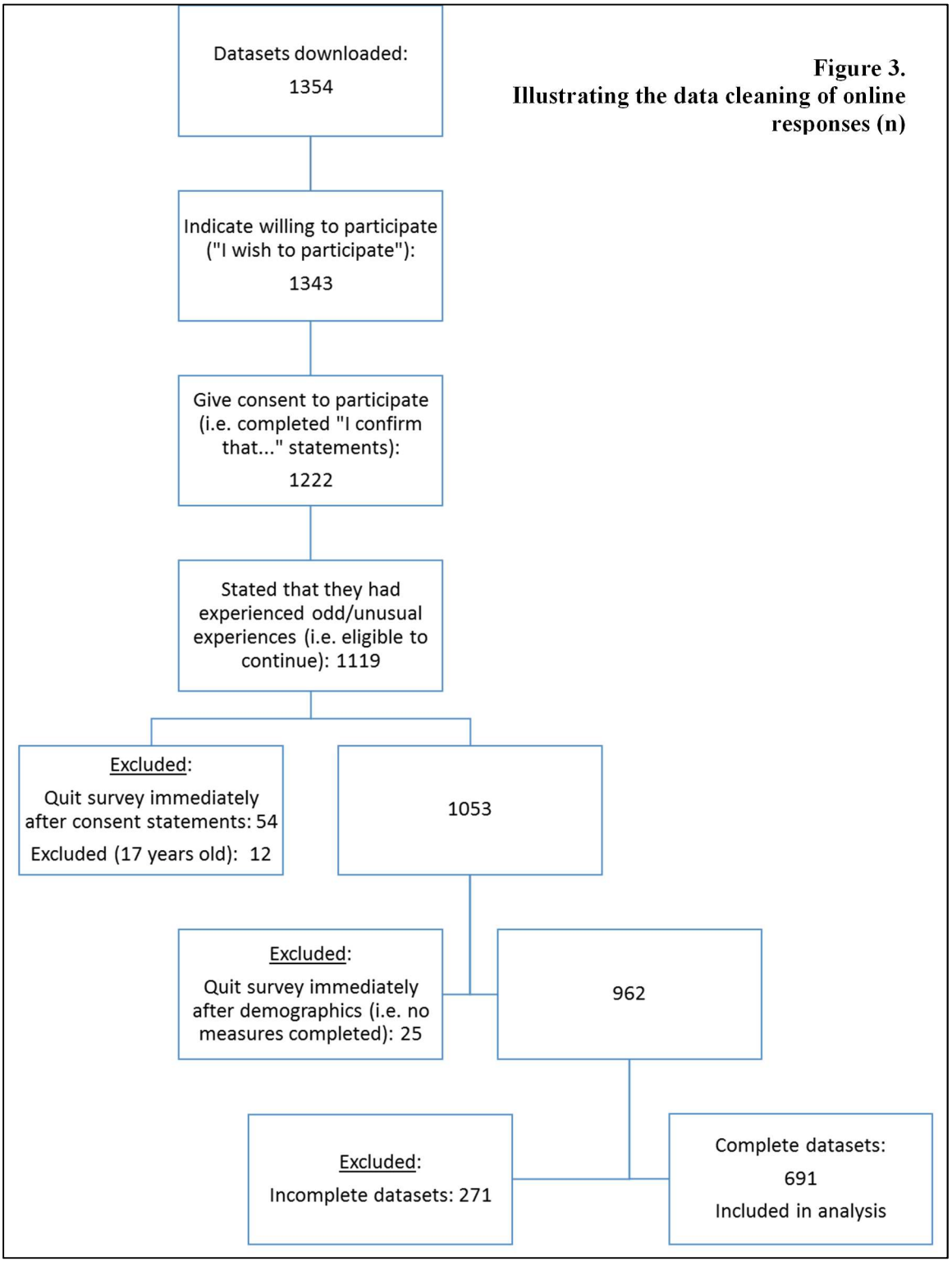


Figure 3.
Illustrating the data cleaning of online responses (n)

Of these, 1119 (82.6% of initial respondents) indicated that they had experienced 'odd or unusual' experiences, and that these were unrelated to substance or alcohol use (eligibility screening question). Of the remaining participants, 691 answered all questionnaires with only minimal missing data (51.0% of initial respondents). Figure 3 illustrates this in greater detail.

The demographics of the internet sample are reported in Table 3 below. Ethnicity is omitted, as many respondents gave their country of residence (e.g. 'England', 'German') rather than identifying an ethnic group. However, it is likely that the largest ethnic group is Caucasian, as 66.3% of the sample recorded this as their response.

Table 3.
Demographics of the Internet-Based Sample

Variable	Mean (SD)	Mode	Minimum	Maximum
Age (Years)	32.3 (10.3)	23.0	18.0	66.0
Years in Education	15.3	16.0	0.0	27.0
Gender	88.6% female (n = 612); 10.6% male (n = 73); 0.9% Other (n = 6)			
Country of Residence	88.2% Britain & Northern Ireland 4.9% Europe 2.6% USA & Canada 1.9% Australia & New Zealand 0.7% Asia 1.6% Other (including Philippines, Lebanon, United Arab Emirates)			

***Key*:**
SD Standard Deviation

Within the demographic questions, the internet participants were asked about their mental health status. The majority reported that they had experienced a mental health difficulty at some point in their life (78.9%). None declined to specify what kind of

difficulty they had experienced, and the most common reported was a form of depression (79.6% of those who identified as having experienced a mental health difficulty). Further, 71.9% (n = 391) reported that they would consider these difficulties as 'ongoing'. These details are shown in Table 4.

Table 4.
Self-reported mental health status of the Internet-Based Sample

Identified as ever having experienced mental health difficulties	**Yes**	**No**	**Prefer not to say**
	545 (78.9%)	126 (18.2%)	20 (2.9%)
Of those who answered "yes":			
Depression disorders (including post-natal depression)		434 (79.6%)	
Anxiety, panic, health anxiety, Obsessive Compulsive Disorder		401 (73.6%)	
Post-Traumatic Stress Disorder or trauma disorders		132 (24.2%)	
Eating disorders		91 (16.7%)	
Personality disorders		62 (11.4%)	
Mood cycling disorders including bipolar disorder		48 (8.8%)	
Schizophrenia and psychosis disorders		35 (6.4%)	
Dissociation or Depersonalisation Disorder		13 (2.4%)	
Asperger's or Autistic Spectrum Disorder		6 (1.1%)	
Other (e.g. insomnia, pervasive bereavement disorder, non-epileptic seizures)		6 (1.1%)	

NB: Total is over 100%, as respondents were able to select more than one response.

3.2. Creating the Measure

The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.98 (which is higher than the recommended value of 0.6; Kaiser, 1970), Bartlett's test of sphericity was significant ($\chi 2$ (4851) = 48162.08, $p < 0.001$), and the communalities for all items were equal to or greater than 0.30 (see Appendices L and O). With these conditions satisfied, adequate common variance was assumed and the use of factor analysis considered appropriate.

Exploratory principal components (factor) analysis using a promax rotation was carried out on participants' responses to all 99 items in the item pool. A promax rotation was chosen as the items in the pool were expected to closely correlate, as they all describe different kinds of dissociative experience. No items were removed during analysis.

Initially, the scree plot was inspected to determine the number of factors (Figure 4). From this, it was unclear whether a three, five, or six factor solution would best fit the data.

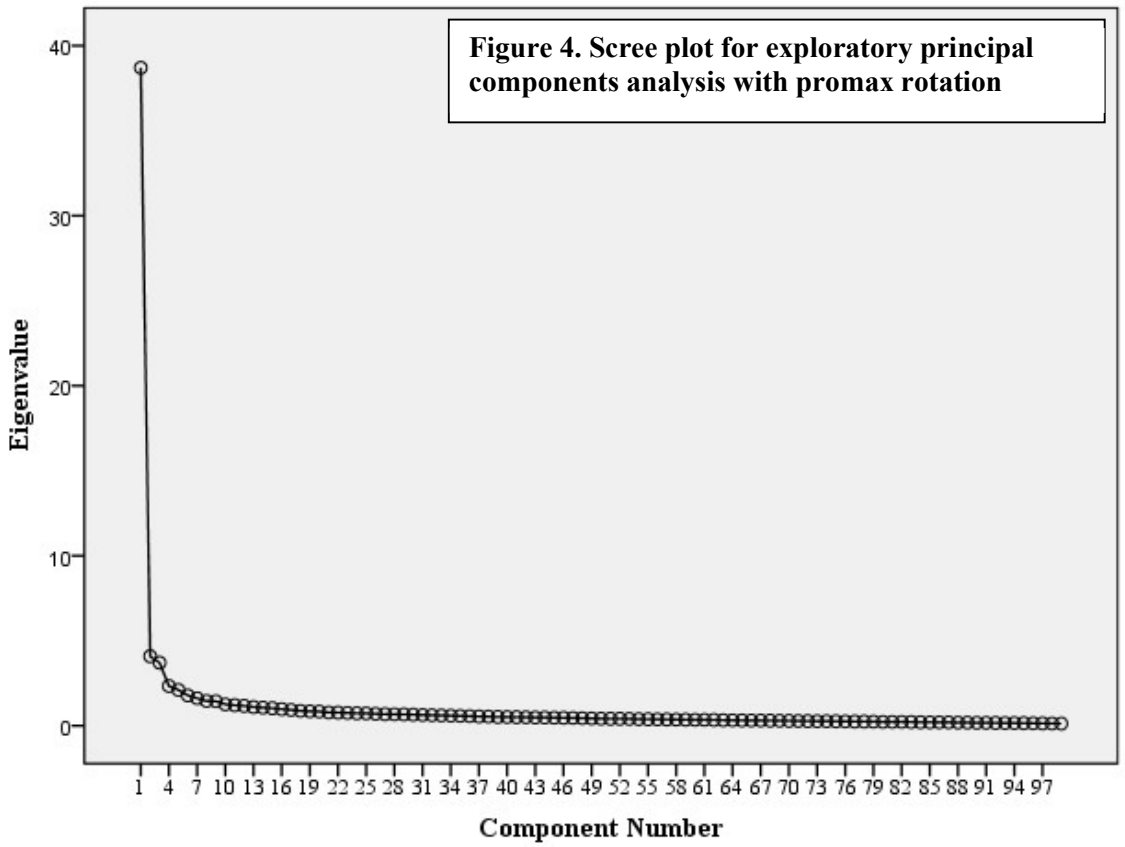


Figure 4. Scree plot for exploratory principal components analysis with promax rotation

Therefore, the Eigenvalues were also consulted (Table 5). Since these indicated a good level of total variance explained (51.46%) with five factors, and the eigenvalue for the sixth factor was below 2.0 (eigenvalue = 1.78), a five-factor solution was specified.

Table 5.
Eigenvalues for the largest five factors

Factor	Eigenvalue	Cumulative % Variance Explained
1	38.70	39.10
2	4.09	43.22
3	3.71	46.97
4	2.34	49.33
5	2.11	51.46

The final pattern matrix for the five-factor solution is reported in Appendix P. The correlations between the five factors are reported in Table 6, below.

Table 6.
Correlations (Pearson's r) between the five factors produced

Factor	1	2	3	4	5
1	-	0.68	0.62	0.51	0.63
2		-	0.52	0.62	0.56
3			-	0.58	0.57
4				-	0.54
5					-

To create the measure, the six items with the highest loading for each factor were selected. Two of the highest loading items in factor five loaded greater than 0.4 elsewhere, so these were rejected and the next two highest loading items selected. This creates a measure of thirty items (Appendix Q), where none of the items load 0.4 or higher on any other factor and all load higher than 0.4 on their respective factor (see Table 7).

Table 7.
Factor loadings for all items included in the measure

	Factor	1	2	3	4	5
	Item	Unreality	Numb & Disconnected	Memory Blanks	'Zoned Out'	Vivid Internal World
1	I have the feeling that other people, other things and the world surrounding me are not real	.883	-.054	-.040	-.073	.006
2	I have the feeling that everything is unreal	.878	.136	-.129	-.121	-.011
3	I feel as if I don't exist, am not real	.835	.148	-.164	-.013	-.029
4	I feel like I am in a parallel world	.774	.039	-.037	-.002	-.043
5	The world around me feels detached or unreal, as if there were an invisible barrier between me and the outside world	.767	.268	-.181	.019	-.113
6	I feel like the external world is not real, a joke, a lie	.720	.143	.004	-.143	.028
7	I feel emotionally numb	-.120	.883	.069	.047	-.140
8	I just feel numb and empty inside	.009	.836	-.016	.027	-.058
9	I feel I can't make a proper connection with anyone around me	-.044	.821	-.031	-.061	.072
10	I do not seem to feel anything at all	.002	.753	.142	.091	-.210
11	I feel like I'm 'just existing'	.064	.746	-.078	-.021	.106
12	I turn inwards, trying to work out why I feel so disconnected	.064	.743	-.150	-.088	.186
13	I find myself in situations or places with no memory of how I got there	.041	-.077	.841	.065	-.096
14	I suddenly notice that I find myself in a place that is unknown to me without knowing how I got there	.092	-.120	.814	.021	-.082
15	I find evidence of something I've done recently (e.g. through finding notes or drawings) but I don't remember doing it	.001	.001	.762	-.025	.025
16	I find new articles among my things without being able to remember ever having purchased them	.017	-.039	.713	-.158	.114
17	I find myself somewhere and do not remember how I got there	.027	-.076	.696	.120	-.017

	Factor	1	2	3	4	5
	Item	Unreality	Numb & Disconnected	Memory Blanks	'Zoned Out'	Vivid Internal World
18	I have big gaps in my memory for recent things in my life	-.184	.323	.646	.081	-.053
19	I stare aimlessly without thinking about anything	.014	-.085	-.102	.852	.027
20	I 'zone out' and don't see or hear what's going on around me	.031	-.143	-.070	.781	.161
21	I sometimes sit staring off into space, thinking of nothing, and am not aware of the passage of time (or other people tell me that I do this)	.036	-.162	.103	.766	.096
22	I often think about nothing	-.028	.085	.038	.744	-.142
23	Sometimes my mind is absolutely blank	-.052	.185	-.029	.737	-.090
24	My mind just goes empty	-.046	.339	-.002	.677	-.165
25	I can remember something that happened before so vividly that it's like a video playing in my head	.045	-.109	.027	-.053	.710
26	Unwanted images from my past come into my head	-.004	.073	-.026	-.016	.692
27	I am surprised by or don't expect some of the thoughts or images that happen in my head	.014	.078	-.038	.154	.536
28	I experience past memories as if they are happening here and now	.126	-.092	.207	-.016	.523
29	I can get so involved in fantasies or daydreaming that it seems to be really happening and I lose touch with what is happening in the real world at that moment	.125	-.185	-.046	.271	.519
30	I hear someone talking when no-one nearby has actually said anything	.113	-.156	.282	-.085	.516

Inspection of these items – particularly the top-loading three items - led to naming the factors as: 'Unreality', 'Numb & Disconnected', 'Memory Blanks', "Zoned Out", and 'Vivid Internal World'.

For ‘Unreality’, the highest loading three items all made reference to experiencing oneself or one’s surroundings as ‘not real’ or ‘unreal’, and the items in ‘Numb and Disconnected’ make reference to feeling distant from the rest of the world and unable to access it emotionally. The ‘Memory Blanks’ items all describe experiences of being unable to recall something which has evidently taken place (often evident via the discovery of a forgotten object, or finding oneself at a particular location without remembering the journey). The ‘Zoned Out’ subscale contains items which describe an absence of any mental activity, which can also be experienced as losing time. Finally, the ‘Vivid Internal World’ factor describes internal experiences that attract mental attention, or become absorbing. At greater severity these experiences may be described as flashbacks, intrusions, or hallucinations.

The descriptive statistics for scale and subscales for this sample are shown in Table 8 below. Note that the minimum possible score for the measure total is 30, and the maximum possible is 150.

Table 8.
Descriptive statistics for the new measure.

	Minimum Score	**Maximum Score**	**Median**	**Mean**	**Standard Deviation**
Total	31	142	71	72.01	21.73
Unreality	6	30	12	13.15	5.96
Numb & Disconnected	6	30	17	17.22	6.20
Memory Blanks	6	30	9	10.82	4.79
‘Zoned Out’	6	30	16	16.22	5.36
Vivid Internal World	6	30	15	14.92	5.18

3.3. Validating the Measure

The following analyses were performed in order to validate the 30-item measure described above (and in Appendix Q).

