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Development and initial evaluation of a measure of Positive Beliefs about Dissociative Experiences

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Abstract

Theoretical models and qualitative research suggest that dissociation can be functional in some circumstances, despite being a cause of concern for many. This is the first study that evaluates a novel questionnaire on positive appraisals of dissociation (the Positive Beliefs about Dissociation Questionnaire; PBD-Q), and its link with dissociation frequency and related distress. Development of items was based on lived experience expertise within the research team and qualitative findings. Items were refined through cognitive interviewing with people with lived experience of dissociation prior to deployment using an online survey. A sample of 228 participants scoring >10 on the Dissociative Experiences Scale (DES-II) completed a battery of measures comprising the PBD-Q and a previously developed measure of negative beliefs of dissociation. Exploratory factor analysis revealed three factors: positive beliefs about emotion management, positive beliefs about self-expression, and positive beliefs about maintaining social image. Within this particular sample the PBD-Q showed excellent internal consistency, face validity, convergent validity and test-retest reliability. Higher scores on the PBD-Q were significantly related to higher frequencies of dissociative experiences as well as dissociation-related distress. The factor structure remained stable when the analyses were restricted to individuals scoring >30 on the DES-II. In conclusion, our findings indicate that positive beliefs about dissociation can be reliably and validly measured in adults who experience levels of dissociation that are higher than the general population. These beliefs could be involved in the maintenance of dissociation and represent promising targets for future research, clinical assessment and treatment.

Key words: dissociation, positive meta-cognitive beliefs, factor analysis, psychological assessment

Introduction

The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders defines dissociation as a "disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behaviour" (APA, 2013, p.291). The vast majority of empirical studies on the prevalence and correlates of dissociation have employed self-report measures assessing the frequency of a range of dissociative experiences, such as the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) and subsequent versions of the instrument (e.g. the DES-II; Carlson & Putnam, 1993). Research studies using these instruments have established that dissociative experiences are not unique to dissociative disorders, but are common in a variety of clinical presentations, including post-traumatic stress disorder (PTSD; e.g. Carlson et al., 2012), schizophrenia (e.g. Justo, Risso, Moskowitz, & Gonzalez, 2018), anxiety and mood disorders (e.g. Lyssenko et al, 2018) and borderline personality disorder (e.g. Korzekwa et al., 2009). Dissociative experiences are also common in community samples, and are often associated with a range of non-clinical cognitive, behavioural and perceptual disturbances, including sleep loss (Barton et al, 2018) and psychosis-like experiences (e.g. Pilton et al., 2015) amongst many others.

A large body of literature suggests a strong relationship between trauma and the vulnerability to dissociative experiences (Dalenberg & Carlson, 2012), wherein

dissociation has been identified as a central psychological response to trauma exposure. In turn, numerous empirical studies, systematic reviews and meta-analyses have suggested that dissociation may be a mediating factor between trauma and mental health difficulties, such as psychosis (Williams et al., 2018), complex PTSD symptoms (Van Dijke., et al 2015) and non-suicidal self-injury (Franzke et al., 2015). Several theoretical models have been proposed to explain the factors that may contribute to the development and maintenance of dissociation in those that have been exposed to overwhelming traumatic events. Multiple theoretical perspectives, ranging from Janet's original conceptualisation of what became known as 'structural dissociation' (Janet, 1907; Van der Hart, Nijenhuis & Steele, 2006) to more recent accounts of dissociation informed by cognitive behavioural theories (e.g. Kennerley, 1996; Kennedy et al., 2013), have assumed that dissociative experiences represent the end product of psychological processes that are functionally adaptive to managing overwhelming affect. In support of this notion, qualitative studies have found that people with lived experience of dissociation commonly report positive appraisals about their dissociative experiences. For example, Parry et al. (2017) interviewed 5 participants diagnosed with DID and reported numerous descriptions that could be interpreted as dissociation having considerable functional components, for example, "*It's a way to protect myself from feeling that emotion*" or "*it's a way to get through the day to the next thing*". Similar findings have been replicated across multiple qualitative investigations (e.g. Parry et al., 2016; Rabeyron & Caussie, 2016).

