Assessment The Personality Structure Questionnaire (PSQ): A Measure of the Multiple Self States Model of Identity Disturbance in Cognitive Analytic Therapy

Philip H. Pollock, Matthew Broadbent, Sue Clarke, Angela Dorrian and Anthony Ryle

1 MV Psychology Consultancy, Belfast, Down Lisburn Trust, UK
2 Guys and St Thomas’ Hospital, London, UK
3 Intensive Psychological Therapies Service, Branksome Clinic, Poole, UK
4 Holywell Hospital, Homefirst Trust, Antrim, UK

The Multiple Self-States Model (MSSM) of Cognitive Analytic Therapy (CAT) conceptualizes identity disturbances in personality, particularly borderline personality disorder. The Personality Structure Questionnaire (PSQ) has been devised to measure deficits in personality integrity and represent an assessment measure of the MSSM. A spectrum of multiplicity in the self and dissociation is implied within the MSSM with gradation from borderline personality to dissociative identity disorder. The construction, psychometric properties, reliability, validity and clinical utility of the PSQ as a measure of the MSSM are described based on data from the present study and that of Broadbent, Clarke and Ryle (The Personality Structure Questionnaire: a brief self-report measure of personality integration. Unpublished manuscript) and its relationship to psychological constructs of identity integrity is investigated. A series of non-clinical and clinical groups of participants were administered the PSQ and other standardized measures. The PSQ was shown to be a reliable self-report measure and factor analysis revealed it to be unidimensional and to correlate convergently...
with multiplicity, dissociation and constructs related to identity disturbance. Regression analysis indicated the PSQ to be predicted by greater multiplicity. The PSQ, in combination with other constructs, also discriminated between diagnosed clinical groups (psychotherapy patients, borderline personality disorder and dissociative identity disorder). The PSQ is shown to be a brief, psychometrically sound self-report measure of identity disturbance as conceptualized by the MSSM in CAT. The applicability of the PSQ and its relevance to the concepts of multiplicity and dissociation within the MSSM of CAT are discussed. Copyright © 2001 John Wiley & Sons, Ltd.

INTRODUCTION

One of the most promising areas of psychotherapy in which Cognitive Analytic Therapy (CAT) has been shown to be relatively effective is the treatment and management of personality disorder, particularly borderline personality disorder (BPD; Ryle, 1990, 1995, 1997). CAT provides a fresh and alternative conceptualization of personality pathology accounting for the diagnostic phenomenon of BPD described in the Diagnostic and Statistical Manual, 4th edn (DSM-IV; American Psychiatric Association, 1994) and detailed in psychoanalytic writings (Grinker et al., 1968; Kernberg, 1975). Identity disturbances are typical features of personality disorder, particularly BPD (Kernberg, 1984), with Dissociative Identity Disorder (DID; DSM-IV, 1994) considered to represent ‘the most pronounced form of identity disturbance’ (Modestin et al., 1998, p. 352). A specific emphasis in CAT is made upon targeting problems regarding an individual’s identity formation and coherence, experienced as discontinuities in one’s sense of self, contradictory changes in moods, subjective confusion and chaotic behavior. Disturbances in self-experience are accounted for by Ryle’s Multiple Self States Model (MSSM, 1997) which also directs how psychotherapy should aim to address these problems.

The Multiple Self States Model (MSSM)

The basic unit of description in CAT is the reciprocal role procedure (RRP), which refers to a relational unit comprising the internalization of learned self–other interactions throughout development. Each role has its reciprocal (e.g. caring-to-nurtured, abusing-to-victimized) and early RRPs are typically elaborated upon to become a complex, integrated repertoire of roles which can be enacted within interpersonal contexts (self–other transactions such as caring for another who is nurtured) and in one’s own self-management or self–self interactions (self-injury through the enactment of a punishing-deserving RRP). This conceptualization of personality development is somewhat similar to attachment and psychoanalytic objective relations theories and more modern cognitive models. Healthy personality development relies upon the internalization of positive RRPs that are employed appropriately in a coherent and flexible manner. Adverse environments or negative experiences such as forms of abuse, chaotic parenting, neglect or inconsistency can have a detrimental effect on the development of an integrated, flexible and adaptive sense of identity. Identification of dominant, dysfunctional RRPs is a main task of the joint reformulation in CAT therapy, leading to agreement regarding target problems in the form of repetitive dysfunctional patterns of relating, feeling and acting and other distressing symptoms. Dominant RRP’s comprising self states (and the shifts within and switches between them) form the basis of understanding the therapeutic relationship in transference and countertransference terms also (see Ryle, 1997, for a comprehensive theoretical analysis of this area). The Multiple Self States Model (MSSM) in CAT theory provides a reformulation of identity disturbances and guides therapy to integrate (or re-integrate) personality pathology.

The MSSM describes three levels of identity disturbance. At level one, the nature of the RRPs within an individual’s repertoire may be coloured by adversity and trauma resulting in RRPs such as neglecting-to-deprived, abusing-to-victimized, contemptuous-to-contemptible. If the individual’s experiences have repeatedly reinforced these RRPs, they will influence the enactment of self–other and self–self transactions with little or restricted flexibility. At level two, the RRPs should be organized in a hierarchical manner, the smooth, appropriate employment and enactment of RRPs in a given
social context as required mobilized and guided by higher order metaprocedures. The failure to develop metaprocedures leads to a fragmented, discontinuous experience of the self, and two or more discrete self states are identifiable. A self state refers to a central, dominant RRP (e.g., controlling-to-rebellious) which is repeatedly observable within the individual’s personality. If the individual’s experiences of him/herself are severely fragmented and contradictory, as seen with borderline personality disorder, dissociation is often reported or observable through discontinuities in memory, behaviour and affects as switches and shifts occur between disparate and contrasting self states. Symptoms of dissociation are common including memory lapses, fugue states, ‘voices’, derealization and depersonalization. At level three, the individual’s capacity to self-reflect or self-observe is deficient; experience and emotion are confusing, disturbing and often meaningless. The individual often reports repetitively experiencing or acting in a maladaptive way (e.g., being demanding and controlling within close relationships, vacillating between desperately seeking care through self-injury and then rejecting care when given) without being able to understand or prevent the recurrence of the dysfunctional pattern. These three levels are not mutually exclusive and difficulties are typically observed in these domains with greater identity pathology depicted by more severe deficits at all levels.