Non-parametric analyses were used since the DES-II, WDS, HADS, and new measure (total and subscales) were found not to have a normal distribution using the Kolmogorov-Smirnov test of normality. The significance values for all were $p \leq 0.001$; DES-II: $Z(605) = 0.10$; WDS: $Z(605) = 0.07$; HADS: $Z(605) = 0.06$; new measure total: $Z(605) = 0.05$; Unreality: $Z(686) = 0.12$; Numb & Disconnected: $Z(686) = 0.07$; Memory Blanks: $Z(686) = 0.17$; Zoned Out: $Z(686) = 0.07$; Vivid Internal World: $Z(686) = 0.08$.

3.3.1. Internal Consistency

The five subscales (of six items each) significantly correlated with each other, and all correlations were moderate to high strength positive correlations (Mukaka, 2012) (Table 9).

Table 9.
Correlations (Spearman's Rho) between the five subscales present in the 30-item version of the scale. $p < 0.001$ for all correlations.

Subscale	Unreality	Numb & Disconnected	Memory Blanks	'Zoned Out'	Vivid Internal World
Unreality	-	0.65	0.48	0.46	0.54
Numb & Disconnected		-	0.48	0.57	0.50
Memory Blanks			-	0.54	0.50
'Zoned Out'				-	0.50
Vivid Internal World					-

Cronbach's alpha of the 30 items was high (α = 0.95, n = 686), indicating 'excellent' internal consistency for the measure (Cronbach, 1951). Likewise, the Cronbach's alphas for each subscale (Table 10) were also in the 'excellent' range.

Table 10.
Cronbach's alpha (α) statistics for all five subscales.

Subscale	N	α
Unreality	687	0.91
Numb & Disconnected	690	0.90
Memory Blanks	688	0.87
'Zoned Out'	686	0.89
Vivid Internal World	687	0.82

'Cronbach's alpha if item deleted' analyses indicated that for every item (bar one), the subscale Cronbach's alpha would reduce if the item was deleted.

The exception was the item 'I have big gaps in my memory for recent things in my life', which if deleted would raise the 'Memory Blanks' subscale Cronbach's alpha from 0.874 to 0.877. This was not judged to be a significant difference, and the item was retained.

3.3.2. Convergent Validity

Convergent validity was established by calculating the correlation between the new measure's subscales and existing measures of dissociation. Non-parametric analyses (Spearman's rho) were used, as the assumptions required for parametric analysis of correlation (Pearson's *r*) were not met.

For both the DES-II and the WDS, correlation with each of the new measure's subscales was high, statistically significant, and in the direction expected (positive) (see Table 11).

By this standard, the convergent validity of the measure was judged to be good.

Table 11.
Correlations (Spearman's Rho) between the five subscales present in the 30-item version of the scale and the DES-II and WDS. $p < 0.001$ for all correlations.

Subscale	Unreality	Numb & Disconnected	Memory Blanks	'Zoned Out'	Vivid Internal World
DES-II	0.61	0.58	0.68	0.61	0.70
WDS	0.67	0.74	0.70	0.67	0.73

3.3.3. Divergent Validity

A non-parametric analysis of the correlations between the subscales of the new measure and age (mean = 32.32, SD = 10.31) were used to demonstrate divergent validity (as dissociation is not expected to associate with age).

Age did not correlate statistically significantly with two of the subscales (Numb and Disconnected: $r = -0.055$, $p = 0.15$, n = 690; Memory Blanks: $r = 0.01$, $p = 0.81$, n = 688).

However, for the remaining three subscales, the correlations were statistically significant, but as was expected, extremely weak (Unreality: $r = -0.10$, $p = 0.01$, n = 687; Zoned Out: $r = -0.19$, $p < 0.001$, n = 686; Vivid Internal World*:* $r = -0.10$, $p = 0.01$, n = 687).

By this standard, the divergent validity of the scale was judged to be adequate.

3.3.4. Discriminant Validity

In order to determine whether the new measure would show differences between low and high scoring respondents, the top quartile and bottom quartile of each subscale were compared on DES-II total scores using Mann Whitney-U analyses. For all subscales, there was a significant difference in the DES-II scores between the lowest and highest scoring respondents ($p < 0.001$ for all analyses) (see Table 12). This indicates good discriminant validity.

Table 12.
Mean DES-II scores for the highest and lowest quartile participants of each subscale.

	DES-II Mean Score	
	For Lowest Quartile	**For Highest Quartile**
Unreality	13.3	39.9
Numb & Disconnected	14.2	38.3
Memory Blanks	12.7	42.8
'Zoned Out'	12.3	37.4
Vivid Internal World	11.0	39.0

4. Discussion

The present study sought to develop a measure of dissociation that reflects the broad range of experiences of people who dissociate. The aim was for this measure to provide an update to the DES-II (Carlson & Putnam, 1993); to facilitate better understanding of the construct of dissociation via its subscale structure; and for these subscales to be more clinically intuitive and descriptive than in the WDS (Kennedy et al., 2004).

The research questions originally posed were:

Question 1. What are the main themes in dissociation identified by the new measure (i.e. what factors arise)?

Question 2. Does the new measure have convergent, divergent and discriminant validity with existing measures of dissociation (i.e. is the measure valid)?

The new measure answered these questions using a 'bottom up' data-driven approach, where an extensive item pool was formed incorporating input from clinicians and service users, and a large internet sample used to select the final items.

The five main themes of dissociation identified by factor analysis were: subjective experiences of unreality, of feeling emotionally numb and disconnected, having memory blanks, 'zoning out' (including experiences of losing track of time), and experiencing a vivid internal world (including experiences of intrusive memories and hallucinations).

Analyses demonstrate that the measure shows very high internal consistency, correlates well with existing measures of dissociation, and correlates poorly with unrelated variables as expected. Therefore, the measure can be described as valid.

A key aim for the development of the measure was that the resulting scale should be easy for clinicians and patients to use. This has been achieved by using items worded in a straightforward manner, and using a simple rating scale which avoids reverse items in order to aid scoring. Additionally, the measure length of thirty items was chosen to achieve a balance between including enough items to generate useful clinical discussion, without making the measure unwieldy or off-putting to complete. The utility of the scale would be further improved by determining a clinical cut-off against which clinicians can interpret their client's score (see *Study Limitations*).

Study strengths

A significant strength of the current study is its incorporation of service user experience at the earliest stages. This is particularly important in a field such as dissociation, where there is a legacy of different definitions, and where the boundaries of the concept are unclear. By using service user experience to develop the item pool, experiences that may otherwise have been overlooked can be included, and the situation can be avoided where items are selected through 'tradition' rather than relevance. This allows a more comprehensive approach to describing the main themes of dissociation, un-biased by its previous conceptualisations.

The resulting five subscales of the new measure reflect this. For example, the three subscales of the DES-II (Carlson & Putnam, 1993) are often described as 'amnesia', 'depersonalization / derealization', and 'absorption'. The new scale here retains the importance of depersonalisation and derealisation experiences in the 'unreality' subscale, but expands upon the DES-II's 'absorption' subscale.

The experiences described by the DES-II and older measures as 'absorption' are reflected in the new measure's subscales of 'vivid internal world' and 'zoned out'. 'Vivid

internal world' incorporates Carlson and Putnam's (1993) observations that people become engaged in their internal experiences, but having 'zoned out' as a separate subscale gives weight to the distinct experiences described by service users of 'staring off into space, thinking of nothing', which participants in the current study experienced as a more significant dissociative experience than has previously been acknowledged.

Further, whilst the subscale 'memory blanks' incorporates many of the experiences Carlson and Putnam (1993) describe in their 'amnesia' subscale, the DES-II (Carlson & Putnam, 1993) somewhat neglects the emotional experience of dissociation, which is included in the new measure's subscale of 'numb and disconnected'. This subscale describes the experience of being emotionally distant from the events in one's life, and is a strength of the new measure, because consulting service users and online first person accounts stressed the importance of these experiences.

Statistical analyses suggest that the new measure is a helpful (valid) tool to facilitate further investigation in this field. Of note, it is a positive sign that the new measure correlates more strongly with the WDS (Kennedy et al., 2004) than the DES-II (Carlson & Putnam, 1993), since the WDS addresses more aspects of dissociation than does the DES-II.

Study limitations

The service user consultation stage used a small and fairly homogenous sample of participants. A larger sample incorporating a wider range of social economic status, ethnicity, and age may have produced more suggestions for new items, and given more representative feedback on the item pool.

Further, a formal qualitative analysis of the service user consultations may have helped generate new items. Similarly, Thematic Analysis of the item pool may have been helpful to enable discussion during these consultations.

The internet sample was skewed towards the younger end of the age range, and was predominantly female. This may restrict the generalisability of the findings. However, by using an online survey, the research had a wider geographical reach, which may have reduced the heterogeneity of the sample.

There are, nevertheless, limitations inherent in online research that may also impact upon the results of this study (e.g. Wright, 2005). In particular, the phenomenon of self-selection bias (e.g. Stanton, 1998) may be relevant here, as the online survey was primarily advertised on Facebook 'pages' relating to dissociation or psychology. This means that people who saw the advertisement were people who had already chosen to view the content published by that 'page', and therefore can be presumed to have already expressed an interest in psychological and dissociative experiences.

In analysing the validity of the new measure, it was feasible to have carried out two smaller factor analyses, rather than one larger analysis. This would have had the benefit of the second analysis providing confirmation of the model found by the first. It was decided here that a larger sample size would improve the power and validity of the factor analysis. Therefore it remains to be seen whether the factors found here replicate, as well as whether they generalise beyond this sample.

Clinical implications

A measure that reflects the wide range of experiences of people who dissociate, and has good psychometric properties has many clinical benefits.

Hatfield and Ogles (2004) found that clinicians seek information about their client's strengths and weaknesses, and progress in treatment. Further, their survey found that 37% of clinical psychologists routinely use outcome measures to gain this information. Therefore, good outcome measures are valued by a large number of clinicians to help them

build a clearer clinical picture of their patient's difficulties and inform the work they carry out with the client. The new measure described here may also support clinical practice in this way. Indeed, this may be particularly valuable when considering the construct of dissociation. In this field, the definition and boundaries of dissociation have long been unclear - or even omitted from the clinical conversation altogether (Spring, 2013). Therefore, clinicians may be uncertain what kinds of experiences to ask their client about. A measure such as the one described here, which has been developed in a data-driven way, may act as a guide to clinicians to support them to ask questions relevant to their clients' experiences.

With dissociation, a greater proportion of experiences are likely to be indicated by a measure that incorporates the more subtle transdiagnostic phenomena (such as those that interfere with attention, executive function or memory; McKinnon et al., 2016), as well as the more 'traditional' DID symptoms. The new measure has ensured through its data-driven approach that these experiences, which were deemed relevant and important to people who dissociate, have been included. This includes experiences that can present at the less severe end of the spectrum, and can be easily dismissed or not asked about (e.g. 'I 'zone out' and don't see or hear what's going on around me' or 'I am surprised by or don't expect some of the thoughts or images that happen in my head').

Having a valid, easy to use measure of dissociation is vital given the previously discussed ubiquitous nature of dissociation, and the growing appreciation of its clinical importance. As more clinicians become aware of the importance of dissociative experiences and begin to ask about these during clinical contact, a measure such as the one described here will become a valuable tool in tracking patients' experiences over the course of treatment.

It is important to note that these properties are also likely to also make the new measure a valuable tool in clinical research, and therefore treatment development. This is significant since the field of dissociation will no doubt begin to expand as the recognition of dissociative phenomena grows.

Areas for future development

As well as determining whether the factors found here generalise to other samples, the reliability of the measure must be established. Test-retest reliability is particularly important, if the measure is to be of use in research where there may be multiple time-points for data collection.

A cut-off or other guidance as to what constitutes a 'high' score (for the total score, and for subscale scores) must also be developed if the scale is to be clinically helpful. To establish these, future research should look to investigate the scale using a clinical sample. Whilst there is a high proportion of participants in the current sample self-reporting mental health difficulties, it may be of benefit to explore the scale's psychometrics in a sample where the validity of these diagnoses can be verified.

Due to a lack of objective measure of dissociation (such as verified diagnoses), it was unfortunately not possible in the current study to analyse whether the scale shows greater predictive validity than the DES-II and WDS. It is for this reason that the HADS data was omitted from the current analyses, as it had been collected in order to control for anxiety and depression during a predictive validity analysis. Predictive validity uses regression analysis to determine how much additional variance the variable in question accounts for above that already accounted for by other variables. It would be helpful for future research to ascertain whether the new measure predicts more variance in dissociation disorder diagnoses than does the DES-II and WDS.

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Oxford Health NHS
NHS Foundation Trust

The Oxford Institute of Clinical Psychology Training



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An NHS Course validated by the University of Oxford

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18th January, 2016

Emma Cernis
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Dear Emma

Thank you for submitting your dissertation research proposal to the RSC. You now have full approval for your dissertation.

Yours sincerely,

Myra

Dr Myra Cooper
Chair, Research Sub-Committee

c.c. Carmen Chan

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Appendix B – Reflections

Reflections on Service User Input and Understanding Dissociation

"Sorry, What Is 'Dissociation'?"

Quite early in the development of this dissertation, the aim of the research paper was clear in my mind: develop a measure that includes the questions we *should* be asking about dissociation. I was aware from my reading that our understanding of dissociation as a psychological construct has undergone many changes over the years. Most notably, the early psychodynamic ideas about dissociation as the repression of traumatic memories and subsequent 'splitting' of personality. These ideas are still very influential, and are represented in the most widely-used measure of dissociation; the Dissociative Experiences Scale (version II; DES-II; Carlson & Putnam, 1993). However, I was also aware – from my clinical work on this clinical psychology training course, previous work in the field of psychosis, and from the experiences of myself, friends, and family – that dissociation could take much more subtle forms. I had learnt that dissociation could present transdiagnostically, or in the non-clinical population, and did not always present itself in the form that self-report measures asked about.

As a result, I realised that when people asked about my dissertation topic in conversation, I found it extremely difficult to explain what I meant by 'dissociation'. This was for two reasons. First, many people had not heard of the concept at all, which meant I had to try and describe a wide range of different – often nebulous - dissociative experiences that illustrated what I meant. This is a difficult task because at the time of writing, there is no accepted framework of how to categorise dissociative experiences, and no consensus on which experiences can be described as dissociative, and which do not qualify (for example, is 're-experiencing' dissociative? Are hallucinations?). Even when I structured my description of dissociation by (what some would describe as) its component parts: derealisation, depersonalisation, and emotional numbing, this was often also insufficient and still required further explanation.

Secondly, when people *had* heard of dissociation, they often wanted to speak about the kinds of presentations described by Janet or Freud and the more extreme presentations – such as Dissociative Identity Disorder, or dissociative 'fugue' states. Reflecting the DES-II (Carlson & Putnam, 1993), many people concentrated on descriptions of profound loss of identity and dissociative amnesia when they explained how they understood dissociation. Whilst these experiences are indeed dissociative, I again came up against the problem of trying to describe the more subtle experiences that had been omitted from their descriptions, and once again struggled with what to include, and how to phrase these more "odd and unusual" experiences.

Further, I have noticed a rise in interest in 'depersonalisation' online (largely coming from contributors in the USA). Many of these descriptions – often on mental health forums, and on websites or blogs written by psychotherapists – again centre around 'alters' (multiple personalities), and significant levels of amnesia. Perhaps this is because people experiencing such difficulties are more likely to seek (and pay for) help with these disruptive symptoms.

When I reflect on why the 'depersonalisation' bloggers' and Carlson and Putnam's (1993) view of dissociation feels unsatisfactory to me, I think it is for a number of reasons.

It is because I feel that their focus neglects a range of "less dramatic" experiences, does not fully consider the emotional experiences of the person dissociating, and ignores the vast overlap between trauma, psychosis, and dissociation that we are really only just recently beginning to explore. I began to reflect on whether it was possible to move towards a more helpful view of dissociation, and hoped that my research would enable me to get a clearer picture of what dissociation actually "is", which could ultimately support this aim.

A Picture is Worth a Thousand Words

Therefore, I came to the research seminars in second year with the goal of finding a way to ask service users at Mind about dissociation in a way that made it clear what I meant, but without offering so much description that their responses would be shaped by what I had described, or would miss out the experiences that I had not known to ask about. That is to say, I believed that I was aware of only the tip of the iceberg when it came to dissociation, and I did not want the way I asked about dissociation to prevent people offering their perspectives and letting us know what shape the rest of the iceberg was in.