These qualitative findings and the above mentioned theoretical models highlight how dissociative experiences should not be regarded as mere symptoms of psychiatric conditions but as potentially adaptive psychological phenomena that can become

distressing and impairing in some circumstances, for example, when they are habitual and chronically elevated. Relatively little empirical attention has been given to the potential adaptive functions of dissociation in the formation and maintenance of dissociative experiences. To the best of our knowledge, no available instrument has been developed to tap into the perceived adaptive features of dissociation. The development of such an instrument could allow for novel and more fine-grained investigations of the aetiology of dissociative experiences, as well as the conditions under which these experiences may become distressing or disturbing for certain individuals.

In the present paper, we report the development and initial validation of an instrument designed to assess positive appraisals of dissociation informed by a theoretical perspective which could be extended to understand the formation and maintenance of dissociative experiences: the meta-cognitive model proposed by Wells (1995). This model, originally developed to explain the development and maintenance of emotional disorders, emphasises that an individual's positive beliefs (e.g., "my worry keeps me safe") and negative beliefs (e.g., "worrying is uncontrollable") about their own mental processes (i.e. meta-cognitive beliefs) are closely involved in the maintenance of potentially distressing mental phenomena. For instance, Wells (1995) theorised that individuals diagnosed with generalized anxiety disorder (GAD) can have positive and negative meta-cognitive beliefs about worry, which ultimately serve to maintain it. From this theoretical viewpoint, whilst worry is a universal and not necessarily pathological process, it is the occurrence of positive and negative beliefs which make worry enduring and distressing in some individuals, as they will be simultaneously driven to engage in worrying whilst also appraising worry as a

disturbing, uncontrollable and unpleasant experience. Similar meta-cognitive processes have been demonstrated within depression (Papageorgiou & Wells, 2001), OCD (Wells & Matthews, 1994), and psychotic symptoms (Morrison et al, 2007).

Using a meta-cognitive approach, Welford (1999) specifically investigated the relationship between dissociative experiences and negative beliefs about dissociation in an adult community sample using a purposely developed measure; The Beliefs about Dissociation questionnaire (BAD). In this study, negative beliefs about dissociation were significantly related to higher frequencies of dissociative experiences and dissociation-related distress. No research to date has replicated these findings or extended this approach to consider positive beliefs about dissociative experiences. The present research specifically aimed to develop and examine the dimensional structure and psychometric properties of a measure of positive beliefs about dissociation, in order to address this gap in the research literature.

Our aim was to develop and examine the underlying dimensional structure of a purposely developed measure, the Positive Belief about Dissociation Questionnaire (PBD-Q), in a sample of adults who scored ≥10 for on the DES-II. This score is above the 95% confidence interval for DES-II scores in the general population in previous research (Carlson, Dalenberg & McDade-Montez; 2012), therefore representing a suitable cut-off for identifying participants presenting with elevated levels of dissociative experiences who can therefore provide meaningful answers to items designed to assess appraisals of dissociation. Items examined in the present analyses were developed on the basis of previous qualitative findings (e.g. Parry et al 2017), with item wording being iteratively refined through a review of other measures assessing positive beliefs about a range of mental experiences (e.g. Cartwright-Hatton & Wells,

1997) and cognitive interviews with people with lived experience of dissociation. More specifically, the research aims of the present research were:

1) To explore the underlying dimensional structure of the PBD-Q using exploratory factor analysis;

2) To examine the face validity of the PBD-Q by conducting cognitive interviewing amongst people with lived experience of dissociation;

3) To examine the internal consistency of the measure (and the dimensional subscales extracted as part of the exploratory factor analysis);

4) To examine the test-retest reliability of the scale;