Ryle (1997) and Golynkina and Ryle (1999) reported that a continuum of severity existed along the MSSM of identity disturbance with respect to the degree of dissociation and severity of multiplicity or fragmentation into discrete self states. Healthy identity development should comprise no evidence of dissociation and smooth, integrated and flexible deployment of a range of RRPs in a socially appropriate manner, with experience of oneself as continuous and coherent. Identity disturbance in personality disorder, for example borderline personality disorder, would include a number of discrete, contradictory self states which dominate experiences of oneself and transactions with others (e.g., RRPs such as abusing-to-abused, ideally cared for-to-blissfully fused). Others may be induced to reciprocate harmful or maladaptive roles in a self-confirming way through projective identification where, for example, a therapist is accused of acting in a withholding and controlling manner, the patient in therapy claiming to feel deprived and neglected. Dissociation is evident in the degree to which discontinuities in experience are reported. Amnesia between self states is typically partial or incomplete in BPD, yet complete in DID. A continuum is, therefore, inferred with respect to multiplicity/fragmentation into discrete self states and dissociation (amnesia between self states) in the MSSM.

The most extreme end of the spectrum occurs when an individual demonstrates severe dissociation and complete amnesia for self states that appear to have become autonomous ‘alter personalities’ or ‘identities’. Fragmentation of identity is pronounced and self-reflection is compromised through amnesic barriers. Dissociative Identity Disorder (DID, formerly known as Multiple Personality Disorder) represents this pathological end of the continuum of multiplicity and dissociation. The MSSM of CAT provides a theoretical conceptualization of identity disturbance advocating that deficits in adaptive flexibility and interpersonal regulation (a restricted, impoverished and negatively coloured repertoire of RRPs enacted in self–other and self-management interactions), continuity (partial or complete amnesia, poor self-reflection, shifts and switches between discrete self states), coherence (mood variability, behavioural loss of control, a poor narrative sense of autobiographical memory) occur along a continuum of severity ranging from normal to BPD to DID.

It is unclear from the MSSM whether the presence of multiple self states or the fluidity between them is the most important aspect of dysfunctional personality. A specific objective of CAT is to facilitate an improvement within the integrity of the personality indicated by a reduction in the influence of dissociative processes and symptoms (e.g. increasing connectedness, fluidity, appropriate mobilization of procedures, greater continuity in experience). The multiple self states described in the MSSM may more aptly be described under the rubric of dissociated self states reflecting a lack of integrity within the system of self states and not fragmentation into partial, disjointed states and multiple identities. Identity pathology may most accurately be conceived of as the presence of negatively coloured (level one), multiple, fragmented and dissociated self states (level two) that cause deficits in self-experience such as the capacity to observe or reflect upon one’s thoughts, feelings and behaviour and discontinuities in identity, subjective confusion and unpredictable or impulsive actions (level three). Theoretically, it has been proposed that a spectrum of disturbance exists within the MSSM ranging from normal identity development to BPD to DID. To date, this hypothetical continuum remains unsupported by clinical empirical data.
The relationship between DID and BPD remains an area of contention. Kluft (1982) reported a rate of 22% diagnosis of BPD for 70 DID patients and proposed that the link between the two disorders lies in commonalities amongst certain indicators such as impulsivity, identity disturbance, unstable interpersonal relations, marked mood changes, dissociative symptoms and suicidal gestures. Horevitz and Braun (1988) cite 70% of a sample of 33 DID patients to have a concurrent BPD diagnosis and suggest that these disorders are separate and distinct but may co-exist. Clary et al. (1984) state that, based on psychostructural formulation, all 11 MPD patients were considered to exhibit BPD.

Personality testing confirms the overlap between BPD and DID, along with avoidant, self-defeating, passive-aggressive and schizotypal features in addition (Bjornson et al., 1988; Dell, 1998; Ellason et al., 1996). Some claim that DID is best conceived of as a superordinate diagnosis (Kluft, 1987) and, furthermore, represents ‘an epiphenomenon of a polymorphous BDP’ (Ross et al., 1989, p. 416).

Conceptualizations of BPD have also suggested that multiplicity is a distinct feature of the disorder with greater segregation and dissociation (particularly amnesia) between multiple selves representing the gradation in severity from BPD to DID (Fast, 1974; Searles, 1977). Furthermore, Grotstein (1981) proposes that BPD patients ‘experience themselves as split selves but the contradictory nature of the variegated selves is blurred or eclipsed by compromised reality testing which ignores distinctions’. The main differentiation in gradation within the MSSM is that trauma induces multiplicity with more pronounced separation and demarcation observed due to dissociative processes and symptoms (e.g. amnesia) for BPD to DID.

**The PSQ: A Measure of Identity Disturbance in the MSSM**

Ryle (1995) proposed that a measure of dissociated personality would be of significant clinical value to enhance estimation of the degree of personality integration throughout the CAT process. Broadbent et al. (unpublished) constructed a self-report measure, termed a ‘measure of integration’ (the Personality Structure Questionnaire; PSQ). Items were generated to reflect the non-DSM-IV features of BPD as conceptualized by the MSSM and refer to identity disturbance *per se* rather than criteria such as self-injury, impulsive aggression etc. The items of this short scale are shown in Figure 1. The pathological end of the items are indicative of an unstable sense of self, variation in subjective experiences, the presence of differing self states

1. My sense of myself is always the same.
2. The various people in my life see me in much the same way.
3. I have a stable and unchanging sense of myself.
4. I have no sense of opposed sides to my nature.
5. My mood and sense of self seldom change suddenly.
6. My mood changes are always understandable.
7. I never lose control.
8. I never regret what I have said or done.