My fellow trainee clinical psychologists and the service users attending the research seminar gave helpful advice regarding how best to explain dissociation in layman's terms. In particular, they suggested providing images, such as the ones I had included on my PowerPoint slides whilst I explained my project, as these gave a sense of the feeling, without requiring me to offer so much verbal description. The service users present were very supportive, and gave me confidence that people at Mind would be interested in the project, and would be engaged with the explanatory materials I was planning to present.

As a result of the advice given at the research seminar, I developed a brief verbal description, and an A4 sheet of words and pictures (Paper B Appendix B), which I took with me to the Mind drop-in sessions, and which informed the images used in my social media advertisements later in the project (Paper B Appendix K).

"It's Like Being in a Bubble"

What surprised me, therefore, was how quickly the service users at Mind recognised what I was asking about. Most people I spoke to indicated that dissociation was an extremely familiar experience for them. I was also very taken with some of the mental imagery the service user consultants conjured up with their descriptions of their experiences.

Dissociation was described as the sensation of being 'frozen', like 'floating', as if 'you're on the ground, and everyone is on the merry-go-round', or 'you're in a bubble and someone needs to pop it'. The service user consultants explained that when dissociated, there's 'an invisible barrier between yourself and the real world', and you're stuck in a 'parallel world' where 'everything doesn't seem clear – it's fuzzy – focusing on one thing', and feeling 'sad – because you know what you're going through' and wishing you '[weren't] aware'. Repeatedly, I was told that this was an important experience, that it was a regular occurrence (or even 'persistent'), and also that no-one ever really asked about it.

The enthusiasm I experienced about the project from the service users at Mind was therefore encouraging, but also a little poignant. I certainly left the drop-in sessions with the impression that a number of the service user consultants felt that they had been let down by a lack of understanding of dissociation in their contact with mental health care, and would appreciate this being a more widely-known and talked-about topic.

Having worked in a psychosis research group from 2011 to 2014, I had unfortunately had many occasions where people told me that their experiences had either been wholly or partially ignored, and that they had not felt heard until they had begun therapy or had a research assessment. Something about my conversations at Mind had felt different, however. On reflection, I realised that this was perhaps because people with a wide range of different diagnoses had told me the same thing.

In psychosis, I had built the impression of a vibrant and determined field of clinicians, researchers, advocates, and more – all pushing to overturn years of neglect and disparity for people with psychosis. This neglect and disparity had been allowed to happen for too long largely due to stigma and misunderstanding. However, the people at Mind had communicated to me that, on the whole, their difficulties had been heard, named, and supported, but that they still felt there was an important piece of the puzzle missing that had not received the recognition it perhaps should have. That is to say, I am left with the impression that it is not prejudice or stigma holding back our understanding and discussion of dissociation – instead, it is a lack of recognition entirely that is the problem.

What Can This Dissertation Contribute? What Next for Dissociation?

Perhaps it is understandable that clinicians do not ask about dissociation, given the difficulties inherent even in explaining what is meant by the term, as described earlier.

At present, there is a lack of coherent framework to enable us to explain dissociation. As a result, it is not clear what clinicians need to understand about their clients' dissociation, and therefore what questions they should be asking about it. Therefore, in order for this field to progress, a clear definition or perhaps a model of dissociation needs to be developed and widely accepted.

It is my hope that the new measure described here can contribute towards this aim by providing some clarity around what is meant by 'dissociation'. Because the measure was developed by including as many items as possible, including adding in clinicians' and service user's experiences, it is my hope that the resulting measure presents as comprehensive a picture of dissociation as possible. Further, because the factor analysis was exploratory, pre-existing ideas about dissociation did not shape the factor structure of the measure, meaning that this could be argued to be reflective of the structure of the construct itself.

Therefore, by using this measure in research, studies will be working with an unbiased and comprehensive representation of dissociation. This will enable us to explore its relations to other constructs, and expand our knowledge of its clinical importance. This is important, since a better understanding of dissociation will enable us improve care for clinical presentations where we already suspect that it plays a key role; such as in self-harm (as discussed in Paper A), trauma, and psychosis.

Paper A Appendices

Appendix A – *Journal of Nervous and Mental Disease*

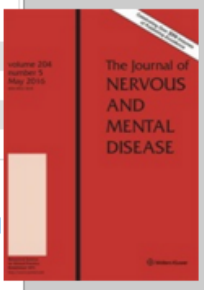
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Weissman MM, Boyd JH (1985) Affective disorders: Epidemiology. In HI Kaplan, BJ Sadock (Eds), *Comprehensive textbook of psychiatry/ IV* (4th ed, Vol 1, pp 764-769). Baltimore: Williams & Wilkins.

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Appendix B – Data Extraction Tool

SOURCE					
Author	Year	Title	Journal	Location of study	Funding source

DEFINITIONS		
Tags	DSH	Dissociation

PARTICIPANTS				
Inclusion/exclusion criteria (diagnosis, comorbidity) (& adequately diagnosed?)	How recruited? (Any bias in recruitment? Recruitment valid?)	Setting	Participants (N)	Participants (demographics) (any gender bias?)

METHODS			
Hypothesis (does it address a focused issue?) / aim	Method	Blinding?	Total study duration

OUTCOMES			
Outcome measure (incl. detail on scales)	Outcome definition	Time points	Adverse outcomes

INTERVENTION		
Number of intervention groups (and N of each)	Specific intervention + details	Integrity of intervention

RESULTS		
Missing participants/ end sample size (adequately powered?)	Statistical analysis used (& is it appropriate?)	Results (with C.I. and p value)

MISCELLANEOUS		
Key conclusions: What is the role of dissociation in youth DSH?	Ethical issues / limitations	Key implications/relationship with other studies

Appendix C – Results Table

Appendix 3.
Results table for Paper A

Citation	Population sampled	N	Age	Female % White %	Method	Dissociation measure	DSH measure	Comment on findings
Armey & Crowther (2008) USA	Community & Education: University students.	222	19.5 (3.11)	63.6 85	Cross-sectional. No follow-up.	DES-II	DSHI	'Aversive self-awareness' and dissociation predict DSH in non-linear 'cusp catastrophe' model. DSH may be the result of small changes in multiple predictors.
Cerutti, Manca, Presaghi & Gratz (2011) Italy	Community & Education: School students.	234	Female: 16.3 (1.7) Male: 16.7 (1.7)	49.2 *Not stated*	Cross-sectional. No follow-up.	ADES (Italian)	DSHI (translated into Italian by authors)	Dissociation is a 'robust clinical correlate' of DSH. Adolescents with a history of DSH have higher rates of dissociation than those who do not.
Chaplo, Kerig, Bennett & Modrowski (2015) USA	Young Offenders: Detention centre.	525	16.11 (1.31)	25.3 56.6	Cross-sectional. No follow-up.	ADES	Survey modified from LSASIC	Higher dissociation was associated with more reported episodes of DSH. Dissociation along with emotional dysregulation mediate the relationship between childhood abuse and DSH. DSH may be a self-regulation strategy.
Cyr, McDuff, Wright, Thériault & Cinq-Mars (2005) Canada	Care: Child Protection Services, recent CSA disclosure.	149 (66 at follow up)	14.3 (1.5)	100 *Not stated*	Cross sectional. Repeat at nine months.	TSCC	SDBI	Higher levels of DSH are associated with higher levels of dissociation. Decrease in dissociation (T1-T2) was the only predictor of decreased DSH (T1-T2).

Citation	Population sampled	N	Age	Female % White %	Method	Dissociation measure	DSH measure	Comment on findings
Glenn, Michel, Franklin, Hooley & Nock (2014) USA	Community & Education: Posters in outpatient settings and community.	79	17.34 (1.79)	79.7 75.9	Cross-sectional. No follow-up.	ADES	SITBI	Dissociative symptoms were not correlated with pain threshold or pain endurance. Therefore dissociation does not mediate between DSH and pain analgesia: dissociation does not alter or mask pain perception during DSH.
Laukkanen, Rissanen, Tolmunen, Kylma & Hintikka (2013) Finland	Community & Education: School students.	440 *(from same sample as Tolmunen et al., 2008)*	*Mean not stated Range: 13-18 years*	89.3 *Not stated*	Cross-sectional. No follow-up.	ADES	Questionnaire based on a qualitative study	Adolescents with high levels of dissociation were more likely to cut hidden areas of their body, and be experiencing more psychiatric symptoms than adolescents who cut on their arms. May also be associated with the function of 'relief from mental distress, and self-punishment'.
Lev-Wiesel & Zohar (2014) Israel	Care: Institutions for 'at-risk' adolescent girls	93	15.4 (1.49)	100 *Not stated*	Cross-sectional. No follow-up.	DES (Hebrew)	*Not stated*	Of the adolescents who engaged in DSH, those reporting CSA had higher levels of dissociation. Dissociation was higher among adolescents who engaged in DSH than those who did not, and was no different between those with and without CSA if they did not engage in DSH.
Lüdtke, In-Albon, Michel & Schmid (2016) Switzerland & Germany	Clinical: Inpatient	72	16.08 (1.29)	100 *Not stated*	Cross-sectional. No follow-up.	DES (German)	Author-developed structured interview to assess proposed DSM-5 criteria for NSSI Disorder	Dissociation is not a significant predictor of DSH, although there is a non-significant trend for adolescents who engage with DSH to have higher levels of dissociation than controls. Alexithymia significantly predicts NSSI Disorder.

Citation	Population sampled	N	Age	Female % White %	Method	Dissociation measure	DSH measure	Comment on findings
Matsumoto, Yamaguchi, Chiba, Asami, Iseki & Hirayasu (2004) Japan	Young Offenders: Detention centre	201	16.8 (1.6)	11.4 *Not stated*	Cross-sectional. No follow-up.	ADES (Japanese)	Author-developed questionnaire	Adolescents who burn *and* cut themselves have higher dissociation scores than adolescents who engage in only one of these.
Matsumoto, Yamaguchi, Chiba, Asami, Iseki & Hirayasu (2005) Japan	Young Offenders: Detention centre	*As Matsumoto et al. (2004)*			Cross-sectional. No follow-up.	*As Matsumoto et al. (2004)*		Adolescents who cut their arms – alone, or as well as their wrists – have higher levels of dissociation than those who cut only their wrists or not at all. The reasons given for arm cutting fit emotion regulation, whereas the reasons given for wrist-cutting were more instrumental.
Ohmann, Schuch, Konig, Blass, Fliri & Popow (2008) Austria	Clinical: Inpatient and outpatient	176	15.5 (1.3)	100 *Not stated*	Cross-sectional. No follow-up.	ADES (German)	*Not stated*	Dissociation is not a predictor of DSH. DSH is used to cope with trauma and depression, not dissociation, and is a learned response in the context of disrupted executive functioning. Dissociation is high in adolescents regardless of whether they engage in DSH.
Rallis, Deming, Glenn & Nock (2012) USA	Community & Education: Posters in outpatient settings and community.	86	17.0 (1.9)	*Not stated* 73.3	Cross-sectional. No follow-up.	ADES	SITBI	Dissociation mediates the relationship between childhood abuse and DSH frequency. Dissociation is predictive of DSH with the function of generating feeling (i.e. dissociation is something to be escaped via DSH).
Rodriguez-Srednicki (2002) USA	Community & Education: College and university students	441	20.6 (1.2)	100 15 Caucasian; 40.4 Hispanic	Cross-sectional. No follow-up.	DES; TSC	'Extensive demographic and background questionnaire'	Dissociation correlates with DSH frequency, when dissociation measured is specific to trauma (i.e. TSC, rather than DES). The authors suggest that this means dissociation alone does not sufficiently explain DSH.

Citation	Population sampled	N	Age	Female % White %	Method	Dissociation measure	DSH measure	Comment on findings
Sho, Oiji, Konno, Toyohara, Minami, Arai & Seike (2009) Japan	Community & Education: School students	2498	*Not stated Range: 5th-12th grade*	*Not stated* *Not stated*	Cross-sectional. No follow-up.	ADES (Japanese)	Direct question with multiple choice answer	Dissociation accounted for a small amount of variance in DSH using a sharp object. DSH during pre-adolescence was predicted by depressive and dissociative tendencies.
Swenson, Spirito, Dyl, Kittler & Hunt (2008) USA	Clinical: Inpatient	288	14.91 (1.47)	64 72	Cross-sectional. No follow-up.	TSCC	Non-Suicidal Physical Self-Damaging Acts module of K-SADS-PL	Adolescents with more extensive degree of cutting showed more trauma-related dissociation. Because control group was also an inpatient sample, authors suggest that the relationship between dissociation and DSH is not a general artefact of psychological distress.
Tolmunen, Rissanen, Hintikka, Maaranen, Honkalampi, Kylma & Laukkanen (2008) Finland	Community & Education: School students	3931	*Not stated*	*Not stated* *Not stated*	Cross-sectional. No follow-up.	ADES	Questionnaire based on a qualitative study	Dissociation correlated with current self-cutting, and history of other methods of DSH. Currently cutting adolescents had higher levels of dissociation than those with only historical cutting. The authors suggest that there may be a 'state-level entanglement' between dissociation and self-cutting.
Weierich & Nock (2008) USA	Community & Education: Posters in outpatient settings and community.	*As Rallis et al (2012)*			Cross-sectional. No follow-up.	PTSD module of K-SADS-PL	SITBI	Numbing and re-experiencing correlated with DSH. Numbing is involved in mediating the relationship between CSA and DSH.

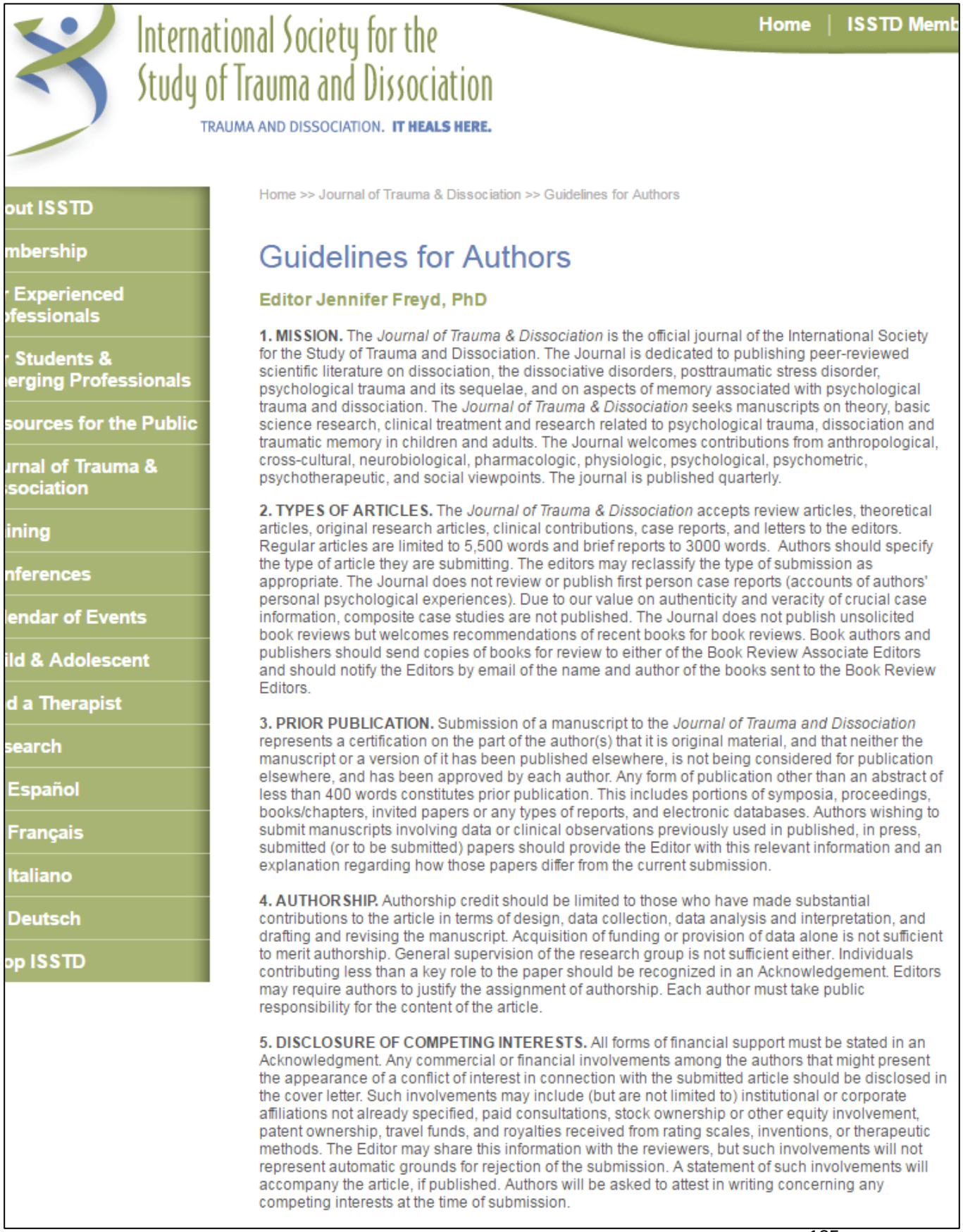
Citation	Population sampled	N	Age	Female % White %	Method	Dissociation measure	DSH measure	Comment on findings
Zetterqvist, Lundh & Goran Svedin (2014) Sweden	Community & Education: School students	816	*Not stated Range: 15-17 years*	*Not stated* *Not stated*	Cross-sectional. No follow-up.	TSCC	FASM (Swedish)	Dissociation and depression mediate between childhood abuse (sexual, emotional, or physical) and automatic (intrapersonal) functions of DSH. Dissociation and anxiety mediate between childhood physical abuse and social (interpersonal) functions of DSH.
Zoroglu, Tuzun, Sar, Tutkun, Savas, Ozturk, Alyanak & Kora (2003) Turkey	Community & Education: School students	839	15.9 (1.8)	61.1 *Not stated*	Cross-sectional. No follow-up.	DES (Turkish)	Author-developed questionnaire	Adolescents reporting DSH have higher levels of dissociation. Regression analysis indicates dissociation as a predictor for DSH.