5) To examine convergent validity by investigating its association with measures of dissociation frequency (i.e. the DES-II); Based on the above theoretical proposals of expanding the metacognitive framework to dissociation, we hypothesised that positive beliefs about dissociation will be positively related to dissociation frequency as assessed by the DES-II;

6) To examine discriminant validity of the PBD-Q by investigating its associations with the BAD and dissociation-related distress. We expected PBD-Q scores to be either negatively related or not significantly associated with BAD scores. Furthermore, based on the literature on metacognitive beliefs on other mental phenomena (e.g. worry), we hypothesised that PBD-Q scores would be related to distress caused by dissociative experiences, but that this relationship would not be as strong as that estimated between PBD-Q scores and dissociation frequency.

Method

Participants and Procedure

We opted to conduct the initial development of the PBD-Q on a sample of adults (i.e. older than 18) scoring ≥10 on the Dissociative Experience Scale (DES-II; Carlson and Putnam, 1993). This score was found to be above the 95% confidence interval for DES-II scores in the general population in previous research (Carlson, Dalenberg & McDade-Montez, 2012). The requirement of meeting a minimum criterion score on the DES-II was necessary to ensure that participants would meaningfully answer the questionnaire items (i.e. their appraisals of dissociative experiences). No restrictions were placed in relation to participants' psychiatric history, socio-economic status or gender.

The study was approved by The University of Manchester Research Ethics Committee. Data collection was undertaken through an online survey between October and December 2018. In order to obtain a sample with a wide range of dissociation levels, the study was advertised on social media (e.g. Twitter) and also via targeted invitation emails to several mental health charities, organisations and support groups for people with mental health difficulties. Advertisement posters were also placed in places with great public access in our locality (e.g. libraries; community centres; the University campus). All advertisement material directed people to an online survey platform, where participants could read the information sheet of the study, confirm their consent to take part and complete the DES-II. Individuals scoring <10 on the DES-II were directed to a debrief sheet, while those scoring ≥10 were invited to complete additional measures. Participants were asked to provide their contact details if they agreed to take part in a follow-up survey to establish the test-retest reliability of our positive beliefs about dissociation measure. Consenting participants were sent a link to the follow-up

survey via an automated email two weeks following the completion of the measures. No individual reimbursement was provided, but participants were given the option to enter a prize draw for one of five £20 vouchers.

A sample of 248 participants were recruited. Participant ages ranged from 18 to 71 years (*M*= 28.28, *SD*= 12.16). The demographic characteristics of the sample are displayed in Table 1. Participants were predominantly White-British (n=149, 65.4%) female (n=192, 77.4%), had degree-level education (n=102, 43%) and were either employed (n=76, 32.1%) or students (n=129, 54.4%). The majority of the sample (n = 164, 71.9%) reported having received support for emotional or psychological difficulties at some point in their lives.

[Table 1 near here]

Measures

Demographic questionnaire

An 18-item self-report measure was used to collect demographic information, including: age, gender, education level, ethnicity and psychiatric service contact.

Supplemented version of the Dissociative Experience Scale (DES-II; Carlson and Putnam, 1993)

The DES-II is a 28-item questionnaire assessing dissociative experiences. Participants were asked to indicate the frequency they experienced each item in their daily life on a 0–100% scale. The DES-II has shown to have excellent reliability and

validity (Carlson & Putnam, 1993) and demonstrated excellent internal consistency in this sample (α=.93). The research team supplemented the DES-II to also collect measures on dissociation-related distress. Specifically, after rating each DES-II item, participants were required to also rate what level of distress was caused by each experience ("How distressing do you find this experience?") using a 0–100% scale (0% =not distressing at all; 100%=extremely distressing). The internal consistency of this dissociation-related distress scale was excellent (α=.91).