Figure 1. PSQ items (Broadbent et al., unpublished)

How I act or feel is constantly changing.

The various people in my life have different views of me.
I am so different at different times that I wonder who I really am.

I feel I am split between two (or more) ways of being, sharply differentiated from each other.

My mood can change abruptly in ways which make me feel unreal or out of control.

I am often confused by my mood changes which seem either unprovoked or quite out of scale with what provoked them.

I get into states in which I lose control and do harm to myself and/or others.

I get into states in which I do and say things which I later deeply regret.
Multiplicity, Dissociation and Identity Integration

It must be elucidated how multiplicity and dissociation are conceived to relate to identity pathology and maladaptivity. Identity is formed of both structural aspects and contents. Contents refer to knowledge (‘who am I?’) and evaluative (‘how do I feel about myself?’) components (Altrocchi, 1998; Campbell et al., 1996). Structural features include facets such as self-complexity (Linville, 1987), clarity (Campbell, 1990), stability (Rosenberg, 1989) and differentiation (Donahue et al., 1993). An integrated personality demonstrates behavioural consistency, inner experience with a sense of continuity over time, self-description and conceptions of significant others which are complex and multifaceted, showing an understanding of positive and negative qualities of oneself and other people. Self-definition is indicated by an ability to delineate one’s own temperament, values, convictions, habits and virtues with realistic appreciation (Kernberg, 1984; McWilliams, 1994).

Multiple states and dissociation are both structural features of identity and, along with its contents, can be targeted within psychotherapy to improve integration and psychological health. Psychotherapy aims to promote the development of these capacities, improving the integrity of the personality (Horevitz and Loewenstein, 1994).

Multiplicity of the self originated in the work of James (1950) who proposed that a variety of alternating states of being are characteristic of normal, well-functioning personalities. Gergen (1971) described multiple conceptions of the self, Mair (1997) referred to a ‘community of selves’, Markus and Wurf (1987) proposed a multifaceted self-concept and Rowan (1990) termed multiplicity as composed of ‘subpersonalities’. These theories conceptualize identity as constituted by multiple selves (named polypsychism, self-pluralism or multiplicity; Rowan and Cooper, 1998) which operate in a personality system that can be more or less integrated, adaptive, fluid, coherent and consistent. At one extreme of this concept, a view is that individuals seek unity (monopsychism) and consistency in personality and this position is related to health (Erikson, 1968).

This assumption is supported by research showing that polypsychism or multiplicity represents maladaptivity and compromised identity (Altrocchi, 1998). Altrocchi and McReynolds (1997) report the development of a self-report scale that aims to measure multiplicity, named the Brief Self-Pluralism Scale (BSPS). It includes items such as ‘People who know me say that my behaviour changes from situation to situation’ and ‘There are times when I felt like a completely different person from what I was the day before’. Research findings show that individuals who experience greater multiplicity within their personal identity share common features of psychopathology (Altrocchi et al., 1990) whereby polypsychism is associated with self-concept instability, lower self-esteem, less clarity and coherence, negative complexity, greater differentiation, neuroticism and maladjustment.

It is arguable that Dissociative Identity Disorder is the most extreme variant of polypsychism, at the pathological end of the spectrum or dimension of pluralism in self-structure. Differences along this dimension of multiplicity can be considered to range from variability, diversity, heterogeneity and instability (polypsychism) to invariability, homogeneity, unity and stability (monopsychism) in self-experience. It is appropriate to conclude that greater polypsychism or multiplicity signifies greater psychopathology generally, the severe end of this continuum denoted by DID.

The change in diagnostic labels from Multiple Personality Disorder (MPD) to DID implies a reconfiguration of the conceptualization of the disorder mingling notions of polypsychism and dissociative processes and symptoms (Ross, 1997). Dissociation is defined in DSM-IV (APA, 1994) as ‘a disturbance or alteration of the normal integrated functions of identity, memory and consciousness’ revealed as partial or total amnesias, disturbances in self-perception and identity and disruptions to normal consciousness (derealization and depersonalization...
symptoms). It is assumed to occur across many mental disorders (van der Kolk, 1996) and functions as a form of mental avoidance of threatening stimuli or events, particularly during trauma, defending the individual from overwhelming anxiety or pain (Chu and Dill, 1990; Terr, 1991).

Disruptions may occur in behaviour, affect, sensation or knowledge (Braun, 1988) and recurrent reliance upon dissociation during harsh or abusive childhood environments may culminate in the development of DID with amnesic barriers evident between compartmentalized, separate identities (Kluft, 1984). Although dissociative processes are evidently functioning, multiplicity is inferred in this thesis amidst experiences of confusion, discontinuity, contradiction and perplexity in self-experience (Mollon, 1999).

Ross (1998), reviewing the debate on multiplicity and DID, reconfigured the continuum of normal (e.g. daydreaming etc) to pathological dissociation (e.g. fugue states, amnesia) concluding, perhaps differently to previous research findings, that polypsychism may typify a healthy, cultureless personality organization absent of dissociation and demonstrating adaptive, flexible multiplicity. He infers a wave–particle theory to propose that normal multiplicity and DID similarly represent polypsychism. The reconfigured continuum (see Figure 2) consists, at one end, of DID ranging through to what he terms pathological pseudo-unity (abnormal polypsychism). Ross (1998) described such pseudo-unity as an unhealthy, culturally moulded, pursuit of monopsychism where ‘our part selves are under the totalitarian rule of a disconnected, atheistic, pseudo-masculine, chauvinist, logic-chopping self; one which cannot appreciate the subtle, fluid logic of the soul and living things, and which can only repress the human spirit’ (p. 195).

Ross further states that normal multiplicity would be ‘highly desirable’ and we need a psychotherapy that moves an individual from pathological pseudo-unity to normal multiplicity. Ross states that ‘one is either integrated or not . . . the integrated DID patient seems neither more nor less polypsychic than the average person in our culture’ (pp. 192–193). The DID patient exists at the pathological end of this spectrum where ‘the difference is in the degree of personification of the ego states, the delusion of literal separateness of the personality states, the conflict, and the degree of information blockage in the system’ (p. 193). It may be more easily conceived that an unintegrated personality may demonstrate a similar degree of multiplicity to normal, integrated personalities and that the continuum of dissociation most radically affects the integrity of the system.