Key:

Age:	*Mean (Standard Deviation)*
ADES	Adolescent Dissociative Experiences Scale, (Armstrong et al, 1997)
CSA	Child Sexual Abuse
DES	Dissociative Experiences Scale, (Bernstein & Putnam, 1986)
DES-II	Dissociative Experiences Scale II, (Carlson & Putnam, 1993)
DSH	Deliberate Self-Harm
DSHI	Deliberate Self-Harm Inventory, (Gratz, 2001)
FASM	Functional Assessment of Self-Mutilation, (Lloyd et al., 1997)
K-SADS-PL	Kiddie Schedule for Affective Disorders and Schizophrenia – Present and Lifetime Version, (Kaufman et al., 1997)
LSASIC	Lifetime Suicide Attempt Self-Injury Count, (Linehan & Comtois, 1996)
NSSI Disorder	Non-Suicidal Self-Injury Disorder (condition proposed for further consideration in DSM-5)
SDBI	Self-Destructive Behaviours Inventory, (Sadowski, 1995)
SITBI	Self-Injurious Thoughts and Behaviours Interview, (Nock et al, 2007)
TSC	Trauma Symptoms Checklist, (Briere & Runtz, 1989)
TSCC	Trauma Symptoms Checklist for Children, (Briere, 1996)

Paper B Appendices

Appendix A – *Journal of Trauma & Dissociation* Guidelines for Authors



International Society for the Study of Trauma and Dissociation

TRAUMA AND DISSOCIATION. IT HEALS HERE.

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Guidelines for Authors

Editor Jennifer Freyd, PhD

1. MISSION. The *Journal of Trauma & Dissociation* is the official journal of the International Society for the Study of Trauma and Dissociation. The Journal is dedicated to publishing peer-reviewed scientific literature on dissociation, the dissociative disorders, posttraumatic stress disorder, psychological trauma and its sequelae, and on aspects of memory associated with psychological trauma and dissociation. The *Journal of Trauma & Dissociation* seeks manuscripts on theory, basic science research, clinical treatment and research related to psychological trauma, dissociation and traumatic memory in children and adults. The Journal welcomes contributions from anthropological, cross-cultural, neurobiological, pharmacologic, physiologic, psychological, psychometric, psychotherapeutic, and social viewpoints. The journal is published quarterly.

2. TYPES OF ARTICLES. The *Journal of Trauma & Dissociation* accepts review articles, theoretical articles, original research articles, clinical contributions, case reports, and letters to the editors. Regular articles are limited to 5,500 words and brief reports to 3000 words. Authors should specify the type of article they are submitting. The editors may reclassify the type of submission as appropriate. The Journal does not review or publish first person case reports (accounts of authors' personal psychological experiences). Due to our value on authenticity and veracity of crucial case information, composite case studies are not published. The Journal does not publish unsolicited book reviews but welcomes recommendations of recent books for book reviews. Book authors and publishers should send copies of books for review to either of the Book Review Associate Editors and should notify the Editors by email of the name and author of the books sent to the Book Review Editors.

3. PRIOR PUBLICATION. Submission of a manuscript to the *Journal of Trauma and Dissociation* represents a certification on the part of the author(s) that it is original material, and that neither the manuscript or a version of it has been published elsewhere, is not being considered for publication elsewhere, and has been approved by each author. Any form of publication other than an abstract of less than 400 words constitutes prior publication. This includes portions of symposia, proceedings, books/chapters, invited papers or any types of reports, and electronic databases. Authors wishing to submit manuscripts involving data or clinical observations previously used in published, in press, submitted (or to be submitted) papers should provide the Editor with this relevant information and an explanation regarding how those papers differ from the current submission.

4. AUTHORSHIP. Authorship credit should be limited to those who have made substantial contributions to the article in terms of design, data collection, data analysis and interpretation, and drafting and revising the manuscript. Acquisition of funding or provision of data alone is not sufficient to merit authorship. General supervision of the research group is not sufficient either. Individuals contributing less than a key role to the paper should be recognized in an Acknowledgement. Editors may require authors to justify the assignment of authorship. Each author must take public responsibility for the content of the article.

5. DISCLOSURE OF COMPETING INTERESTS. All forms of financial support must be stated in an Acknowledgment. Any commercial or financial involvements among the authors that might present the appearance of a conflict of interest in connection with the submitted article should be disclosed in the cover letter. Such involvements may include (but are not limited to) institutional or corporate affiliations not already specified, paid consultations, stock ownership or other equity involvement, patent ownership, travel funds, and royalties received from rating scales, inventions, or therapeutic methods. The Editor may share this information with the reviewers, but such involvements will not represent automatic grounds for rejection of the submission. A statement of such involvements will accompany the article, if published. Authors will be asked to attest in writing concerning any competing interests at the time of submission.

6. PATIENT INFORMED CONSENT AND PATIENT PRIVACY. Authors must have written informed consent from any patient/clients described in case study material. The authors must take steps to protect the identity of patients reported in case reports and elsewhere. Identifying information (e.g., names, initials, hospitals, dates) must be avoided or changed. Note that authors must both protect the integrity of the case study information such that crucial details for interpretation are retained, and protect patient privacy such that non-crucial details that could violate the privacy of the patient are changed. Authors who wish guidelines for protection of patient anonymity are referred to "Statements from the Vancouver Group, International Committee of Medical Journal Editors" in British Medical Journal 1991; 302: 1194. Authors submitting case study material will be required to complete a "Case Presentation Checklist" available at http://dynamic.uoregon.edu/~jjf/jtd/. Within the case report itself there should be a statement that the patient/client has given informed written consent for the publication and that the identity of the patient/client has been disguised by omission and alteration of non-crucial information.

7. INSTITUTIONAL REVIEW BOARD APPROVAL AND INFORMED CONSENT. Papers that report results of data collected from human participants must include a statement that written informed consent was obtained from participants after adequately explaining the study's procedures to them. Deviations from the standard written informed consent process should be fully explained. Approval by an Institutional Review Board or Ethics Committee should be documented and mentioned in the written report.

8. MANUSCRIPT LENGTH. Manuscript articles may be 1,500 to 5,500 words (approximately five to 18 double-spaced pages) including references and tables and figures, as appropriate to the type of article. Review articles, theoretical articles, research reports, and clinical discussions should contain a maximum of 5,500 words. Brief reports should be no more than 3,000 words. Letters to the editor may contain no more than 500 words and 3 references, and must be received within 10 weeks of the original article's publication. Letters to the editor are reviewed in a manner similar to other manuscripts. Lengthier manuscripts may be considered for special reasons or circumstances.

9. MANUSCRIPT FORMAT. Manuscripts must be prepared in a standard U.S. letter or A4 page format, double-spaced, with 1 inch or 3 centimeter margins on all sides. Text font should be proportional and with serif (e.g., Times New Roman 12 point font). Manuscripts should have the following order: Title page, abstract, text, references, tables and figures. Pages should be numbered beginning with the title page.

Title Page
Title page must include, title; authors and degrees; location of the institution and place where the work was done; corresponding author's name, address, telephone number, fax number, and e-mail address; word count; key words for index purposes; and acknowledgment of previous presentation, grant support, commercial support, or other credit. For mailing of a complimentary copy of the issue in which your article is published, please supply a postal mailing address for each author. Please place addresses of authors other than the Corresponding Author on a separate page immediately after the Title Page.

Abstract
A single paragraph abstract of 100-250 words must be provided.

Text
The text should contain an introduction that describes the objectives of the article and a review of the relevant scientific literature. Subsequent sections should describe the main subject matter (theoretical, clinical or research), a discussion of the subject matter, and conclusions. Research papers must include sections on methods and results, followed by discussion. Methods must contain an adequate description of instruments, research participants and statistical analyses, and results must be fully reported including the test values, degrees of freedom, whether tests were one- or two-tailed, probability and significance, and N values as appropriate. Research articles involving research with human participants must include a statement that informed consent was obtained or if not, why not.

Citations and References
For writing style and reference formats, the Journal uses the style of the Publication Manual of the American Psychological Association (6th Edition, 2010). We urge authors to consult this manual for formats not listed in the Information for Authors. The Publication Manual of the APA may be obtained from the APA Order Department, P.O. Box 92984, Washington, DC, 20090-2984, USA, www.apa.org/books/ordering.html.

Citations in Text
Use the author-date method within parentheses inserted into the text.

1. Work by one author: (Putnam, 1989).
2. Work by two authors: (Cardeña & Spiegel, 1993). Cite both names every time the reference occurs in the text. Use no comma between authors.
3. Work by three, four or five authors: First text citation: (Van der Hart, Van Kijke, Van Son, & Steele, 2000). Use commas after all authors. Subsequent text citations: (Van der Hart et al., 2000).
4. Work by six or more authors: In all text citations, use only the surname of the first author followed by et al. and the year of publication, e.g., (Ross et al., 1992).

author followed by et al. and the year of publication, e.g., (Ross et al., 1992).

5. Organizations as authors: Spell out the name of the organization the first time it is cited in the text. The organization name may be abbreviated in subsequent in-text citations only if the abbreviation is listed with the spelled out name in the first citation. First text citation: (International Society for the Study of Dissociation [ISSD], 1997). Subsequent text citations – use either of two formats: (ISSD, 1997) or (International Society for the Study of Dissociation, 1997).

6. Works by the same author(s) within the same year: Use the suffixes a, b, c, etc. following the date to distinguish works by the same author(s) within the same year. The first work cited in the text will be "a", the second work will be "b", etc., e.g., (Coons, 1994a, 1994b).

7. If there are two or more multiple author citations with the same first author within the same year, cite the surnames of as many subsequent authors as needed to distinguish references, e.g., (Van der Hart, Nijenhuis et al., 2001; Van der Hart, Steele et al., 2001).

8. Order of citation: When citing two or more works within the same parenthesis, list them in alphabetical order by the surname of the first author. Separate citations by semicolons. If citing the same author(s) more than once, place works in chronological order by publication dates separated by commas. Example: (Allen, 1997; Allison, 1978; Chu & Bowman, 2000; Kluft 1985a, 1985b, 1986; Kluft & Fine, 1993; Michelson & Ray, 1996; Ross et al., 1992).9. Quotations: Citations for quotations must contain page numbers, e.g., (Van der Hart et al., pp. 35-36).

Reference List

Consult the Publication Manual of the American Psychological Association for formats of types of references other than those listed below.

1. Journal article. Putnam, F.W., Guroff, J.J., Silberman, E.K., Barban, L., & Post, R.M. (1986). The clinical phenomenology of multiple personality disorder: Review of 100 recent cases. *Journal of Clinical Psychiatry,* 47, 285-293.Titles of and volume number journals should be italicized. Journal titles should have all important words capitalized.

2. Book. Putnam, F.W. (1997). *Dissociation in children and adolescents.* New York: Guilford Press.Titles of books should be italicized. Only the first word of book titles should be capitalized.

3. Edited Book: Kluft, R.P., & Fine, C.G. (Eds.). (1993). *Clinical perspectives on multiple personality disorder.* Washington, D.C.: American Psychiatric Press.

4. Book Chapter Goodwin, J. (1996). Childhood DID: The male population. In J.L. Silberg, (Ed.), *The dissociative child* (pp. 69-84). Lutherville, MD: Sidran Press.Page numbers must be included for book chapters.

5. Association Author: American Psychiatric Association. (2000). *Statement on therapies focused on memories of childhood physical and sexual abuse.* Washington, DC: Author.

6. Republished works: James, W. (1902/1961). *The varieties of religious experience.* London: MacMillan.

7. Formatting. Double-space all references. Please use a hanging indent format.

8. Authors. Please include all authors for each reference. Use commas after all authors except the last (including two author references).

9. Order of references. List references in alphabetical order by surname of first author. List multiple references by the same author(s) in chronological order from earliest to most recent publication date. List the sole-author works of an author before co-authored works.

Graphics, Tables, Figures, and Illustrations

All graphics must be "camera-ready." Tables should be prepared using standard word processing software (MS Word preferred). Illustrations should be prepared using either graphics software or artistically rendered in black ink so that they can be used either as they are or reduced in size. Whenever possible, figures should be submitted with the manuscript in digital form. Fonts should be proportional and sans serif (e.g., Arial). Author name(s) and manuscript name should be lightly written on the reverse of graphics. Indicate in the text the approximate placement of all graphics. Graphics including photographs are considered part of accepted manuscripts and are retained by the Publisher. If submitted graphics are unacceptable for publication, the Publisher reserves the right to redo the graphics and to charge the author(s) a fee of $35 per hour for this service.

Appendix B – Describing Dissociation in Layman's Terms

Service user consultants were shown the following page, accompanied by a verbal description:

"It can be difficult to describe Dissociation. Some people talk about feeling 'numb' or 'detached'. They might feel as though they are disconnected from the world around them, or that the world is somehow not real.'

This appeared to be sufficient for interviewees to recognize the phenomena of dissociation, and opened the conversation for them to begin to describe their own experiences.

What is dissociation?



Memory

- Amnesia for past events, recent past, or important personal information
- Fugue states
- 'Reliving' past events



Sense of Self

- Depersonalisation
- Derealisation
- Age regression
- Identity confusion
- Identity alteration
- Multiple personalities
- Possession states
- Intermittent loss of skills



Body Symptoms

- Non-organic pain
- Being unable to feel pain
- Some unexplained medical symptoms
- Motor inhibition (e.g. "freezing")
- "Made behaviours"
- Non-epileptic seizures



Consciousness / Perception

- Hallucinations
- Absorption
- Trance states
- 'Losing time'
- Flashbacks



Other

- Emotional numbness
- Mental blanking
- Inability to speak





Kennedy & Kennerley

Appendix C – Information and Consent Form Sections of the Online Survey

Oxford Institute of Clinical Psychology Training
Isis Education Centre
University of Oxford
Warneford Hospital
Oxford
OX3 7JX

Online Survey Consent Form

You are being invited to participate in a research study titled "**Testing a New Questionnaire Measuring Strange Feelings and Experiences**".

This study is being done by Emma Cernis at the University of Oxford, UK, as part of a Doctorate of Clinical Psychology qualification, supervised by Dr Carmen Chan and Dr Myra Cooper. If you agree to participate in this project, the research will be written up as part of a research thesis, and therefore deposited in print and online in the University archives and possibly published as original research, to facilitate its use in future research. No personally identifiable information will be included in the research.

Please note that to help us better compile scores from this study, we recommend that only people proficient in English and familiar with British, Irish, American, Canadian, Australian or New Zealand culture participate in this research.

Study Purpose

The purpose of this research study is to test out a questionnaire recently developed to measure experiences of 'spacing out', 'dissociating' and feeling detached. If you agree to take part in this study, you will be asked to complete an online survey. This survey will ask about these kinds of experiences, as well as your current levels of anxiety and low mood and it will take you approximately 15 minutes to complete.

Risks & Benefits

You may not directly personally benefit from this research; however, we hope that your participation in the study will help improve our current ways of measuring dissociation, which will help people experiencing these feelings in therapy, and help improve research in this area.