The positive belief about dissociation questionnaire (PBD-Q)

The PBD-Q was developed by the authors. An initial pool of 70 items was devised by extracting themes from seven semi-structured interviews of women with lived experience of dissociation (Parry et al, 2016) and previous qualitative research relating to lived experience of dissociation (Anketell et al, 2011; Hirakata, 2009). Item generation also drew on meta-cognitive theory (Wells, 1994) and other self-report measures assessing positive and negative meta-cognitive beliefs about mental processes other than dissociation (e.g. the Meta-Cognition Questionnaire; Cartwright-Hatton and Wells, 1997). Item wording was refined within the research team, which included two members who were trauma survivors with substantial amounts of lived experience of dissociation. The research team edited and reduced the initial pool of items in order to prevent excessive content overlap between items.

To refine the PBD-Q and assess its face validity, cognitive interviewing with seven individuals with lived experience of dissociation was undertaken to explore individual thinking processes that occurred during questionnaire completion (e.g. ease of recall, item comprehension, memory retrieval, and decision and response processes:

Willis, 1994). All interviewees for the cognitive interviewing were recruited through various mental health charities and were required to score ≥ 30 on the DES-II; this was to increase likelihood that they presented with clinically significant levels of dissociation (e.g. Carlson & Putman, 1993). 'Think-aloud' probing as well as retrospective probing were employed, in line with cognitive interviewing guidelines (Willis, 1994). Additional feedback on the items and its response scale was gathered from six experienced clinicians working with clients who experience dissociation. Before the measure was finalised the items were checked by all members of the research team.

The version of the PBD-Q that was developed following feedback gathered through the cognitive interviewing and from experienced clinicians consisted of 20 items. Each item was introduced by the sentence "Dissociation enables me to…" followed by a statement reflecting a positive appraisal of dissociation (e.g. "… cope with extreme emotions"). Each item was rated on a 5-point likert scale, using the following anchors:(0) "Never", (1) "occasionally", (2) "half the time", (3) "frequently", and (4) "always".

Negative Beliefs about Dissociation questionnaire (BAD; Welford, 1999)

The BAD is a 12-item questionnaire assessing negative beliefs about dissociative experiences (e.g. "When I dissociate, I think I am losing control"; "When I dissociate I think I am going crazy"). It is scored on a 4-point Likert scale (1='do not agree'; 4='strongly agree'). The scores range from 12-48, with higher scores indicating more negative beliefs about dissociation. This scale presented excellent internal consistency in this sample (α=.97).

Data Analysis

To explore the dimensional structure of the PBD-Q, an exploratory factor analysis (EFA), with extraction through principal axis factoring and oblique factor rotation, was used. The assumptions for EFA were checked using the Kaiser-Meyer-Olkin (KMO; Kaiser, 1974) and Bartlett's test of sphericity (Hubbard & Allen, 1987). To avoid extreme multicollinearity and singularity, items were retained in the factor analysis if they had inter-item correlations >.30 and <.90 (Tabachnick & Fidell, 2013). The number of factors to be extracted was determined by examining the convergence of the scree plot and parallel analysis (Hubbard & Allen, 1987).

Cronbach's alpha (α) was used to examine the internal consistency for each PBD-Q factor. To test for test-retest reliability, the intraclass correlation coefficient (ICC) was used between PBD-Q scores at baseline and the two-week follow-up assessments. To explore the construct validity of the PBD-Q, correlational analyses were carried out between PBD-Q factor scores and DES-II scores. To assess for divergent validity, correlational analyses were conducted between PBD-Q factor scores and BAD total scores. A further correlational analysis was carried out between dissociation-related distress scores and PBD-Q scores (both factor and total scores).

To evaluate if the factor structure remained stable and consistent amongst people presenting with potentially clinically significant levels of dissociation, a sensitivity analysis was conducted on the new measure employing a more stringent DES-II cut off of 30 (Carlson & Putman, 1993).

Results

Of the 228 participants who completed the PBD-Q, 227 also completed the BAD; and 104 completed the PBD-Q at the two-week follow-up (45.6% of the total sample). Two participants did not complete the PBD-Q in full and were removed from the analysis.