Psychotherapy of the polypsychic, dissociated patient aims to address the trauma which is likely to have produced a fragmented identity, to increase unity and integration within the self and to promote improved affective and behavioural functioning (Bowers et al., 1971). The targeted problems in CAT for these patients are similar and conceptualized within the MSSM. Some evidence exists that CAT can have a positive therapeutic effect, diminishing dissociative symptoms in a case series of seven violent women who were diagnosed with personality disorders and who had experienced a diversity of childhood abuse (Pollock, 1996). Otherwise, outcome findings that focus on targeting dissociation or identity integrity applying CAT have not been reported to date.

A number of questions arise from this debate and Ryle’s description of the MSSM. Firstly, is the PSQ a psychometrically sound measure of the facets of the MSSM, and how does it relate to the constructs of identity disturbance, multiplicity and dissociation in particular? Secondly, can the PSQ be shown to adequately discriminate between clinical groups representing the gradation of identity disturbances from normal integration, to BPD to DID? It is predicted that (a) the PSQ scores will be associated with psychological constructs related to identity disturbance and (b) a gradation in PSQ scores, multiplicity and dissociative symptoms will be demonstrated when DID patients are compared to BPD patients and normal patients.

The present study reports the preliminary psychometric properties of the PSQ and aims to elucidate the psychological constructs assessed by the PSQ, consider its relevance to the MSSM of CAT and investigate the relationship between multiplicity and dissociation within BPD and DID.

<table>
<thead>
<tr>
<th>NORMAL</th>
<th>PATHOLOGICAL</th>
<th>DISSOCIATIVE</th>
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<tr>
<td>MULTIPlicity</td>
<td>PSEUDO-UNITY</td>
<td>IDENTITY DISORDER</td>
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</tbody>
</table>

Figure 2. Ross’s (1998) reconfigured continuum of dissociation
METHOD

Samples

Several samples were used to investigate the psychometric properties of the PSQ and comparisons are made between data derived by Broadbent et al. (samples 1, 2, 3, 5 and 6) and the present study (samples 4, 7 and 8). These samples included the following.

Non-clinical:
1. London general population \((N = 50)\);
2. Health authority \((N = 26)\);
3. CAT practitioners \((N = 29)\);
4. Belfast general population \((N = 50)\).

Clinical:
5. CAT clinic \((N = 52)\);
6. Borderline Personality Disorder 1 (BPD1; Broadbent et al., \(N = 24)\);
7. Borderline Personality Disorder 2 (BPD2; Pollock and Dorrian; \(N = 21)\);
8. Dissociated Identity Disorder \((N = 20)\).

Samples 1 and 4 (both general population participants) were obtained from the local areas and samples 2 and 3 from Health Authority employees and practitioners attending a CAT conference respectively. Samples 5 and 6 were obtained by Broadbent et al. within clinical settings, the BPD group (BPD1) diagnosed using the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (Gibbon et al., 1997). Clinical samples 7 and 8 were drawn from outpatient Psychotherapy Services in Belfast and each participant was diagnosed using the DSM-IV system by the senior clinician. The samples were not matched for gender, age, marital status or other demographic variables.

STUDY 1: NORMATIVE DATA FOR THE PSQ

Method

Samples

All available PSQ data for the eight samples were compared to produce normative data for the PSQ.

Procedure

Participants in all of the following studies were asked to complete the PSQ individually and a series of other measures were included depending on the psychometric properties of the PSQ being investigated. Confidentiality and consent was guaranteed for participants.

Table 1. Normative data for the PSQ

<table>
<thead>
<tr>
<th>Sample</th>
<th>Number</th>
<th>Mean (SD)</th>
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<tbody>
<tr>
<td>Non-clinical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. London general population</td>
<td>55</td>
<td>20.3 (4.67)</td>
</tr>
<tr>
<td>2. Health authority</td>
<td>26</td>
<td>20.5 (4.07)</td>
</tr>
<tr>
<td>3. CAT practitioners</td>
<td>29</td>
<td>19.7 (3.02)</td>
</tr>
<tr>
<td>4. Belfast general population</td>
<td>50</td>
<td>23.3 (61.4)</td>
</tr>
<tr>
<td>Clinical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. CAT clinic</td>
<td>52</td>
<td>26.7 (7.14)</td>
</tr>
<tr>
<td>6. BPD1 (Broadbent et al.)</td>
<td>24</td>
<td>30.4 (5.90)</td>
</tr>
<tr>
<td>7. BPD2 (Pollock and Dorrian)</td>
<td>21</td>
<td>31.3 (7.71)</td>
</tr>
<tr>
<td>8. DID</td>
<td>20</td>
<td>24.9 (7.63)</td>
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</table>

The PSQ scores for all of the samples are separately described in Table 1. It is clear that the general population samples (London and Belfast) were comparative to the CAT practitioner and Health Authority samples of Broadbent et al. The clinical samples scored consistently higher on the PSQ compared to non-clinical samples and PSQ scores for the two BPD samples were observed to be remarkably similar. Broadbent et al. obtained no significant differences in terms of age or gender on PSQ scores for non-clinical sample 1 and clinical sample 5.

STUDY 2: FACTOR ANALYSIS

Method

Sample

One hundred adults drawn from the general population in Belfast (mean age = 32.4 years, SD = 10.5) completed the PSQ individually.

Factor Analysis

An exploratory factor analysis of PSQ responses was analysed using a maximum likelihood factor extraction. Differences were not observed within the sample in terms of gender, age or marital status. A Kaiser–Meyer–Olkin measure of sampling adequacy was 0.80, Bartlett test of sphericity = 288.8, \(p < 0.001\) indicating that factor analysis was appropriate. A scree test (using principal components factor analysis initially and calculating the variance explained from the first factor and examining the scree test on the solution eigenvalues) showed
that one single factor accounted for 40.7% of the variance in PSQ scores.

