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Personal constructs of mind-body identity in people who experience Medically Unexplained Symptoms (MUS)

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Abstract

'Medically Unexplained Symptoms' (MUS) is a term referring to chronic physical symptoms for which no clear medical cause can be identified, and which lead to significant levels of psychological distress and functional impairment. Research has suggested that MUS can strongly influence construing of aspects of self and others. However, research which systematically explores construing of embodied aspects of self in relation to self more generally has not been undertaken with this population. This project modified the repertory grid technique, a tool from Personal Construct Psychology, to systematically explore how individuals experiencing MUS construe self and others in both bodily and psychological ways. Twenty participants experiencing various MUS completed repertory grid interviews and measures of symptoms of anxiety, depression and symptom impact. Findings suggested that symptoms are well integrated within participants' wider mind-body construct systems. Increased distance between how self in general is construed compared to construing of self when symptoms are worst was associated with reduced symptoms of anxiety. Implicative dilemmas of an intrapersonal and 'interpersonal' nature were also measured and classified, the findings of which partly-supported previous suggestions that construing of moral and relational aspects of identity is particularly affected by MUS. The modified repertory grid is recommended as a potential tool for facilitating integrated formulation and the therapeutic reconstruction of mind-body identity for those experiencing MUS.

'Medically unexplained symptoms' (MUS) is a term referring to physical symptoms which persist over time despite attempts at treatment, and for which a clear medical cause cannot be identified. These symptoms are associated with significant levels of psychological distress (Edwards, Stern, Clarke, et al., 2010), distorted cognitions about symptoms (Payne, 2009) and functional impairment (Payne & Stott, 2010). MUS are thought to be highly

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prevalent across primary and secondary care (Kroenke, 2003), and mainstream health services generally lack an integrated treatment pathway that can support comorbid psychological and physical needs of people who experience MUS (Joint Commissioning Panel for Mental Health/JCPMH, 2016).

Research with various forms of MUS has emphasized various ways in which identity is threatened by symptoms (Morley & Eccleston, 2004), such as the loss of a former 'healthy' self (Hellstroem, 2001; Whitehead, 2006), 'enmeshment' of symptoms with both undesirable (Asbring, 2001; Morley, Davies & Barton, 2005; Pincus & Morley, 2001; Sutherland & Morley, 2008) and desirable (Compan et al., 2010; Lilleas & Von Der Fehr, 2011) aspects of self, and alienation/splitting of the body from the self (Asbring, 2001; Miles et al., 2005; Smith & Osborn, 2006, 2007).

While such research into identity and MUS has appreciated that the body is important to identity, no research has yet attempted to explore systematically how the way the body is construed relates to how the self is construed more generally. Given the empirical and theoretical literature suggesting that MUS may develop in childhood in response to adversity and attachment difficulties with caregivers (e.g. Anderson, Elkit & Brink, 2013; Crittenden, 2006; Kozłowska, 2007; Roelofs & Spinhoven, 2007; Waldinger et al., 2006), the aspects of self and identity which may be threatened in MUS may be those which are embodied and not readily verbalizable.

According to Personal Construct Theory (PCT, Kelly, 1955), individuals are constantly dynamically mapping and organizing their experience, developing systems of bipolar constructs for drawing distinctions in their experiences. This system contains 'core' constructs which are superordinate, relating to many other constructs in the system (e.g. those relating to how self and others are construed, e.g. "compassionate-cruel"), and constructs which are more peripheral (e.g. "likes jazz-does not like jazz"). Some constructs within a person's system may

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form at a preverbal stage (Leitner, 1999), being structured primarily by embodied interactions with others and the world (Butt, 2004; Lakoff & Johnson, 1980). Such ‘embodied constructs’ may be core to how the self is construed, despite having never been verbalized and at lower levels of awareness (Caldwell, 2014; Erskine, 2014; Kelly, 1963).

Situations which threaten the sense of self may be difficult to verbalize if they involve such embodied constructs – so while the person experiences the distress associated with such threat to self (Kelly, 1955), he or she may only be able to comprehend and respond to such threats at a preverbal, embodied level (Cipolletta & Pruneddu, 2012; Obissier, 2006), in the absence of verbal elaboration of the nature of the threat (Chiari & Nuzzo, 2004; Winter, 2003). The person’s construing of identity is ‘frozen’ (Leitner, 1999) to reconstructive change, so threats continue to be managed in a limited way (Lin & Payne, 2014). It may therefore be important to give language to constructs about bodily aspects of self and connect them with more elaborated, verbal systems for making sense of self and others (Lin & Payne, 2014) in order to formulate psychological distress and embodied experience in terms of threats to identity, and facilitate the reconstructive process (Kelly, 1969).

The present research paper attempted to develop the repertory grid **technique** (Kelly, 1955) to explore links between how the body and symptoms are construed in relation to ways of construing self and others more broadly. Repertory grids are a tool which have been traditionally used to make a person’s construct system explicit, and systematically explore relationships between constructs (Fransella & Bannister, 2003). They have been used in research with chronic pain and Irritable Bowel Syndrome (IBS), exploring links between how symptoms are construed and other aspects of self-construing (Benasayag et al, 2004; Compan et al., 2011, Drysdale, 1989; Large, 1985), and constructs relating to coping styles (Large & Strong, 1997). While grids have been adapted to explore construing of the body in conditions such as cancer (Turpin, Dallos, Owen & Thomas, 2009; Weber et al., 2005), and eating

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disorders (Borkenhagen et al., 2005; Dada et al., 2017), no study has yet done this for people who experience MUS.