Exploratory Factor Analysis

The overall KMO was considered 'superb' at .891, indicating both an adequate sample size and that EFA was appropriate for this data (KMO; Kaiser, 1974). Bartlett's test of sphericity was highly significant ($p<.001$), also supporting the appropriateness of the analysis. No inter-item correlations above .90 or below .30 were found. In addition, the whole range of the five-point response scale was used by participants for all items, suggesting that the scale was suitable for the target sample.

Principal axis factoring extracted three factors, with a cumulative percentage of explained variance of 63.89% (factor 1, 44.33%; factor 2, 10.50% and factor 3, 9.05%). The parallel analysis indicated that three factors occurred above chance based on the 95th percentile criteria from the parallel analysis Monte Carlo simulation. Additionally, the scree plot supported the three-factor structure. Oblique rotation revealed that factors were significantly correlated with a minimum 10% overlap in variance among factors (Tabachnick & Fidell, 2013).

Table 2 presents the results of the EFA. The three-factor structure resulted in 6 items associated with factor 1; these items reflected dissociation as a way of coping with emotions and was therefore labelled "positive beliefs about managing overwhelming affect". Three items were associated with factor 2; these items reflected dissociation as an experience that helped people to communicate effectively, (e.g. to

express suppressed emotions, or to 'feel heard and understood'). Consequently, this factor was termed 'positive beliefs about self-expression and acceptance'. Five items were associated with factor 3, which contained themes around appearing more positive, putting on a mask, or allowing respondents to be the person they needed to be in different situations. Therefore, this factor was termed 'positive beliefs about maintaining social image'. Factor one was significantly correlated with both factor two ($r = .419$, $p < .001$) and factor three ($r = .664$, $p < .001$); factor two was also positively associated with factor 3 ($r = .356$, $p < .001$) .

[Table 2 near here]

Internal Consistency

The 'α' for all factors showed good internal consistency: (factor 1, α=.863; factor 2, α=.730; factor 3, α=.855, total score, α =.901). In addition, the iterative removal of single items did not increase the α of subscales or the total score. Within each factor, all items presented correlations >.30 with their relevant subscale and the PBD-Q total score. Overall, these analyses indicated that the PBD-Q had good internal consistency.

Reliability

The ICC was used to calculate test-retest reliability between the subscales scores and total score of PBD-Q at baseline and follow-up. The ICC for all PBD-Q subscales and the total score showed optimal test-retest reliability (factor one, ICC=.849; factor two, ICC=.713; factor three, ICC=.738; total score PBD-Q ICC=.811).

Validity

Bivariate correlations (Spearman's rank correlations) between each subscale of the PBD-Q and scores on additional measures are presented in Table 3. DES-II frequency was positively associated with all PBD-Q subscales and total score, suggesting that the scale presents good convergent validity within this sample. The PBD-Q subscales were also positively associated with dissociation-related distress scores, with belief about maintaining social image and total PBD-Q scores. As DES-II frequency and distress scores were highly correlated in our data (r_s =.762, p<.001), partial correlations were also conducted to account for the large covariation between these two measures, which may bias the above bivariate analyses. When controlling for dissociation-related distress, DES-II frequency remained significantly associated with the three subscales of the PBD-Q and the PBD-Q total score. Conversely, there was no association between PBD-Q subscales and total scores and dissociation-related distress when controlling for DES-II frequency scores. Furthermore, correlational analyses indicated that PBD-Q scores were not related to BAD scores, with the notable exception of a weak positive association with positive beliefs about maintaining social image.

[Table 3 near here]

In an attempt to replicate the findings of Welford (1999), correlational analyses were also used to explore whether negative beliefs about dissociation are associated with DES-II frequency and dissociation-related distress. BAD scores were associated with both frequency and dissociation-related distress scores in bivariate analyses (r=.316, *p*<.001 and *r*=.373, *p*<.001, respectively). Partial correlations were conducted

to account for the large covariation between dissociation frequency and distress, however, indicated the BAD scores are specifically linked to higher dissociation-related distress ($r =.204$, $p=.002$) rather than frequency of dissociative experiences ($r =.096$, $p=.151$).