Reliability Analysis
A reliability analysis of the same data \((N = 100)\) showed that corrected item–total correlations ranged from 0.31 to 0.62, with the removal of PSQ item 7 increasing the alpha coefficient substantially from 0.56 (with item 7 included in the data set) to 0.84. A Cronbach’s alpha of 0.59 was obtained for the eight PSQ items (0.78 for the PSQ with item 7 removed). The findings suggest that PSQ item 7 could be eliminated to improve the psychometric integrity of the scale.

In the study of Broadbent et al., using a clinical sample of psychotherapy patients attending a CAT clinic \((N = 52)\), the eight item version of the PSQ showed an alpha coefficient of 0.77 and with a BPD sample \((N = 24)\) a coefficient of 0.87 was achieved. Further critical examination of the reliability of the seven and eight item PSQs would be helpful.

Test–retest reliability assessed using the group of students and CAT practitioners \((N = 29)\) of Broadbent et al. after a six week period indicated that the PSQ was stable across time with a correlation of 0.75.

STUDY 3: CONVERGENT AND DISCRIMINANT VALIDITY OF THE PSQ

The study of Broadbent et al. investigated the relationship between the PSQ and general measures of psychopathology (and dissociation using the Dissociation Questionnaire of Vanderlinden et al., which includes scales measuring identity confusion/fragmentation, amnesia, loss of control and absorption), whereas the present authors specifically examined the association of the PSQ to constructs of identity disturbance (using a different measure of dissociation). Broadbent et al. showed that, in the clinical sample of CAT patients, the PSQ correlated 0.46 with depression (Beck Depression Inventory; Beck et al., 1961), 0.50 with interpersonal difficulties (Inventory of Interpersonal Problems; Horowitz et al., 1988), 0.56 with general psychiatric symptomatology (Brief Symptom Inventory; Derogatis and Melistaratos, 1983) and 0.69 with dissociation (Vanderlinden et al., 1993) with the highest correlation observed with the identity confusion and fragmentation scale.

Method

Samples
The convergent validity of the PSQ was assessed in the present study using samples 4 (general population of Belfast), 7 (BPD patients) and 8 (DID patients). The three groups differed in terms of gender mix with more males in the BPD group (62% male versus 47% for the DID group and 45% for the general population). Differences were observed in that the dissociative group of patients were older \((p < 0.01)\) than the BPD group. Only four (20%) of the 20 DID patients had concurrent diagnoses of BPD.

Procedure
Participants completed the PSQ and measures assessing identity disturbance as detailed below.

Measures

(i) The Dissociation Questionnaire (DES; Bernstein and Putnam, 1986) is a 28-item measure of dissociative experiences. In line with studies by Waller and Ross (1997), total DES scores were obtained and an eight item derived scale of pathological dissociation, known as DES-T, was calculated. The DES-T assesses obviously abnormal experiences (e.g. not recognizing a friend, fugue states etc). Responses are recorded on a 10 mm analogue format from 0 to 100% rated on what percentage of time the person experiences the symptom. In 16 studies a mean alpha of 0.93 has been reported for the DES with means for normal samples (seven studies, \(N = 1458\)) being 11.57 (SD = 10.6); van Ijzendoorn and Schuengel, 1996). The DES-T shows a mean of 5.14 (SD = 6.4; Waller et al., 1996).

(ii) The Brief Self-Pluralism Scale (BSPS; Altrocchi et al., 1990) is a 10-item true or false scale with higher scores reflecting self-pluralism or multiplicity. Low scores indicate stability and a more unitary sense of self. Mean scores for the normal population are 3.78 (SD = 2.8; range 0–10; alpha = 0.86). The BSPS correlated positively with measures of dissociation, ego strength, neuroticism, college maladjustment and stability of self (Altrocchi, 1998).

(iii) The Self-Concept Clarity Scale (SCCS; Campbell, 1990) is a 12-item scale which assesses the extent to which an individual’s contents of the self-concept are clearly and confidently defined. The SCCS is internally consistent.
Bipolar Subscale

(\(\alpha = 0.86\)) and stable over time (test–retest reliability = 0.79). It is scored on a five point response format from ‘disagree strongly’ to ‘agree strongly’. Mean scores are 42.1 (SD = 8.2; range 12–60). The SCCS is associated with self-esteem and neuroticism and measures a controlled, conscious flexibility of behaviour. Low scores are interpreted as indicative of situational changeableness.

(iv) Sense of Coherence (SOC; Antonovsky, 1987) measures three facets of psychological hardness to stressful circumstances and consists of 29 items with high internal consistency (0.84). These include meaningfulness (MEA), which measures an individual’s subjective feelings that life makes sense and is worthy of commitment and engagement; comprehensibility (COMP), measuring an individual’s sense that perceived stimuli make cognitive sense and are clear, ordered and consistent; manageability (MAN) measures the extent to which one perceives s/he has adequate resources to deal with environmental challenges. A total SOC score is summed from scores on the three subscales.

(v) The Mood Variability Scale (MVS) is derived from the Affective Lability Scale of Harvey et al. (1989). Two subscales were selected which were considered to best reflect the mood items included in the PSQ, specifically the anger (seven items) and bipolar mood subscales (10 items). The mean score for the anger scale (ANG) was 7.28 (SD = 5.2, range 0–19) and for the bipolar scale (BIP) it was 11.34 (SD = 5.6, range 0–26).