We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach of confidentiality is always possible. To the best of our ability your answers in this study will remain confidential. We will minimize any risks by anonymising the data you provide, and storing it securely under encryption.

This study has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee (Reference: R44285/RE001).

Your participation in this study is completely voluntary and you can withdraw at any time, without penalty, and without needing to supply a reason.

Prize Draw

As a thank you for your time completing this survey, you will be offered the chance to enter a prize draw to receive the value of £50 (in your local currency) in Amazon vouchers. To enter the draw, please supply your email at the end of the survey. Please note that this email will be stored separately from your answers and therefore your responses will remain anonymous.

Aftercare

Unfortunately, we will not be able to follow up with you after this study. If you feel upset after completing the study, or find that some questions or aspects of the study triggered distress, talking with a qualified clinician may help. If you feel you would like assistance please contact your GP, The Samaritans on 08457 90 90 90 (UK) or 116 123 (ROI) (www.samaritans.org), Mind Infoline on 0300 123 3393 (www.mind.org.uk), or a mental health support organisation local to you. In the case of an emergency please call 999 or your local emergency number. These details will be shown again at the end of the survey.

What happens to the research data provided?

All answers provided via the online survey will be anonymised, which means that no-one will be able to tell from the results of the research who participated. Data provided is held confidentially and will be stored in an anonymous format on an encrypted, password-protected storage system. Only the researcher (Emma Cernis) and supervisors (Dr Myra Cooper, Dr Carmen Chan) will have access to this data.

Email addresses provided for the prize draw will be stored separately from the survey responses, and will never be passed on to third parties. All email addresses will be deleted immediately after the winner of the prize draw has been contacted.

At the end of the project, this data will be kept for ten years after publication before being deleted.

What if there is a problem?

If you have a concern about any aspect of this project, please speak to the relevant researcher (Emma Cernis, emma.cernis@hmc.ox.ac.uk), or their supervisor (Dr Myra Cooper, myra.cooper@hmc.ox.ac.uk) who will do their best to answer your query. The researcher should acknowledge your concern within 10 working days and give you an indication of how they intend to deal with it.

If you remain unhappy or wish to make a formal complaint, please contact the chair of the Research Ethics Committee at the University of Oxford (Chair, Medical Sciences Inter-Divisional Research Ethics Committee; Email: ethics@medsci.ox.ac.uk; Address: Research Services, University of Oxford, Wellington Square, Oxford OX1 2JD). The chair will seek to resolve the matter in a reasonably expeditious manner.

Consent

Before you can proceed to the survey, please confirm the following by checking the boxes. If you have decided not to take part, clicking "I do not give consent" will exit the survey.

- ○ I do not consent - (this will exit the survey)
- ○ I wish to participate

> Next

Please confirm the following statements:

- I confirm that I have read the participant information above
- I confirm that I have had the opportunity to contact the researcher to ask questions, and have received satisfactory answers to the questions
- I confirm that I understand that I may withdraw from the study without penalty at any time by advising the researchers of this decision
- I confirm that I understand how to raise a concern and/or make a complaint about this research

Please select one of the two following options:

- I understand that this survey is about strange feelings and experiences ('dissociation') and confirm that I have experience of this whilst free from the influence of alcohol or drugs.
- I have never experienced odd or unusual feelings or experiences, or I have only experienced these whilst under the influence of alcohol or drugs.

< Back

> Next

Appendix D - Semi-Structured Questions and Oral Consent

Procedure Used With Consultation Group

Oral consent script

Type 3 information-giving:

Hello, my name is Emma. I'm doing a research project to design a new questionnaire and I wondered if you'd be interested in giving your opinion?

I'm currently doing my Clinical Psychology training at the University of Oxford, which will qualify me to do talking therapies with people. As part of the training, we do a research project and mine is to make a new questionnaire for measuring a particular set of experiences. Can I tell you more about it?

In my questionnaire, I want to measure "dissociation" – which is a term that includes a huge range of different experiences that can be hard to describe clearly: like feeling a bit "odd" and detached from yourself, or experiencing the world as being unreal, or time as moving differently. Some people might have experiences of feeling "spaced out", or disconnected from their senses, feelings or emotions.

[Show A4 sheet "What Is Dissociation?"]

Here are some examples of some things people mean when they say 'dissociation' and some pictures people have made to show what it can feel like.

Because 'dissociation' includes such a range of different things, I'd really like to talk to people who have experience of dissociation so that I don't miss anything out when I write my questionnaire.

If you choose to give me your advice about my questionnaire …

- I'll show you what I have thought of so far for my questionnaire, and we will have a short discussion about whether this seems right in your experience, or whether I have missed anything out that you think would be important for a questionnaire about dissociation.

- We can go into a side room to do this, if you would like this to be a private conversation.

- Your opinions will help me make my new questionnaire as relevant as possible, and finishing the questionnaire will form part of my training qualification.

- I have also brought with me some other questionnaires that I will ask people to fill out online when I move on to testing my new questionnaire. It would be helpful to have your opinion on what order they should be shown to people.

- You won't be filling in any questionnaires yourself, just giving your opinion on them.

- The personal information you will share with me will not be passed to any third party.

- This research is anonymous, which means that when I write up my work, your name will not be used.

- This is completely voluntary – which means that you don't have to say yes, and we can stop any time you like.

I also have to let you know that this research project has been reviewed and approved by the university's ethics committee. So if you would like to speak to the University directly about the project – for example, to make a formal complaint - I'll give you their postal address and their email is ethics @medsci.ox.ac.uk. You can also contact me at emma.cernis@hmc.ox.ac.uk.

Type 3 consent-obtaining:

Do you have any questions?

Do you give your permission for me to get your advice on my questionnaire?

Are you happy to proceed? Ok, in which case let's start.

[Record consent on sheet – next page]

Researcher Record Of Oral Consent

CONFIDENTIAL

Name (of Consulting Service User):	
Date:	
Location (Charity, City): *e.g. "Mind, Oxford"*	
Project explained via oral consent script? **YES / NO**	
Participant agreed to suggestions being incorporated into final questionnaire? **YES / NO**	

Signature of Researcher:

(Signed in the presence of the Consulting Service User to confirm oral consent)

Appendix E – Measures Included in Online Survey

As well as consent, demographic questions, and the 99 items, the online survey also included:

Dissociative Experiences Scale II (DES-II) – Carlson & Putnam (1993)

Dissociative Experiences Scale-II (DES-II)
Eve Bernstein Carlson, Ph.D. & Frank W. Putnam, M.D.

Directions: This questionnaire consists of twenty-eight questions about experiences that you may have in your daily life. We are interested in how often you have these experiences. It is important, however, that your answers show how often these experiences happen to you when you are not under the influence of alcohol or drugs. To answer the questions, please determine to what degree the experience described in the question applies to you, and circle the number to show what percentage of the time you have the experience.

For example: 0% 10 20 30 40 50 60 70 80 90 100%
(Never) (Always)

1. Some people have the experience of driving or riding in a car or bus or subway and suddenly realizing that they don't remember what has happened during all or part of the trip. Circle a number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

2. Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was said. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

3. Some people have the experience of finding themselves in a place and have no idea how they got there. Circle a number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

4. Some people have the experience of finding themselves dressed in clothes that they don't remember putting on. Circle the number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

5. Some people have the experience of finding new things among their belongings that they do not remember buying. Circle the number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

6. Some people sometimes find that they are approached by people that they do not know, who call them by another name or insist that they have met them before. Circle the number to show what percentage of the time this happens to you 0% 10 20 30 40 50 60 70 80 90 100%

7. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they actually see themselves as if they were looking at another person. Circle the number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

8. Some people are told that they sometimes do not recognize friends of family members. Circle the number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

9. Some people find that they have no memory for some important events in their lives (for example, a wedding or graduation). Circle the number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

10. Some people have the experience of being accused of lying when they do not think that they have lied. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

11. Some people have the experience of looking in a mirror and not recognizing themselves. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

12. Some people have the experience of feeling that other people, objects, and the world around them are not real. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

13. Some people have the experience of feeling that their body does not seem to belong to them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

14. Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

15. Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

16. Some people have the experience of being in a familiar place but finding it strange and unfamiliar. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

17. Some people find that when they are watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

18. Some people find that they become so involved in a fantasy or daydream that it feels as though it were really happening to them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

19. Some people find that they sometimes are able to ignore pain. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

20. Some people find that they sometimes sit staring off into space, thinking of nothing, and are not aware of the passage of time. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

21. Some people sometimes find that when they are alone they talk out loud to themselves. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

22. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were two different people. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

23. Some people sometimes find that in certain situations they are able to do things with amazing ease and spontaneity that would usually be difficult for them (for example, sports, work, social situations, etc.). Circle the number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

24. Some people sometimes find that they cannot remember whether they have done something or have just thought about doing that thing (for example, not knowing whether they have just mailed a letter or have just thought about mailing it). Circle the number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

25. Some people find evidence that they have done things that they do not remember doing. Circle the number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

26. Some people sometimes find writings, drawings, or notes among their belongings that they must have done but cannot remember doing. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

27. Some people sometimes find that they hear voices inside their head that tell them to do things or comment on things that they are doing. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

28. Some people sometimes feel as if they are looking at the world through a fog, so that people and objects appear far away or unclear. Circle the number to show what percentage of the time this happens to you.
0% 10 20 30 40 50 60 70 80 90 100%

Wessex Dissociation Scale (WDS) – Kennedy et al. (2004)

Appendix 2.1 The Wessex Dissociation Scale (WDS)

This questionnaire asks about experiences that you may have in your daily life. Please indicate, by ticking one of the boxes, how often you have experiences like these. It is important that your answers state how often you have these experiences when you are **not** under the influence of alcohol or drugs.

		Never	*Rarely*	*Sometimes*	*Often*	*Very Often*	*All the time*
1	Unwanted images from my past come into my head						
2	I hear voices when no-one has actually said anything						
3	Other people describe meetings that we have had but that I cannot remember						
4	Unwanted memories come into my head						
5	My personality is very different in different situations						
6	My mood can change very rapidly						
7	I have vivid and realistic nightmares						
8	I don't always remember what people have said to me						
9	I feel physical pain, but it does not seem to bother me as much as other people						
10	I smell things that are not actually there						
11	I remember bits of past experiences, but cannot fit them together						
12	I have arguments with myself						
13	I do not seem to be as upset by things as I should be						
14	I act without thinking						
15	I do not really seem to get angry						
16	I just feel numb and empty inside						

		Never	*Rarely*	*Sometimes*	*Often*	*Very Often*	*All the time*
17	I notice myself doing things that do not make sense						
18	Sometimes I feel relaxed and sometimes I feel very tense, even though the situation is the same						
19	Even though it makes no sense, I believe that doing certain things can prevent disaster						
20	I have unexplained aches and pains						
21	It feels as if there is more than one of me						
22	Unwanted thoughts come into my head						
23	My mind just goes blank						
24	I feel touched by something that is not actually there						
25	I have big gaps in my memory						
26	I see something that is not actually there						
27	My body does not feel like my own						
28	I cannot control my urges						
29	I feel detached from reality						
30	Chunks of time seem to disappear without my being able to account for them						
31	I sometimes look at myself as though I were another person						
32	Things around me do not seem real						
33	I do not seem to feel anything at all						
34	I taste something that I have not eaten						
35	I find myself unable to think about things however hard I try						

		Never	Rarely	Sometimes	Often	Very Often	All the time
36	I talk to myself as if I was another person						
37	I do not feel physical pain as much as other people						
38	I hear things that are not actually there						
39	I find myself in situations or places with no memory of how I got there						
40	It is absolutely essential that I do some things in a certain way						

Scoring: Never = 0
Rarely = 1
Sometimes = 2
Often = 3
Very Often = 4
All the time = 5

Hospital Anxiety and Depression Scale (HADS) – Zigmond and Snaith (1983)

Hospital Anxiety and Depression Score (HADS)

This questionnaire helps your physician to know how you are feeling. Read every sentence. Place an "X" on the answer that best describes how you have been feeling during the LAST WEEK. You do not have to think too much to answer. In this questionnaire, spontaneous answers are more important

A	**I feel tense or 'wound up':**	
	Most of the time	3
	A lot of the time	2
	From time to time (occ.)	1
	Not at all	0
D	**I still enjoy the things I used to enjoy:**	
	Definitely as much	0
	Not quite as much	1
	Only a little	2
	Hardly at all	3
A	**I get a sort of frightened feeling as if something awful is about to happen:**	
	Very definitely and quite badly	3
	Yes, but not too badly	2
	A little, but it doesn't worry me	1
	Not at all	0
D	**I can laugh and see the funny side of things:**	
	As much as I always could	0
	Not quite so much now	1
	Definitely not so much now	2
	Not at all	3
A	**Worrying thoughts go through my mind:**	
	A great deal of the time	3
	A lot of the time	2
	From time to time, but not often	1
	Only occasionally	0
D	**I feel cheerful:**	
	Not at all	3
	Not often	2
	Sometimes	1
	Most of the time	0
A	**I can sit at ease and feel relaxed:**	
	Definitely	0
	Usually	1
	Not often	2
	Not at all	3

D	**I feel as if I am slowed down:**	
	Nearly all the time	3
	Very often	2
	Sometimes	1
	Not at all	0
A	**I get a sort of frightened feeling like "butterflies" in the stomach:**	
	Not at all	0
	Occasionally	1
	Quite often	2
	Very often	3
D	**I have lost interest in my appearance:**	
	Definitely	3
	I don't take as much care as I should	2
	I may not take quite as much care	1
	I take just as much care	0
A	**I feel restless as I have to be on the move:**	
	Very much indeed	3
	Quite a lot	2
	Not very much	1
	Not at all	0
D	**I look forward with enjoyment to things:**	
	As much as I ever did	0
	Rather less than I used to	1
	Definitely less than I used to	2
	Hardly at all	3
A	**I get sudden feelings of panic:**	
	Very often indeed	3
	Quite often	2
	Not very often	1
	Not at all	0
D	**I can enjoy a good book or radio/TV program:**	
	Often	0
	Sometimes	1
	Not often	2
	Very seldom	3

Appendix F - Demographics Section of Online Survey

Please complete the following questions about yourself to help us understand more about the people completing this internet survey.

Age:

Gender:

- Male
- Female
- Other
- Prefer not to say

Years in education (number of years in full time study):

Ethnicity:

Country of residence:

Please note that to help us better compile scores from this study, we recommend that only people proficient in English and familiar with British, Irish, American, Canadian, Australian or New Zealand culture participate in this research.

Have you ever experienced mental health difficulties?

- Yes
- No
- Prefer not to say

If 'yes', please select the most appropriate description from the list:

- [ ] Prefer not to say
- [ ] Low mood / depression / post-natal depression
- [ ] Anxiety / panic disorder / health anxiety / OCD
- [ ] Eating disorder (e.g. anorexia, bulimia)
- [ ] Mood cycling (e.g. bipolar, cyclothymia)
- [ ] PTSD / trauma reaction / "flashbacks"
- [ ] Psychotic episode / psychosis / schizophrenia / schizoaffective disorder
- [ ] "Personality disorder" (e.g. borderline, EUPD)

Other (please state)

Are these difficulties still ongoing?