Sensitivity analysis

The sensitivity analysis conducted only with individuals who met a more stringent DES-II cut off of 30 comprised 149 participants at baseline and 76 at follow-up. Principal axis factoring extraction confirmed a three-factor structure, with minimal item loading deviations compared to the results of our primary analyses. In this analysis, two additional items loaded on factor 1: item 6 ('Hide my vulnerabilities', which loaded on factor 3 in our primary analysis) and item 7 ("Distance myself from distressing memories', which in our original analyses did not present loadings > 0.4 on any of the extracted factors). The range of factor loadings was similar to those of our primary analyses: .550-.771 for factor 1, .556-.658 for factor 2 and .528 - .741 for factor 3. The test-retest reliability and internal consistency of the PBD-Q and its subscales was comparable with the estimates reported in our primary analyses: Cronbach's αs ranged between .701 and .866 for the PBD-Q subscales (with α = .898 for the PBD-Q total score) whereas the ICCs ranged between .713 and .850 (with ICC = .797 for the PBD-Q total score).

Discussion

The principal aim of this study was to develop and validate a self-report measure of positive beliefs about dissociative experiences. Feedback from individuals with lived experience of dissociation provided as part of the cognitive interviewing component of this study indicated that the PBD-Q has good face validity. In our primary analyses with individuals recruited using an online survey methodology and who scored > 10 on the DES-II , The PBD-Q demonstrated promising psychometric properties. Exploratory factor analysis yielded a factor solution reflecting three groups of beliefs: 1) positive beliefs about managing overwhelming affect, 2) positive beliefs about self-expression and 3) positive beliefs about maintaining social image. Both the overall scale and the three subscale identified using factor analysis presented good internal consistency and test-retest reliability. Sensitivity analyses indicated that the PBD-Q structure and its psychometric properties may be stable and applicable to individuals who present higher and potentially clinically significant levels of dissociation.

The findings add to the emerging body of qualitative research indicating that individuals can describe positive beliefs about dissociation, i.e. they can appraise dissociative experiences as having the potential to contribute towards protecting certain aspects of their wellbeing and enhancing their ability to manage certain aspects of their lives (e.g. Parry et al, 2017). Our findings are also consistent with existing theories that dissociative experience can represent 'functional', positive and practically useful experiences. Whilst dissociation is a source of significant distress for some people, these positive appraisals may deserve further scrutiny in future research aiming to understand the maintenance of dissociative experiences.

The potential involvement of positive beliefs in the maintenance of dissociation was supported by the correlational analyses conducted to explore the validity of the

PBD-Q. Our findings indicated that PBD-Q scores are associated with higher dissociation frequency (i.e DES-II scores) and that this relationship remains statistically significant when controlling for dissociation-related distress. Conversely, we found no association between distress and PBD-Q scores when we controlled for dissociation frequency. A reversed picture was observed in the analyses that focused on negative beliefs about dissociation, measured using a previously developed scale (the BAD; Welford, 1999). In these partial correlations, negative beliefs were associated with higher distress but not with the frequency of dissociative experiences. As there was minimal overlap between the beliefs assessed by the PBD-Q and the BAD, our findings provide preliminary evidence that positive beliefs might be involved in the maintenance of dissociative experiences, whilst the perceived distress caused by dissociative phenomena is influenced by concomitant negative beliefs about dissociation. This pattern of findings is consistent with the general predictions of the meta-cognitive model of psychopathology, and resemble research findings observed in the context of other clinical presentations (e.g. Papageorgiou & Wells, 2001).