RESULTS

Separate correlations for the three groups (to account for the inferential assumptions of the statistical test given the fact that the samples were drawn from different sources) are shown in Tables 2, 3 and 4. It can be seen that consistent patterns are demonstrated for the PSQ scores that were positively correlated to BSPS, DES total and DEST and both ANG and BIPOLAR mood variability scales. PSQ scores were negatively associated with SCC and SOC total scores and SOC subscales MEA, COMP and MAN. In general terms, the PSQ is related to indices of multiplicity, dissociative processes and mood variability. Measures of psychological health such as self-concept clarity and sense of coherence are inversely related to PSQ scores. It is notable that the correlations between the PSQ and other measures show greater consistency for the normal population participants than the clinical groups. The only anomalous observation is seen within the correlations for the DID group in that the PSQ did not show a positive association with the construct of dissociation.

Regression Analysis

The data obtained does not clarify exactly what psychological facets the PSQ actually measures. A multiple regression analysis predicting PSQ scores, entering all criterion variables, simultaneously, revealed that BSPS scores and the SOC MEAN scores accounted for 65% of the variance in PSQ scores (\(F(2, 88) = 87.7, p < 0.001\); beta = 0.62). No other criterion variables warranted entry into the analysis.

Table 2. Correlations between variables for Belfast general population (\(N = 50\))

<table>
<thead>
<tr>
<th></th>
<th>PSQ</th>
<th>DES</th>
<th>DEST</th>
<th>BSPS</th>
<th>SCCS</th>
<th>SOCT</th>
<th>MAN</th>
<th>MEA</th>
<th>COMP</th>
<th>ANG</th>
<th>BIPOLAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQ</td>
<td>-</td>
<td>0.34**</td>
<td>0.27**</td>
<td>0.76***</td>
<td>-0.51***</td>
<td>-0.56***</td>
<td>-0.50***</td>
<td>-0.60***</td>
<td>-0.49***</td>
<td>0.48***</td>
<td>0.29**</td>
</tr>
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<tr>
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<td>0.63***</td>
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<td>0.63***</td>
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<tr>
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<td>-0.57***</td>
<td>0.63***</td>
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<tr>
<td>ANG</td>
<td>-</td>
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<tr>
<td>BIPOLAR</td>
<td>-</td>
<td>-0.57***</td>
<td>0.63***</td>
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</table>

Key: PSQ = Personality Structure Questionnaire; DES = Dissociation Experiences Scale; DEST = Pathological Dissociation; BSPS = Brief Self Pluralism Scale; SCCS = Self Concept Clarity Scale; SOCT = Sense of Coherence Total; MAN = Manageability; MEA = Meaningfulness; COMP = Comprehensibility; ANG = Affective Lability Anger Subscale; BIPOLAR = Affective Lability Bipolar Subscale; \(p < 0.05\); \(**p < 0.01\); \(***p < 0.001\).
Table 3. Correlations between variables for borderline personality participants (BPD; N = 21)

<table>
<thead>
<tr>
<th></th>
<th>PSQ</th>
<th>DES</th>
<th>DEST</th>
<th>BSPS</th>
<th>SCCS</th>
<th>SOCT</th>
<th>MAN</th>
<th>MEA</th>
<th>COMP</th>
<th>ANG</th>
<th>BIPOLAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQ</td>
<td></td>
<td>0.69*</td>
<td>0.53*</td>
<td>0.73**</td>
<td>0.35</td>
<td>0.47*</td>
<td>0.48*</td>
<td>0.45*</td>
<td>-0.23</td>
<td>-0.31</td>
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</tr>
<tr>
<td>DES</td>
<td></td>
<td></td>
<td>0.78**</td>
<td>0.55**</td>
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<td>DEST</td>
<td></td>
<td></td>
<td></td>
<td>0.35</td>
<td>-0.12</td>
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<td>-0.31</td>
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<td>0.49*</td>
</tr>
<tr>
<td>BSPS</td>
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<td></td>
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<td></td>
<td>0.45*</td>
<td>-0.55**</td>
<td>-0.62**</td>
<td>-0.46*</td>
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<td></td>
<td>0.85***</td>
<td>0.90***</td>
<td>0.75***</td>
<td>0.04</td>
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<tr>
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<td></td>
<td></td>
<td>0.69**</td>
<td>0.03</td>
<td>0.07</td>
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<td>MEA</td>
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</tbody>
</table>

Key: PSQ = Personality Structure Questionnaire; DES = Dissociation Experiences Scale; DEST = Pathological Dissociation; BSPS = Brief Self Pluralism Scale; SCCS = Self Concept Clarity Scale; SOCT = Sense of Coherence Total; MAN = Manageability; MEA = Meaningfulness; COMP = Comprehensibility; ANG = Affective Lability Anger Subscale; BIPOLAR = Affective Lability Bipolar Subscale; *p < 0.05; **p < 0.01; ***p < 0.001.

Table 4. Correlations between variables for Dissociated Identity Disorder participants (DID; N = 20)

<table>
<thead>
<tr>
<th></th>
<th>PSQ</th>
<th>DES</th>
<th>DEST</th>
<th>BSPS</th>
<th>SCCS</th>
<th>SOCT</th>
<th>MAN</th>
<th>MEA</th>
<th>COMP</th>
<th>ANG</th>
<th>BIPOLAR</th>
</tr>
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<tbody>
<tr>
<td>PSQ</td>
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<td>0.04</td>
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<td>0.23</td>
<td>-0.58**</td>
<td>-0.52*</td>
<td>-0.67**</td>
<td>-0.34</td>
<td>0.84***</td>
<td>0.46*</td>
</tr>
<tr>
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<td>-0.19</td>
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<td>0.01</td>
<td>-0.04</td>
<td>0.06</td>
<td>0.02</td>
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<td>-0.58**</td>
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<td>-0.67**</td>
<td>-0.33</td>
<td>0.70**</td>
<td>0.55*</td>
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<tr>
<td>SCCS</td>
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<td></td>
<td></td>
<td>0.04</td>
<td>0.16</td>
<td>-0.10</td>
<td>0.06</td>
<td>-0.17</td>
<td>0.32</td>
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<tr>
<td>SOCT</td>
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<td>0.94***</td>
<td>0.88***</td>
<td>0.87***</td>
<td>-0.48*</td>
<td>-0.57**</td>
<td></td>
</tr>
<tr>
<td>MAN</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>0.76***</td>
<td>0.79***</td>
<td>-0.52*</td>
<td>-0.54*</td>
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<tr>
<td>MEA</td>
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<td></td>
<td>0.61**</td>
<td>-0.49*</td>
<td>-0.65**</td>
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<td>COMP</td>
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<td></td>
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<tr>
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</tbody>
</table>

Key: PSQ = Personality Structure Questionnaire; DES = Dissociation Experiences Scale; DEST = Pathological Dissociation; BSPS = Brief Self Pluralism Scale; SCCS = Self Concept Clarity Scale; SOCT = Sense of Coherence Total; MAN = Manageability; MEA = Meaningfulness; COMP = Comprehensibility; ANG = Affective Lability Anger Subscale; BIPOLAR = Affective Lability Bipolar Subscale; *p < 0.05; **p < 0.01; ***p < 0.001.