- ( ) Yes
- ( ) No
- ( ) Prefer not to say

< Back

> Next

Appendix G - Sample of the Item Pool Database

	A	B
1	1	I sometimes look at myself as though I were another person
2	2	it's like my mind has an on/off switch
3	3	I have experiences where suddenly everything seems subtly wrong or odd
4	4	I feel like my mind is split up
5	5	I feel as though I don't exist, and am adrift with no one to connect to, understand me - isolated
6	6	I am listening to someone and suddenly realise that I have not heard part or the whole of what they said
7	7	I am not aware of time passing
8	8	I feel 'stuck' or 'frozen' mentally
9	9	I feel the urge to laugh even when I know the topic is difficult, traumatic or upsetting
10	10	I 'zone out' and don't see or hear what's going on around me
11	11	My reflection in the mirror and/or photos of me don't seem like me at all
12	12	I lack a sense of physical boundaries to the body
13	13	I feel like I am in a parallel world
14	14	I am doing something and I am suddenly struck by a blackout
15	15	I can see myself from the outside, as if I were looking at my image in a mirror
16	16	I do not seem to be as upset by things as I should be
17	17	I feel like everyone else is carrying out normal life, but I'm not
18	18	Sometimes my mind is absolutely blank
19	19	I am surprised by or don't expect some of the thoughts or images that happen in my head
20	20	I can get so involved in fantasies or daydreaming that it seems to be really happening and I lose touch with what is happening in the real world at that moment
21	21	I feel as if I don't exist, am not real
22	22	I stare aimlessly without thinking about anything
23	23	I don't react much to things happening around me
24	24	I smell or taste things that don't make sense
25	25	I find myself not feeling any affection towards my family and close friends
26	26	I have conversations with myself as if I was another person
27	27	I sometimes sit staring off into space, thinking of nothing, and am not aware of the passage of time (or other people tell me that I do this)
28	28	I have sudden moments when I am confused and don't know what to do next or who I am
29	29	I feel emotionally numb
30	30	I find myself somewhere and do not remember how I got there
31	31	I feel as if I am outside my body, looking at myself and what I am doing, 'watching' myself do things
32	32	Sometimes everything feels surreal or unreal
33	33	My mood can change very rapidly
34	34	I feel physical pain, but I am detached from it
35	35	Sometimes my body carries on, but my mind is in a trance
36	36	I just feel numb and empty inside
37	37	My mind escapes and floats off, almost leaving my body
38	38	I find evidence of something I've done recently (e.g. through finding notes or drawings) but I don't remember doing it
39	39	I feel detached from memories of things that have happened to me – as if I had not been involved in them

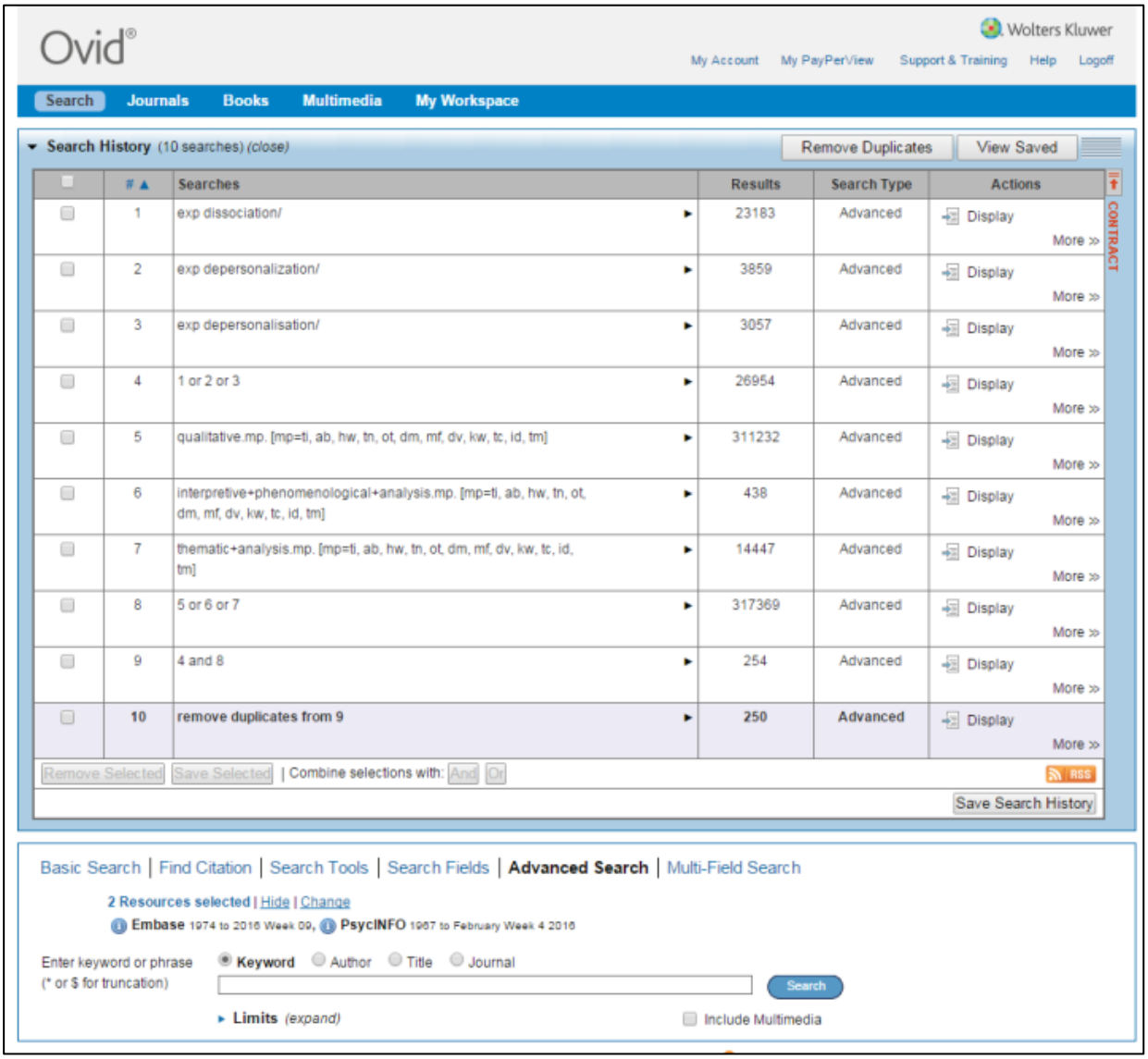
Appendix H - Search Strategy for Items

1) Used existing scales to generate an item pool:

   DES-II (Dissociative Experiences Scale),
   WDS (Wessex Dissociation Scale),
   CDS (Cambridge Depersonalisation Scale),
   DIS-Q (Dissociation Questionnaire).

   After just these four, I felt that I was reaching 'saturation', but not necessarily increasing in validity / breadth since many of the items are very similar between measures.

2) Ran search for qualitative data about the lived experience of dissociation:



3) Of these results, **only 2** appeared to be relevant:

Journal of Psychiatric and Mental Health Nursing, 2007, **14**, 587–597



'Then I just showed her my arms . . .' Bodily sensations in moments of alienation related to self-injurious behaviour.* A hermeneutic phenomenological study

S. SCHOPPMANN[1] Dr. rer. medic., R. SCHRÖCK[2] PhD RN, W. SCHNEPP[2] PhD RN & A. BÜSCHER[3] PhD RN

[1]*Psychiatric Nurse, Research Fellow,* [2]*Senior Lecturer, and* [3]*Research Fellow, Institute of Nursing Science, Private University of Witten/Herdecke, Germany*

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SCHOPPMANN S., SCHRÖCK R., SCHNEPP W. & BÜSCHER A. (2007) *Journal of Psychiatric and Mental Health Nursing* **14**, 587–597

'Then I just showed her my arms . . .' Bodily sensations in moments of alienation related to self-injurious behaviour.* A hermeneutic phenomenological study

People committing self-injurious behaviour are often perceived as difficult patients; con-

Limitations: Sample consists of women only.
Focus: Concerned with "alienation" prior to / as trigger for self-harm as an anti-dissociation function.

Journal of Trauma & Dissociation, 12:88–101, 2011
Copyright © Taylor & Francis Group, LLC
ISSN: 1529-9732 print/1529-9740 online
DOI: 10.1080/15299732.2010.514844

Routledge
Taylor & Francis Gr

A Preliminary Qualitative Investigation of Voice Hearing and Its Association with Dissociation in Chronic PTSD

CAROLINE ANKETELL, DClinPsych
School of Psychology, Queen's University, Belfast, Northern Ireland

MARTIN J. DORAHY, PhD, DClinPsych
Department of Psychology, University of Canterbury, Christchurch, New Zealand; and The Cannan Institute, Belmont Private Hospital, Brisbane, Australia

DAVID CURRAN, DClinPsych
School of Psychology, Queen's University, Belfast, Northern Ireland

Limitations: Sample consists of men only. Some limited applicability due to emphasis on auditory verbal hallucinations.

4) Two qualitative papers was not enough subjective / qualitative experience. So a web search for "experiences of dissociation" was carried out. This yielded two helpful sources of qualitative descriptions:

   MIND:
   http://www.mind.org.uk/information-support/your-stories/dissociative-disorder-losing-myself-and-finding-myself/#.VtRHMfmLSUk

   "Bipolar Blogger":
   https://purplepersuasion.wordpress.com/2011/12/12/the-gone-away-world-experiences-in-dissociation/

5) A further web search was carried out for "what does dissociation feel like?" This yielded a further helpful source:

   PTSD forum:
   https://www.myptsd.com/c/threads/what-does-dissociation-feel-like.8178/

6) Next, I searched through the references used when writing the dissertation proposal document: Only one of these was helpful:

   Kennedy, F., Kennerley, H., & Pearson, D. (2013). Cognitive behavioural approaches to the understanding and treatment of dissociation Routledge. doi:10.4324/9780203502082

7) Further two resources were identified via peers and supervisors:

   Steinberg, M. (2008) - Understanding the Dissociative Disorders - http://www.strangerinthemirror.com/dissociative.html

   Wilson, H., & Lloyd, M. (2015) Working clinically with dissociation. *Clinical Psychology Forum,* 276(Dec), 42 – 45.

8) After another search on Ovid for qualitative literature regarding experience of dissociation yielded no relevant results, the search for further items was terminated and the search strategy moved on to consulting professionals about the existing item pool.

Appendix I – Further Information about Consulting Clinicians

CC: *Clinical Psychologist and Service Lead, Horizon: Supporting Young People and Families Affected by Sexual Harm, Oxford Health*

Seven years post-qualification.

CC has experience of working clinically with complex trauma and PTSD in child and adult populations, including working with the impact of childhood abuse.

MC: *Clinical Psychologist, Senior Academic & Research Tutor, and Acting Deputy Programme Director, Oxford Institute of Clinical Psychology Training*

Thirty-two years post-qualification.

MC has a background in experimental cognitive psychology, which informs her clinical and research work in eating disorders in an adult population.

FW: *Research Clinical Psychologist, Oxford Cognitive Approaches to Psychosis, University of Oxford*
Three years post-qualification.

FW was invited to give feedback on the item pool as she has clinical and research experience of adult psychosis and trauma populations. She is also independent from the current research, which was felt to be important as CC and MC are supervisors for this project.

Example of informal feedback with clinicians via email:

RE: dissociation measure
F[redacted]W[redacted]
Sent: 16 May 2016 16:56
To: Emma Cernis
Attachments: FW comment EC items Copy ~1.xlsx (87 KB)

Hi Emma,

Well done on all your hard work on generating the items. This is a real challenge- especially in a field which has so many definitions of your central construct!

I have added some specific comments to the items on the attached spreadsheet. Below is some overarching comments.
In general:

- Consider the clarity and specificity of items to the concept of dissociation – construct validity?
- MC items look good- helpful wording
- Keep some of the "extreme" items if trying to create a scale to capture the continuum of experiences – same idea with some experiences which might be labelled as "normal" …

Dissociation in people reporting psychotic experiences:

- Consider feeling "cut off" as part of stigma and isolation as well as potentially dissociation

Well done and good luck with the next phase,
F[redacted]

Appendix J - Signage Used During Recruitment of Service User Consultants

Can You Help?

UNIVERSITY OF OXFORD

I am **Emma** and I will be at the drop-in on

_____ 2016



to ask for help with my research.

I am making a new questionnaire about

strange feelings and experiences

and am looking for people to give their opinion on what I have done so far.



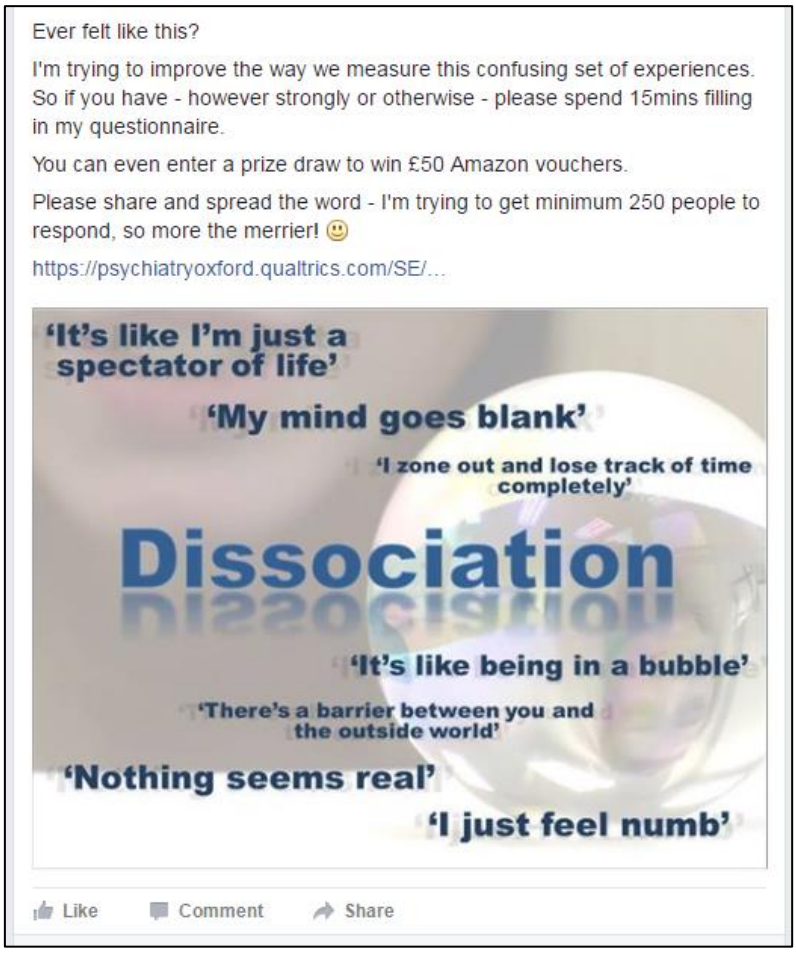
Please come and say hello if you would like to offer some help and advice!

It should only take about 10 minutes and you will be compensated for your time

Oxford Institute for Clinical Psychology Training,
Isis Education Centre, Warneford Hospital, Oxford, OX3 7JX

Appendix K – Social Media Publicity for Online Survey

Facebook:



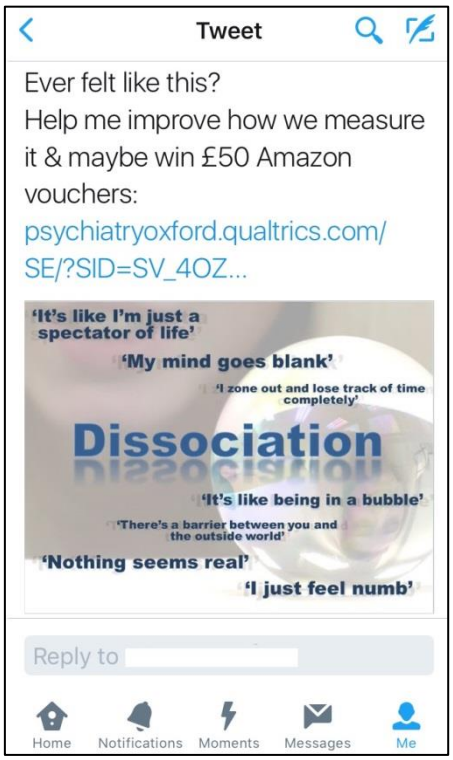
Other accounts where the advert was posted on Facebook included:

- Oxford Student Union
- Oxford Student Minds
- Oxford Student Mindfulness
- Oxford University Psychological Society
- Oxford CBT
- BPS Research Digest
- Oxford Brookes University
- Trauma and Dissociation
- The Truth Behind Dissociation & Child Abuse
- Oxford Medicine
- Oxford Psychology

The British Psychological Society via Facebook:



Twitter:



Appendix L – Statistical Assumptions Required for Analysis

Prior to all analyses data were checked for outliers. None were found, and therefore no data were removed from subsequent analysis.

Exploratory Factor Analysis

Principal components analysis (factor analysis) is a multivariate statistical method which identifies groupings of variables based on their inter-correlations. For a valid exploratory factor analysis (EFA), the following requirements and assumptions must be met:

Sample Size

There are disagreements as to what constitutes an adequate sample size to perform an EFA (Zhao, 2009). Comrey and Lee (1992) state that sample sizes above 500 are 'very good' and above 1000 'excellent', for factor analysis. They state that researchers should aim for sample sizes of minimum 500 (p. 84, MacCallum et al., 1999). However, some researchers state that a minimum of only 100 participants is required.