Several caveats of this study should be considered when interpreting our findings. The study was conducted on a sample of volunteers using an online survey methodology, and was therefore vulnerable to self-selection bias. The study sample disproportionately comprised participants presenting certain socio-demographic characteristics (i.e. females participants; White-British participants; participants in full-time employment or with high levels of education; individuals who had received support for mental health difficulties at some point in their lives). This limits the external validity of our findings; hence, the conclusions drawn about the validity of the PBD-Q only applied to the particular population investigated within this study. Further,

the analyses conducted to test the associations between PBD-Q scores and other constructs of interest were correlational and exploratory, and should therefore not be regarded as suggestive of any specific direction of influence between these variables. Finally, whilst the findings of our sensitivity analyses suggest that the PBD-Q may present acceptable psychometric properties in participants with clinically significant levels of dissociation, these analyses were conducted on a relatively small subscample of participants (n = 149) and should therefore be interpreted with caution.

There are several implications for future research. First, it is recommended that confirmatory work is carried out to further validate the PBD-Q in different populations. Future evaluations of the PBD-Q will benefit from being conducted on more homogeneously defined groups and populations. Replications and extensions of our findings in individuals who receive diagnoses of dissociative disorders or other diagnoses characterised by the presence of dissociative symptoms (e.g. the dissociative subtype of PTSD), are required. Furthermore, future research could be conducted to evaluate the relative stability of these appraisals and understand whether they are contingent on, or applicable to, specific dissociative experiences. Whilst in this study participants were asked to rate the items of the PBD-Q in relation to the dissociative experiences listed in the DES-II in general, it is possible that specific positive beliefs may only apply to certain dissociative phenomena, and not to others. Interestingly, the different beliefs about dissociation captured by the PBD-Q are reminiscent of proposals suggesting the existence of phenomenologically distinct subtypes of dissociation, in particular dissociative detachment and compartmentalisation (Brown, 2006). For instance, positive beliefs about managing overwhelming affect and maintaining social image appear to display features consistent with dissociative detachment, whereas

positive beliefs about self-expression could be more consistent with

compartmentalisation. Future studies could explore the relationship between these

positive beliefs and specific 'subtypes' of dissociation, and whether they are

differentially related to the various symptom dimensions captured by the DES-II,

including those that some do not consider as 'truly' dissociative (i.e. absorption;

Nijenhuis, 2015; Steele et al, 2009). Furthermore, it is possible that positive appraisals

captured by the PBD-Q may apply specifically to dissociative phenomena representing

'distancing manoeuvres' from overwhelming experiences. Future work may be focused

on developing further the knowledge on positive beliefs about other dissociative

phenomena (such as flashbacks and other 'positive' dissociative symptoms) and

develop measures able to capture such beliefs in questionnaire format. Further

exploratory research could also investigate if positive beliefs about dissociation

influence the well-replicated relationship between trauma exposure and the vulnerability

to dissociative experiences (e.g. Dalenberg et al., 2012).

This research could bear a number of implications for clinical practice. As our

findings suggest that people with dissociative experiences can endorse different positive

appraisals about dissociation, the exploration of these beliefs in clinical practice may be

beneficial in terms of developing a shared understanding of the mechanism and

functionality of dissociation for specific clients (e.g. through psychological

formulations). Exploring dissociation in a balanced way, considering both its functional

and its potentially distressing features, could be useful to clients who might be

otherwise reluctant to engage in treatment due to concerns about abandoning valued

ways of coping with distressing emotions and life circumstances. The focus of treatment

for dissociative disorders is through integration of traumatic memories and dissociative

parts, for instance through the use of voice dialogue or schema therapy. The findings could potentially provide further insight to adaptive functions of different dissociative parts, to further build understanding of these parts for clients, which may aid integration of the different dissociative parts/traumatic memories. The identification of specific functional aspects of dissociation, in people who also experience dissociation-related distress, could allow the exploration of multiple venues for intervention. For example, the provision of strategies to aid emotional regulation could represent a promising treatment option for clients who endorse positive beliefs about dissociation enabling them to manage overwhelming affect, whereas alternative interventions might be more suited to other clients, e.g. assertiveness and social skills training in the case of clients who endorse positive beliefs about self-expression.