**Discriminant Analysis**

A discriminant function analysis was conducted using the normal, BPD and DID groups (samples 6, 7 and 8). It must be recognized that the sample size used (<100 cases per group) renders the results unstable and must be viewed with caution. A Box’s M of 52.2 (p < 0.001) was achieved and a step-wise analysis revealed that pathological dissociation (DES-T), sense of coherence (SOCT), bipolar mood variability (BIPOLAR), PSQ and manageability (MAN) accounted for 95.6% correct classification for the three groups (canonical r = 0.90; χ²(4) = 62.7, Wilks lambda = 0.48, p < 0.001). With the PSQ scores removed, a classification rate of 58% was observed. These findings indicate that the PSQ in combination with other constructs of identity disturbance, accurately accounts for the separation between normal, BPD and DID participants.

One-way analyses of variance were conducted for PSQ scores and all other variables across groups. Means, standard deviations and significance levels are shown in Table 5. Results show that the BPD group scored significantly higher on the PSQ and BSPS, whereas the DID group were higher on the DES, DES-T and both mood variability (ANG and BIPOLAR) scales. The general population sample showed significantly higher scores on measures of identity integrity, including SOC subscales and total score and SCCS and lowest on measures of identity pathology. It is interesting that Wildegoose, Waller, Clarke and Reid (in preparation) found that personality disordered patients diagnosed as BPD and non-BPD using the Millon Clinical...
Table 5. Comparisons (one-way ANOVAs) between Belfast general population (BGP), Borderline Personality Disorder (BPD2) and Dissociative Identity Disorder (DID) participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>BGP</th>
<th>BPD2</th>
<th>DID</th>
<th>F(2,88)</th>
<th>p value; group diffs</th>
</tr>
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<td>31.3</td>
<td>24.9</td>
<td>10.2</td>
<td><strong>BPD &gt; DID; GP</strong></td>
</tr>
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<td>4.9</td>
<td>3.9</td>
<td>4.4</td>
<td><strong>BPD &gt; GP</strong></td>
</tr>
<tr>
<td>DES</td>
<td>18.0</td>
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<td>104.3</td>
<td><strong>DID &gt; BPD &gt; GP</strong></td>
</tr>
<tr>
<td>DES-T</td>
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<td>67.5</td>
<td>123.8</td>
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</tr>
<tr>
<td>ANGER</td>
<td>7.2</td>
<td>11.3</td>
<td>15.4</td>
<td>22.1</td>
<td><strong>DID &gt; BPD &gt; GP</strong></td>
</tr>
<tr>
<td>BIPOLAR</td>
<td>11.3</td>
<td>13.2</td>
<td>23.0</td>
<td>30.4</td>
<td><strong>DID &gt; BPD &gt; GP</strong></td>
</tr>
<tr>
<td>SOC COMP</td>
<td>44.8</td>
<td>21.8</td>
<td>24.7</td>
<td>69.2</td>
<td><strong>GP &gt; BPD; DID</strong></td>
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<td>SOC MAN</td>
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<td>63.4</td>
<td><strong>GP &gt; BPD; DID</strong></td>
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<tr>
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<td>23.7</td>
<td>54.4</td>
<td><strong>GP &gt; BPD; DID</strong></td>
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<tr>
<td>SOC T</td>
<td>131.8</td>
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<td>72.6</td>
<td>83.6</td>
<td><strong>GP &gt; BPD; DID</strong></td>
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<tr>
<td>SCC S</td>
<td>39.4</td>
<td>25.1</td>
<td>25.1</td>
<td>23.0</td>
<td><strong>GP &gt; BPD; DID</strong></td>
</tr>
</tbody>
</table>

**p < 0.001; *p < 0.01; *p < 0.05** (group differences—Bonferroni test of significance).

PSQ = Personality Structure Questionnaire; BSPS = Brief Self Pluralism Scale; DES = Dissociation Experiences Scale; DES-T = Dissociative Experiences Scale—Pathology; ANGER = Anger Lability Subscale; BIPOLAR = Lability Bipolar Subscale; SOC COMP = Sense of Coherence Comprehensibility; SOC MAN = Sense of Coherence Manageability; SOC MEAN = Sense of Coherence Meaningfulness; SOC T = Sense of Coherence Total; SCC S = Self Concept Clarity Scale.

Multiaxial Inventory-III (Millon et al., 1994) could be discriminated using the PSQ and Vanderlinden’s dissociated loss of control scale.

**DISCUSSION**

The PSQ is a reliable and valid, psychometrically sound measure associated with a number of facets of identity disturbance. With the exception of item 7, which taps a more extreme example of pathological behaviour (i.e. losing control and harming oneself and others), the PSQ correlates as anticipated with constructs reflecting lesser self-concept clarity, sense of coherence (all subscales) and general psychological functioning. A positive relationship was noted for PSQ scores and multiplicity, mood variability and dissociation. It was shown to be consistently higher in clinical samples and contributes to the discrimination between differing diagnostic groups. Clearly, as hypothesized, the PSQ assesses a construct indicative of identity disturbance and not merely a measure of general psychopathology.