Some of these differences in opinion are summarised in the table below:

Table A
Illustrating sample sizes described as sufficient by several authors

Minimum Sample Size Required for EFA	Reference
100	Gorusch (1983) Kline (1979) MacCallum et al. (1999) Hatcher (1994)
150	Hutcheson & Sofroniou (1999)
200	Guilford (1954)
250	Cattell (1978)
300	Norusis (2005) Comrey & Lee (1992) state that this is 'good'
500	Comrey & Lee (1992) state that this is 'very good' and should be aimed for by researchers.
1000	Comrey & Lee (1992) state that this is 'excellent'

When considering sample size as a function of items to be analysed, rather than an absolute number, there is still disagreement. Some researchers assert that there should be a 20:1 ratio (Hair, Anderson, Tatham & Black, 1995), some a 10:1 ratio (Garson, 2008), 5:1 ratio (Bryant & Yarnold, 1995), or even a 2:1 ratio (Kline, 1979).

In the present study, the sample size was 691, and the number of items entered into the analysis was 99. This meets or exceeds the recommendations of all authors in the above table, and surpasses a 5:1 ratio. This was therefore judged to be adequate to proceed.

In addition, Cerny & Kaiser (1977) state that the Keyser-Meyer-Olkin (KMO) statistic may be used to determine sampling adequacy. Figures above 0.5 (or 0.6) are commonly deemed appropriate for EFA. In the current study, the KMO statistic was 0.978.

Sphericity

Tobias and Carlson (1969) 'emphasize the desirability of computing [sphericity] prior to proceeding to factor extraction' (p. 375), as it tests the null hypothesis that all factors only correlate with themselves, and not with any other factor (i.e. that the EFA will produce an identity matrix).

Sphericity is indicated by a significant result for Bartlett's test of sphericity. In the current study Bartlett's test came out as significant (χ^2 (4851) = 48162.084, $p < 0.001$).

Communalities

The table of communalities of all items (Appendix 15) was checked, as any items with a correlation coefficient below 0.30 should be removed. This is because low correlations indicate a 'lack of patterned relationships' (p. 88, Yong & Pearce, 2013) and therefore redundant items.

In the current study, no items had communalities were below 0.3, so factor analysis could proceed with all 99 items.

Correlation Analyses & Mann Whitney-U

Parametric analyses, such as correlations using Pearson's r and t-test analyses assume that the data used follows a Normal distribution.

Using the Kolmogorov-Smirnov test of Normality, it was found that the subscales of the new measure did not meet this requirement, as shown in the table below:

Table B
Showing the results of Kolmogorov-Smirnov tests of Normality for the five subscales of the new measure

Subscale	Kolmogorov-Smirnov statistic	Degrees of Freedom	Significance
Unreality	0.115		
Numb & Disconnected	0.065		
Memory Blanks	0.173	686	$p < 0.001$
Zoned Out	0.072		
Vivid Internal World	0.082		

Therefore, non-parametric analyses were used: Spearman's Rho for correlation, and Mann Whitney-U to detect significant differences between two means. The only

assumption made by non-parametric tests is that the variables are continuous, which is met by the data in the current study.

References cited in this Appendix

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Zhao, N. (2009). The minimum sample size in factor analysis. Retrieved from: https://www.encorewiki.org/display/~nzhao/The+Minimum+Sample+Size+in+Factor+Analysis Accessed: 17th May 2017.

Appendix M – Letter of Ethical Approval from the University of Oxford

MEDICAL SCIENCES
INTER-DIVISIONAL RESEARCH ETHICS COMMITTEE

Research Services, University of Oxford, Wellington Square, Oxford, OX1 2JD
Tel: +44(0)1865 616577 Fax: +44(0)1865 280467
ethics@medsci.ox.ac.uk

CONFIDENTIAL

Ref: R44285/RE001

Ms Emma Cernis
Oxford Institute of Clinical Psychology Training
Isis Education Centre
Warneford Hospital
Oxford

25th February 2016

Dear Emma

Research Ethics Approval - CUREC 1

Project title: Testing a New Questionnaire Measuring Strange Feelings and Experiences

The above application has been considered on behalf of the Medical Sciences Inter-divisional Research Ethics Committee (IDREC) in accordance with the procedures laid down by the University 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 16 months, commencing on 1st March 2016. The reference number for this project is R44285/RE001.

This is subject to:

a) your following the BPS guidelines for online research

b) it is your responsibility to comply with the requirements for administering any tests or questionnaires and if in doubt to contact the publisher of those tests or questionnaires.

c) if new staff are engaged MS IDREC should be informed of their names, status and ethics training.

Please may I remind you that your project may be reviewed at some stage during an annual audit of projects.

Amendments

Should there be any subsequent changes to the project, which raise ethical issues not covered in the original application, you should submit details to the IDREC for consideration and approval.

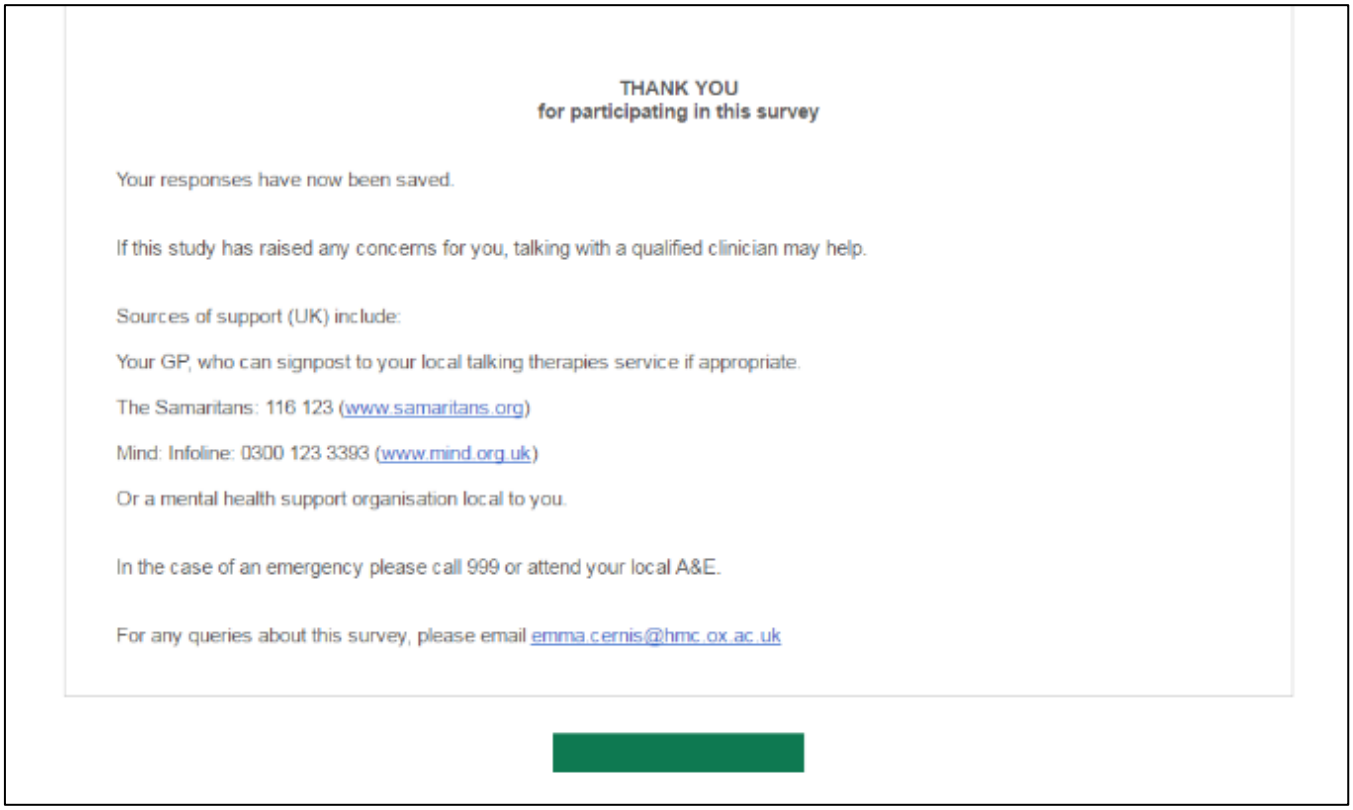
Please do not hesitate to contact me if you have any queries.

Yours Sincerely

H. Barnby-Porritt

Dr. Helen Barnby-Porritt
Research Ethics Manager, Medical Sciences

Appendix N – ‘Thank You’ and Debrief Page of Online Survey with Support Numbers



THANK YOU
for participating in this survey

Your responses have now been saved.

If this study has raised any concerns for you, talking with a qualified clinician may help.

Sources of support (UK) include:

Your GP, who can signpost to your local talking therapies service if appropriate.

The Samaritans: 116 123 (www.samaritans.org)

Mind: Infoline: 0300 123 3393 (www.mind.org.uk)

Or a mental health support organisation local to you.

In the case of an emergency please call 999 or attend your local A&E.

For any queries about this survey, please email emma.cernis@hmc.ox.ac.uk

Appendix O – Communalities of the 99 Items

Item	Extraction
I sometimes look at myself as though I were another person	.470
It's like my mind has an on/off switch	.399
I have experiences where suddenly everything seems subtly wrong or odd	.475
I feel like my mind is split up	.435
I feel as though I don't exist, and am adrift with no one to connect to, understand me - isolated	.598
I am listening to someone and suddenly realise that I have not heard part or the whole of what they said	.441
I am not aware of time passing	.475
I feel 'stuck' or 'frozen' mentally	.475
I feel the urge to laugh even when I know the topic is difficult, traumatic or upsetting	.318
I 'zone out' and don't see or hear what's going on around me	.593
My reflection in the mirror and/or photos of me don’t seem like me at all	.354
I lack a sense of physical boundaries to the body	.426
I feel like I am in a parallel world	.564
I am doing something and I am suddenly struck by a blackout	.459
I can see myself from the outside, as if I were looking at my image in a mirror	.406
I do not seem to be as upset by things as I should be	.332
I feel like everyone else is carrying out normal life, but I'm not	.597
Sometimes my mind is absolutely blank	.592
I am surprised by or don't expect some of the thoughts or images that happen in my head	.449
I can get so involved in fantasies or daydreaming that it seems to be really happening and I lose touch with what is happening in the real world at that moment	.424
I feel as if I don't exist, am not real	.681
I stare aimlessly without thinking about anything	.591
I don't react much to things happening around me	.530
I smell or taste things that don't make sense	.360
I find myself not feeling any affection towards my family and close friends	.439
I have conversations with myself as if I was another person	.333
I sometimes sit staring off into space, thinking of nothing, and am not aware of the passage of time (or other people tell me that I do this)	.659
I have sudden moments when I am confused and don't know what to do next or who I am	.496
I feel emotionally numb	.641
I find myself somewhere and do not remember how I got there	.545
I feel as if I am outside my body, looking at myself and what I am doing, 'watching' myself do things	.517
Sometimes everything feels surreal or unreal	.579
My mood can change very rapidly	.576
I feel physical pain, but I am detached from it	.392
Sometimes my body carries on, but my mind is in a trance	.527

Item	Extraction
I just feel numb and empty inside	.670
My mind escapes and floats off, almost leaving my body	.566
I find evidence of something I've done recently (e.g. through finding notes or drawings) but I don't remember doing it	.582
I feel detached from memories of things that have happened to me – as if I had not been involved in them	.518
I feel a great distance between myself and the things I think and do	.570
I hear someone talking when no-one nearby has actually said anything	.436
I go into a dream-like state	.536
I feel like a ghost or semi-permanent, like someone could put their hand through me	.512
I feel cut off from what's happening to me	.638
I get feelings of weightlessness	.437
The world around me feels detached or unreal, as if there were an invisible barrier between me and the outside world	.661
I experience aches, pains and other sensations that don't seem to have a cause	.302
I have the feeling that other people, other things and the world surrounding me are not real	.627
I feel like I'm 'just existing'	.643
I turn inwards, trying to work out why I feel so disconnected	.606
What I see looks flat or 2D like a picture	.383
I feel I can't make a proper connection with anyone around me	.610
I feel out of touch with my own hunger or thirst	.398
I have times where I suddenly feel extremely drowsy	.440
I do not seem to feel anything at all	.621
My mind just goes empty	.653
I feel like I'm in a bubble	.509
I see shapes or movement that aren't really there	.350
My voice doesn't sound like me	.423
I can have sudden, complete changes in my mood	.566
I have the feeling that everything is unreal	.696
I lose contact with my body	.606
I suddenly notice that I find myself in a place that is unknown to me without knowing how I got there	.610
I feel like I am floating or drifting	.500
Nothing feels familiar	.589
I feel detached and disconnected from the world	.695
I find that I have forgotten important things that only happened recently	.462
Sometimes it's like I'm a completely different person	.598
I feel as if I am looking at the world through a haze so that people and objects appear far away or unclear	.541
I find myself in situations or places with no memory of how I got there	.663

Item	Extraction
I do lots of really quite important things on automatic pilot, hardly thinking at all	.449
When I move or speak, it feels strangely automatic or machine-like	.476
I feel like the external world is not real, a joke, a lie	.592
I have big gaps in my memory for recent things in my life	.583
I feel like a 'spectator of life' - watching life go by, but not being present	.612
It feels as if my brain "shuts off" and my memory goes blank	.604
My body does not feel like my own	.614
I have the feeling that I am made up of two or more people	.413
Unwanted images from my past come into my head	.503
Everything seems unclear or fuzzy unless I focus on one thing	.480
I'm sometimes not sure whether things that I remember really did happen or whether I just dreamed them	.495
I can "leave" my body in some circumstances (e.g. if there is danger)	.467
I cannot remember whether I have really done something or if I just planned it	.454
My senses feel numbed	.576
I can see the world and engage with it, but I don't feel integrated in it somehow	.654
I lose time - I'm not sure where it has gone and what I have done	.578
I experience past memories as if they are happening here and now	.474
When I am tired or stressed, it seems as if a power from outside takes control of me and decides for me what to do or say	.417
I am not aware of things around me	.511
I remember bits of experiences but cannot piece them together	.562
Familiar places or people look unfamiliar, as if I had never seen them before	.501
I often think about nothing	.542
Things look bigger or smaller than they should	.375
I feel out of control of myself	.494
I can remember something that happened before so vividly that it's like a video playing in my head	.449
When in a new situation, it feels extremely familiar	.312
Sometimes I feel so detached and disconnected that I get scared I'm losing my grip on reality / sanity	.602
When I am really focused on something, I don't notice or hear anything else going on around me	.317
I find new articles among my things without being able to remember ever having purchased them	.476

Appendix P - Final Pattern Matrix of the Five-Factor Solution

	Factor				
	1	2	3	4	5
I sometimes look at myself as though I were another person	.524	.037	.047	.055	.100
It's like my mind has an on/off switch	.068	.071	.031	.541	-.029
I have experiences where suddenly everything seems subtly wrong or odd	.348	.115	-.157	.191	.280
I feel like my mind is split up	.213	.141	-.026	.128	.320
I feel as though I don't exist, and am adrift with no one to connect to, understand me - isolated	.384	.503	-.197	.051	.050
I am listening to someone and suddenly realise that I have not heard part or the whole of what they said	-.102	.006	-.100	.576	.298
I am not aware of time passing	-.032	-.102	.183	.564	.132
I feel 'stuck' or 'frozen' mentally	.076	.379	-.143	.321	.130
I feel the urge to laugh even when I know the topic is difficult, traumatic or upsetting	-.018	-.097	-.062	.341	.423
I 'zone out' and don't see or hear what's going on around me	.031	-.143	-.070	.781	.161
My reflection in the mirror and/or photos of me don’t seem like me at all	.315	.104	.128	-.058	.193
I lack a sense of physical boundaries to the body	.539	.000	.161	.003	.000
I feel like I am in a parallel world	.774	.039	-.037	-.002	-.043
I am doing something and I am suddenly struck by a blackout	.054	-.077	.503	.187	.084
I can see myself from the outside, as if I were looking at my image in a mirror	.545	-.136	.192	-.015	.077
I do not seem to be as upset by things as I should be	-.151	.458	.216	.169	-.082
I feel like everyone else is carrying out normal life, but I'm not	.118	.642	-.245	.024	.226
Sometimes my mind is absolutely blank	-.052	.185	-.029	.737	-.090
I am surprised by or don't expect some of the thoughts or images that happen in my head	.014	.078	-.038	.154	.536
I can get so involved in fantasies or daydreaming that it seems to be really happening and I lose touch with what is happening in the real world at that moment	.125	-.185	-.046	.271	.519
I feel as if I don't exist, am not real	.835	.148	-.164	-.013	-.029
I stare aimlessly without thinking about anything	.014	-.085	-.102	.852	.027
I don't react much to things happening around me	-.028	.336	.074	.522	-.137
I smell or taste things that don't make sense	.290	-.256	.133	.119	.352
I find myself not feeling any affection towards my family and close friends	-.028	.654	.084	.014	-.051