Declaration of interest statement

There are no conflicts of interest arising from this research.

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Table 1: Summary of demographic characteristics

Demographic characteristics		n	%
Sex	Female	192	77.4
	Male	44	17.7
	Other	11	4.4
Ethnicity	White British	149	65.4
	Other white background	46	20.2
	Asian	8	3.5
	Black or Black British African	3	1.3
	Chinese	5	2.2
	Mixed	12	5.3
	Other	5	2.2
Employment	Unemployed	26	10.4
	Working	76	32.1
	Studying	129	54.4
	Other	17	3.1
Education	General Certificate of Secondary Education (GCSE/A-level) or less	107	43.1
	Degree or above	102	43
	Other	35	12.3
	No qualification	4	1.6
Mental Health difficulty	Anxiety	28	12.3
	Anxiety and depression	33	14.5
	Bereavement difficulties	8	3.5
	Depression	40	17.5
	Dissociative disorder	13	5.7
	Eating disorder	8	3.5
	Psychosis	2	0.9
	PTSD	3	1.3
	Relational difficulties	9	3.9
	Self-injurious behaviours	7	3.1
	Other	13	5.7
	None	64	28.1

Table 2: Item loadings and factor structure of the PBD-Q

	Item	Factor one	Factor two	Factor three
Factor One Managing Overwhelming Affect	5. Get through the day when I am overwhelmed	*.856*	*-.095*	*.010*
	18. Prevent my emotions becoming overwhelming	*.792*	*-.054*	*.017*
	4. Make day to day life stress feel more manageable	*.725*	*.112*	*-.017*
	1. Cope with extreme emotions	*.687*	*-.082*	*.026*
	20. Feel safer in difficult situations	*.590*	*.188*	*-.008*
	15. Cope with any negative thoughts	*.546*	*.107*	*.023*
Factor Two Self-Expression and acceptance	14. Feel heard and understood	*.016*	*.718*	*.330*
	12. Communicate to others what I am really thinking	*-0.21*	*.651*	*-0.17*
	13. Feel more able to do things I would struggle to do otherwise	*.228*	*.544*	*.161*
Factor Three Maintaining Social Image	16. Appear more positive than I actually am	*-.050*	*-.029*	*.867*
	17. Show on the outside I am coping when I am not on the inside	*.045*	*-.119*	*.777*
	9. Appear stronger so others are less likely to hurt me	*-.024*	*.087*	*.696*
	8. Be the person I feel I need to be in different situations	*.041*	*.184*	*.601*
	6. Hide my vulnerabilities so I stay safe	*.361*	*-.002*	*.451*

Table 3: Associations identified between bivariate correlations of each factor of PBD-Q and scores on additional measures.

	Factor 1 PBD-Q	Factor 2 PBD-Q	Factor 3 PBD-Q	Total score PBD-Q
BAD total score	$r_s = -.046$ $p = .248$	$r_s = -.076$ $p = .128$	$r_s = .116$ $p = .041$	$r_s = .012$ $p = .430$
Dissociation frequency	$r_s = .281$ $p < .001$	$r_s = .259$ $p < .001$	$r_s = .411$ $p < .001$	$r_s = .378$ $p < .001$
Dissociation-related distress	$r_s = .189$ $p < .001$	$r_s = .225$ $p < .001$	$r_s = .361$ $p < .001$	$r_s = .318$ $p < .001$
Dissociation frequency (controlling for distress)	$r_s = .214$ $p = .001$	$r_s = .145$ $p = .030$	$r_s = .225$ $p = .001$	$r_s = .257$ $p < .001$
Dissociation-related distress (controlling for dissociation frequency)	$r_s = -.157$ $p = .800$	$r_s = -.187$ $p = .763$	$r_s = -.149$ $p = .812$	$r_s = .055$ $p = .401$