It is worthy of note that PSQ scores are most accurately accounted for by multiplicity of the self, conceptualized as variability, changeability and fragmentation. Certainly, the PSQ reflects the multiplicity conveyed by the MSSM and does correlate with dissociative symptoms as measured by the DES and DES-T (pathological dissociation). It is interesting that correlations between the PSQ and DES scales for the DID sample were not observed. A conclusion would be that the PSQ cannot be considered a direct measure of dissociation and should not be used as a substitute for assessments of dissociative processes and symptoms. Multiplicity and dissociation are, therefore, related yet distinct facets of identity disturbance. The regression analysis indicated that PSQ scores reflect fragmentation (multiplicity) in identity and are also related to deficits in sense of coherence and, in particular, the feeling that one’s existence, events and the world generally are meaningful and worthy of investment. The BSPS, which is a direct measure of multiplicity, was not observed to contribute to separation between the normal, BPD and DID samples and it cannot be claimed that the PSQ is simply a parallel measure of multiplicity and is redundant.

Comparisons between groups may clarify whether multiplicity and dissociation can be construed to exist along a combined continuum ranging from normality to borderline personality to dissociative identity disorder as suggested by Golynkina and Ryle (1999) and Ryle (1997). Ross’ reconfigured continuum also requires consideration. Differences between groups assessed here show that participants from the general population exhibited multiplicity and dissociative symptoms within the normal range. BPD and DID patients differed notably for both constructs. BPD patients showed markedly more multiplicity than DID and general population participants.
Findings regarding dissociation are different for the hypothetical continuums of the MSSM and Ross. The extent of dissociative symptoms increased in a graded manner from normality, BPD to DID. Dissociation scores were elevated for both BPD and DID, but were obviously within the pathological range for DID patients. For dissociation, the spectrum from BPD to DID suggested by the MSSM was supported generally by the current data. Summarizing the findings, BPD patients demonstrate a dysfunctional degree of fragmentation/multiplicity with dissociative symptoms evident. DID patients do not show more or less multiplicity than the general population, yet their dissociative symptoms are most severe. Dissociation, and not multiplicity, appears to exist along the hypothetical continuum. It is worth mentioning that the DID sample were relatively ‘pure’ (only four of 20 showed comorbidity with BPD) and it could not be argued that concurrent BPD diagnoses contaminated findings relating to the DID patients.

The MSSM of BPD in CAT includes multiple self states and dissociative symptoms, with the former representing a distinct aspect of the pathology of the disorder, based on the present analysis. The BPD patient can be conceptualized as a dissociated personality to a degree. Ryle (1997) has noted that dissociation scores on self-report measures are found repeatedly in BPD patients and he states that ‘the relation of such scores to BPD has not been systematically studied to date’ (p. 28). It may be proposed that, in line with the diagnostic criteria of DSM-IV, dissociative symptoms are a feature of the disorder but not a central defining aspect. A central aspect of BPD pathology highlighted in the present study is the variability and fragmentation into multiple selves and the accompanying deficits in personality integrity. Mood instability (anger and bipolar variations) were significantly greater for DID than BPD patients. This may be interpreted as reflecting the effects of experiencing pronounced dissociative processes with loss of control over emotions, moods and behaviour. Improving the degree of fragmentation for the BPD patients, as well as diminishing dissociative processes and symptoms, can be considered an important focus for psychotherapeutic efforts.

An interesting conceptual argument based on the present findings is that Ryle’s description of disturbance at MSSM levels two and three relate to multiplicity and dissociation respectively and should not be conceived as part of a continuum. Arguably, those individuals who show marked identity disturbances at both levels two and three may be too damaged to observe their own separated self states. This would imply a ceiling effect for the PSQ and account for the PSQ scores for the theoretically more damaged DID patients (who showed a lower mean on the PSQ when compared to the BPD patients). As an explanation for the findings, this view would account for the theoretical spectrum of gradation from BPD to DID, rather than indicate a fundamental difference of kind. Whether individuals with greater level two and three pathology would demonstrate an increase in PSQ scores as integration improved during therapy (as greater self-awareness is achieved) requires empirical support from treatment studies.

CAT uses jointly constructed diagrams of a patient’s self states, accurately describing movement, switches and shifts within and between self states. Sequences and patterns that lead to dissociative symptoms (termed procedural loops and symptomatic procedures) are traced to provide the patient with a portable therapeutic tool which guides recognition and eventual revision of harmful patterns enacted towards oneself and others. The patient uses the diagram, termed a Self States Sequential Diagram (SSSD), to promote self-observation and the capacity to reflect upon one’s own patterns of experience, moods and behaviour. Contradictory experiences and chaotic changes in moods from one self state to another on a frequent and unpredictable basis causes confusion, a sense of incoherence and distress. Tracking these often radical fluctuations in experience aims to improve the general integrity of the personality, decreasing fragmentation by addressing deficits at levels two and three of the MSSM. Therapeutic work which addresses traumatic memories, images fragmenting an individual’s consciousness and sense of stability, is equally important to promote integration (Mollon, 1999). Given the patterns of scores for the BPD patients, diminishing fragmentation and structural variability should be a specific target for CAT.

The PSQ can be considered a reliable and valid measure of the MSSM for BPD based on the implied relevance of multiplicity to the disorder. Its most appropriate use would be as a brief screening tool for identity disturbance in personality disordered patients. Clinical evaluation of dissociation for BPD patients requires direct assessment and measurement, perhaps using the DES in conjunction with the PSQ to classify the presence and degree of partial or total dissociation within the patient’s personality.
Investigating the clinical groups’ histories of traumatic experiences and retrospective memories of the parental environment could have enhanced the present study. This would permit examination of the potential influence of traumatic development on the degree of multiplicity, identity, integrity and dissociation. A potentially confounding factor which was not considered is whether trauma is related to multiplicity and whether either the BPD or DID groups demonstrated differential impact in terms of neglect or abuse. The samples reported here were diverse across the two studies and the collection of more substantive demographic data would have enhanced the normative value of the PSQ for clinical use.

REFERENCES