	Factor				
	1	2	3	4	5
I have conversations with myself as if I was another person	.062	-.085	.155	.097	.417
I sometimes sit staring off into space, thinking of nothing, and am not aware of the passage of time (or other people tell me that I do this)	.036	-.162	.103	.766	.096
I have sudden moments when I am confused and don't know what to do next or who I am	.225	.056	.274	.105	.188
I feel emotionally numb	-.120	.883	.069	.047	-.140
I find myself somewhere and do not remember how I got there	.027	-.076	.696	.120	-.017
I feel as if I am outside my body, looking at myself and what I am doing, 'watching' myself do things	.717	-.064	.161	-.031	-.075
Sometimes everything feels surreal or unreal	.671	.113	-.177	.056	.113
My mood can change very rapidly	-.233	.454	-.215	-.005	.689
I feel physical pain, but I am detached from it	.243	.155	.349	-.038	.007
Sometimes my body carries on, but my mind is in a trance	.246	.109	.026	.386	.092
I just feel numb and empty inside	.009	.836	-.016	.027	-.058
My mind escapes and floats off, almost leaving my body	.480	.048	.081	.260	-.002
I find evidence of something I've done recently (e.g. through finding notes or drawings) but I don't remember doing it	.001	.001	.762	-.025	.025
I feel detached from memories of things that have happened to me – as if I had not been involved in them	-.065	.550	.371	-.173	.100
I feel a great distance between myself and the things I think and do	.302	.395	.132	-.005	.042
I hear someone talking when no-one nearby has actually said anything	.113	-.156	.282	-.085	.516
I go into a dream-like state	.197	-.187	.029	.542	.231
I feel like a ghost or semi-permanent, like someone could put their hand through me	.666	-.008	.169	-.023	-.075
I feel cut off from what's happening to me	.332	.445	-.011	.165	-.038
I get feelings of weightlessness	.669	-.153	-.082	.215	.013
The world around me feels detached or unreal, as if there were an invisible barrier between me and the outside world	.767	.268	-.181	.019	-.113
I experience aches, pains and other sensations that don't seem to have a cause	-.140	.159	.118	-.005	.463
I have the feeling that other people, other things and the world surrounding me are not real	.883	-.054	-.040	-.073	.006
I feel like I'm 'just existing'	.064	.746	-.078	-.021	.106
I turn inwards, trying to work out why I feel so disconnected	.064	.743	-.150	-.088	.186
What I see looks flat or 2D like a picture	.524	-.055	.096	.097	.013

	Factor				
	1	2	3	4	5
I feel I can't make a proper connection with anyone around me	-.044	.821	-.031	-.061	.072
I feel out of touch with my own hunger or thirst	.015	.392	.249	-.065	.141
I have times where I suddenly feel extremely drowsy	-.115	.281	.021	.143	.427
I do not seem to feel anything at all	.002	.753	.142	.091	-.210
My mind just goes empty	-.046	.339	-.002	.677	-.165
I feel like I'm in a bubble	.402	.337	-.154	.208	-.031
I see shapes or movement that aren't really there	.264	-.102	.277	-.112	.300
My voice doesn't sound like me	.363	.030	.236	-.102	.199
I can have sudden, complete changes in my mood	-.210	.430	-.106	.010	.631
I have the feeling that everything is unreal	.878	.136	-.129	-.121	-.011
I lose contact with my body	.622	.115	.236	-.057	-.095
I suddenly notice that I find myself in a place that is unknown to me without knowing how I got there	.092	-.120	.814	.021	-.082
I feel like I am floating or drifting	.668	-.062	.080	.152	-.106
Nothing feels familiar	.451	.322	.170	-.051	-.042
I feel detached and disconnected from the world	.359	.693	-.105	-.005	-.142
I find that I have forgotten important things that only happened recently	-.210	.348	.454	.112	.058
Sometimes it's like I'm a completely different person	.155	.435	.136	-.079	.250
I feel as if I am looking at the world through a haze so that people and objects appear far away or unclear	.554	.134	-.007	.164	-.033
I find myself in situations or places with no memory of how I got there	.041	-.077	.841	.065	-.096
I do lots of really quite important things on automatic pilot, hardly thinking at all	-.075	.369	.145	.216	.138
When I move or speak, it feels strangely automatic or machine-like	.374	.229	.110	-.002	.085
I feel like the external world is not real, a joke, a lie	.720	.143	.004	-.143	.028
I have big gaps in my memory for recent things in my life	-.184	.323	.646	.081	-.053
I feel like a 'spectator of life' - watching life go by, but not being present	.323	.573	-.018	-.049	-.007
It feels as if my brain "shuts off" and my memory goes blank	-.047	.259	.230	.514	-.095
My body does not feel like my own	.674	.155	.118	-.148	-.001
I have the feeling that I am made up of two or more people	.203	.081	.311	-.224	.318
Unwanted images from my past come into my head	-.004	.073	-.026	-.016	.692
Everything seems unclear or fuzzy unless I focus on one thing	.244	.153	.081	.174	.185

	Factor				
	1	2	3	4	5
I'm sometimes not sure whether things that I remember really did happen or whether I just dreamed them	-.067	.124	.357	.063	.350
I can "leave" my body in some circumstances (e.g. if there is danger)	.416	-.074	.448	-.045	-.031
I cannot remember whether I have really done something or if I just planned it	-.101	.110	.471	.035	.253
My senses feel numbed	.120	.599	.185	.062	-.151
I can see the world and engage with it, but I don't feel integrated in it somehow	.237	.714	-.058	-.106	.018
I lose time - I'm not sure where it has gone and what I have done	-.142	.159	.450	.313	.095
I experience past memories as if they are happening here and now	.126	-.092	.207	-.016	.523
When I am tired or stressed, it seems as if a power from outside takes control of me and decides for me what to do or say	.236	.032	.241	.060	.202
I am not aware of things around me	.239	.128	.279	.308	-.131
I remember bits of experiences but cannot piece them together	-.062	.254	.553	.078	.032
Familiar places or people look unfamiliar, as if I had never seen them before	.324	-.014	.512	-.057	-.007
I often think about nothing	-.028	.085	.038	.744	-.142
Things look bigger or smaller than they should	.432	-.184	.259	.102	.052
I feel out of control of myself	.189	.440	.027	-.050	.187
I can remember something that happened before so vividly that it's like a video playing in my head	.045	-.109	.027	-.053	.710
When in a new situation, it feels extremely familiar	.093	-.115	.309	-.142	.404
Sometimes I feel so detached and disconnected that I get scared I'm losing my grip on reality / sanity	.373	.427	.049	-.096	.102
When I am really focused on something, I don't notice or hear anything else going on around me	-.034	.048	.063	.342	.234
I find new articles among my things without being able to remember ever having purchased them	.017	-.039	.713	-.158	.114

Appendix Q – The final measure (30 Items)

Please answer the questions below based on how things have been for you in the past **two weeks**. If you are not sure, go with your best guess.

Please only answer about experiences you have had while **not** under the influence of alcohol, drugs or 'legal highs'.

		Not At All	Rarely	Sometimes	Often	Most Of The Time
1	I have the feeling that other people, other things and the world surrounding me are not real	1	2	3	4	5
2	I have the feeling that everything is unreal	1	2	3	4	5
3	I feel as if I don't exist, am not real	1	2	3	4	5
4	I feel like I am in a parallel world	1	2	3	4	5
5	The world around me feels detached or unreal, as if there were an invisible barrier between me and the outside world	1	2	3	4	5
6	I feel like the external world is not real, a joke, a lie	1	2	3	4	5
7	I feel emotionally numb	1	2	3	4	5
8	I just feel numb and empty inside	1	2	3	4	5
9	I feel I can't make a proper connection with anyone around me	1	2	3	4	5
10	I do not seem to feel anything at all	1	2	3	4	5
11	I feel like I'm 'just existing'	1	2	3	4	5
12	I turn inwards, trying to work out why I feel so disconnected	1	2	3	4	5
13	I find myself in situations or places with no memory of how I got there	1	2	3	4	5
14	I suddenly notice that I find myself in a place that is unknown to me without knowing how I got there	1	2	3	4	5

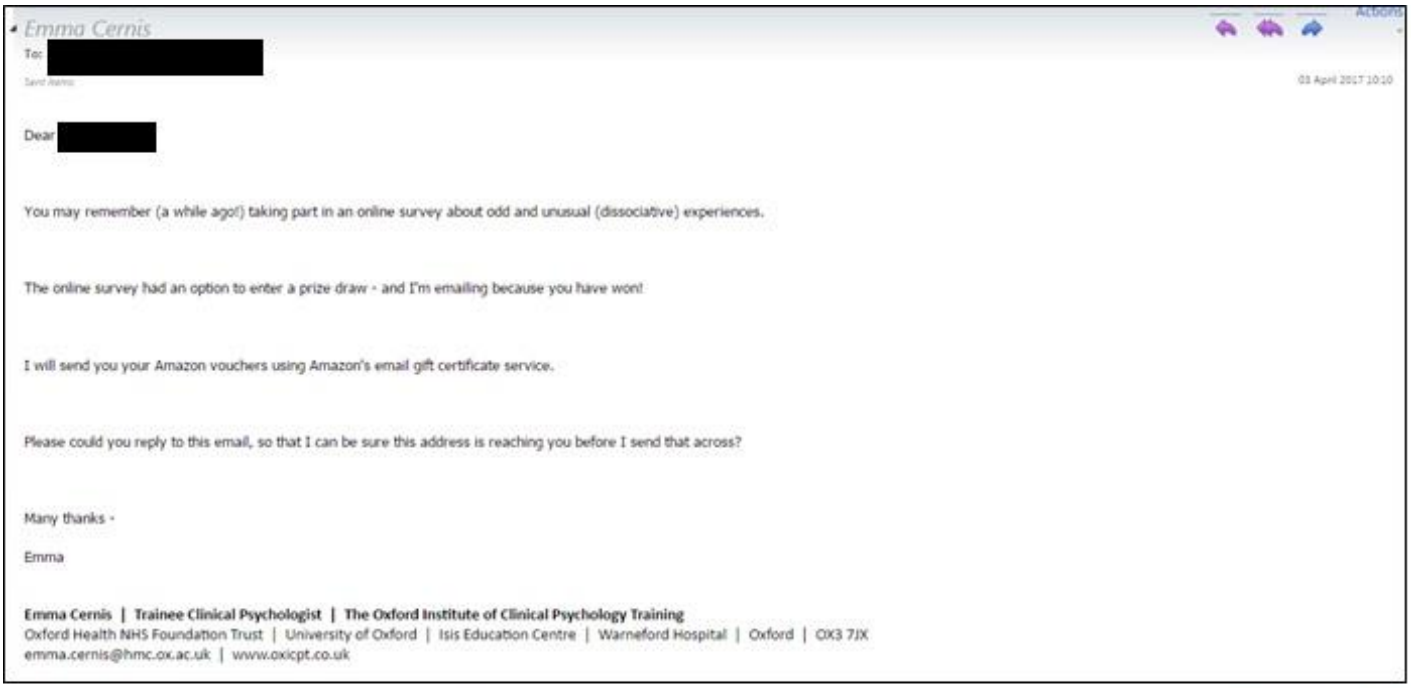
		Not At All	Rarely	Sometimes	Often	Most Of The Time
15	I find evidence of something I've done recently (e.g. through finding notes or drawings) but I don't remember doing it	1	2	3	4	5
16	I find new articles among my things without being able to remember ever having purchased them	1	2	3	4	5
17	I find myself somewhere and do not remember how I got there	1	2	3	4	5
18	I have big gaps in my memory for recent things in my life	1	2	3	4	5
19	I stare aimlessly without thinking about anything	1	2	3	4	5
20	I 'zone out' and don't see or hear what's going on around me	1	2	3	4	5
21	I sometimes sit staring off into space, thinking of nothing, and am not aware of the passage of time (or other people tell me that I do this)	1	2	3	4	5
22	I often think about nothing	1	2	3	4	5
23	Sometimes my mind is absolutely blank	1	2	3	4	5
24	My mind just goes empty	1	2	3	4	5
25	I can remember something that happened before so vividly that it's like a video playing in my head	1	2	3	4	5
26	Unwanted images from my past come into my head	1	2	3	4	5
27	I am surprised by or don't expect some of the thoughts or images that happen in my head	1	2	3	4	5
28	I experience past memories as if they are happening here and now	1	2	3	4	5
29	I can get so involved in fantasies or daydreaming that it seems to be really happening and I lose touch with what is happening in the real world at that moment	1	2	3	4	5
30	I hear someone talking when no-one nearby has actually said anything	1	2	3	4	5

ITEMS:

Factor 1:	Items 1 – 6:	Unreality
Factor 2:	Items 7 – 12:	Numb & Disconnected
Factor 3:	Items 13 – 18:	Memory Blanks
Factor 4:	Items 19 – 24:	‘Zoned Out’
Factor 5:	Items 25 – 30:	Vivid Internal World

Appendix R – Details of Prize Draw

1. All emails provided for the prize draw were listed in an SPSS file
2. Google's random number generator was used to select a row
3. The email address in this row was emailed (as below), once a response was received, an e-voucher was sent via Amazon.co.uk



Emma Cernis

To: [redacted]

Actions

03 April 2017 10:10

Dear [redacted]

You may remember (a while ago!) taking part in an online survey about odd and unusual (dissociative) experiences.

The online survey had an option to enter a prize draw - and I'm emailing because you have won!

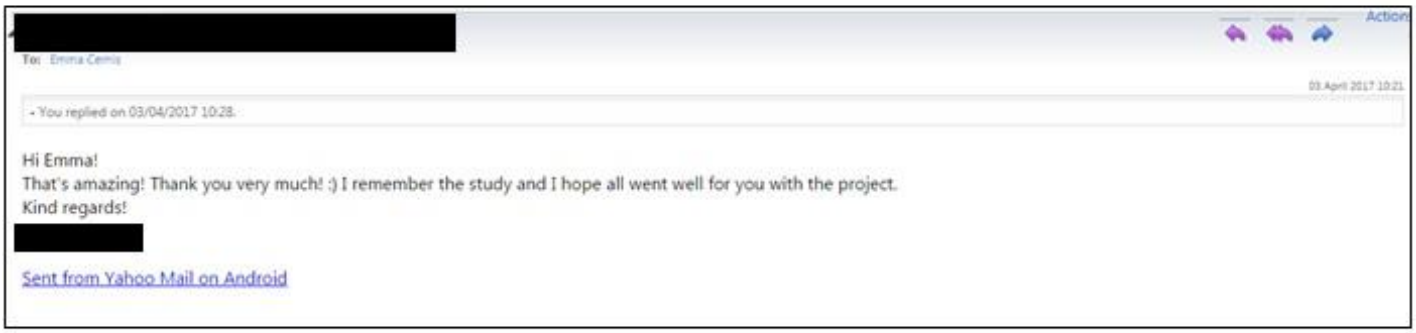
I will send you your Amazon vouchers using Amazon's email gift certificate service.

Please could you reply to this email, so that I can be sure this address is reaching you before I send that across?

Many thanks -

Emma

Emma Cernis | Trainee Clinical Psychologist | The Oxford Institute of Clinical Psychology Training
Oxford Health NHS Foundation Trust | University of Oxford | Isis Education Centre | Warneford Hospital | Oxford | OX3 7JX
emma.cernis@hmc.ox.ac.uk | www.oxicpt.co.uk



[redacted]

To: Emma Cernis

Actions

03 April 2017 10:21

- You replied on 03/04/2017 10:28.

Hi Emma!
That's amazing! Thank you very much! :) I remember the study and I hope all went well for you with the project.
Kind regards!

[redacted]

Sent from Yahoo Mail on Android



Your Order with Amazon.co.uk

Amazon.co.uk Gift Cards <auto-confirm@amazon.co.uk>

Apr 3

to me

Thank you for your Amazon.co.uk gift card order!

(Order #206-4543623-8490719)

Gift Voucher, E-mail Delivery
Send to: [redacted]
Amount: £50.00
Quantity: 1

Subtotal: £50.00
Postage & Packing: FREE
VAT: £0.00

TOTAL: £50.00

Thank you for shopping at Amazon.co.uk!

Please note: This e-mail was sent from a notification-only address that cannot accept incoming e-mail. Please do not reply to this message.

Amazon.co.uk
Earth's Biggest Selection
http://www.amazon.co.uk