The current research aimed to explore the following aspects of self-construing:

(i) *Integration of the symptom within the main construct system for mind body identity:*

This study hypothesised that if constructs concerning the symptoms are dissociated from the more general construct system for making sense of self and others (Lin & Payne, 2014), then this would be associated with increased levels of anxiety, as the symptom construct is less effective in making meaningful predictions about self and others. At the other extreme, if symptoms are superordinate and dominate a person's identity construct system (a form of 'enmeshment' (Pincus & Morley, 2001)), this may also be associated with increased anxiety.

(ii) *Implicative dilemmas in how the embodied self is construed in relation to the wider self:*

Research by Compan et al. (2011) identified 'implicative dilemmas' (Feixas & Saúl, 2005) as a key characteristic differentiating a clinical sample of women with fibromyalgia from a non-clinical pain sample. An implicative dilemma represents a 'cognitive conflict' in which a construct pole representing the symptom (or another undesired aspect of identity) is associated with the pole of a core construct representing a valued or desirable aspects of the person's current identity. The desired change in the symptom or other undesired aspect of identity is associated with undesired change in another aspect of core identity, presenting the person with a dilemma. The content of the verbal constructs that are involved in these dilemmas can be categorized to identify which aspects of identity would be threatened by symptom changes. For example, Compan et al. (2011) identified a number of 'moral' and 'relational' constructs that formed implicative dilemmas with pain constructs. The current research aimed to use additional bodily constructs to elaborate and enrich these dilemmas to explore how they might

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reflect preverbal, implicit conflicts.

(iii) Distances between how the self is construed across different contexts. Self-discrepancy theory (Higgins, 1987) would predict that perceived differences between how the self is currently seen and the ideal self would be associated with experiences of depression (e.g. Waters et al., 2004). This study is additionally interested in differences in how the self is currently construed relative to how the self is construed before symptoms, and how the self in general is construed relative to times when symptoms are worst, as potential predictors of levels of psychological distress.

(iv) Patterns in how the self is experienced directly, and how the self is construed from the perspective of significant others: A number of papers suggest that the way the self is perceived publicly and in terms of interpersonal constructs (Drysdale, 1989; Kindermans et al., 2011) is highly important with various MUS (Kindermans et al., 2010; Miles et al., 2005). In addition to exploring how the current self and ideal self are construed, this study aimed to explore how people with MUS construe how other people perceive them, and how they would like other people to perceive them.

Hypotheses

1a. Constructs pertaining to symptoms will be dissociated from the person's main construct systems of mind and bodily identity.

1b. Extremes of dissociation (low interconnectedness with other constructs in the constructs) or enmeshment (high interconnectedness with other constructs) will be associated with increased levels of anxiety and depression.

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2a. Increased difference between how the self is construed relative to how the ideal self is
construed will be positively correlated with symptoms of depression.

2b. Increased difference between how the self is currently construed relative to self before the
onset of symptoms will be positively correlated with depression symptoms

2c. Increased difference between how the self is construed before the onset of symptoms
compared to how the self is ideally construed will be positively correlated with symptoms of
anxiety and depression.

2d. Increased difference between how the self is construed currently compared to how the self
is construed when symptoms are at their worst will be negatively correlated with symptoms of
anxiety and depression.

2e. The difference between how the current self is construed compared to the ideal self will be
greater than the difference between how the self is currently construed as being seen by others
compared to how the self is construed as being ideally seen by others.

3a. Intrapersonal and interpersonal implicative dilemmas will be associated with movement of
discrepant physical and symptom constructs towards the desired pole

3b. Intrapersonal and interpersonal dilemmas will be more likely than expected to involve
congruent constructs relating to moral and relational characteristics.

Method

Participants

Twenty participants were recruited from online support groups, forums and social media sites.

No incentives were used other than the opportunity to contribute to current understanding of an

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under-researched area. Inclusion criteria included: experiencing a physical symptom that had been present for 6 months or more; negative results of tests/investigations, symptoms leading to impairment of everyday functioning and distress; over 18 years old; and English speaking. Exclusion criteria included: a primary diagnosis of a psychiatric condition (e.g. major depressive disorder, psychosis, personality disorder) and/or currently receiving care within secondary mental healthcare services; current substance misuse; experience of trauma or significant bereavement during the past 6 months; non-English speaking; diagnosis of learning disability.

Eighteen women and two men aged between 25 and 71 years took part in the study. **Two potential participants were excluded on the grounds of (i) trauma experience during the past 6 months relating to MUS experience; (ii) primary diagnosis of major psychiatric condition respectively.** The sample included various forms of chronic pain including specific joint and low back pain (4), widespread fibromyalgia pain (8), fatigue (5) and neurological symptoms (3) such as migraines and unexpected loss of balance. All participants had been experiencing symptoms for at least 1 year (mean 9.01 years, SD= 6.94), and several participants reported having more than one MUS. None of the participants were currently engaged with mental health services; however, the sample was characterized by the full-range of clinically-defined categories of symptoms of anxiety and depression for the PHQ-9 and GAD-7. The majority (12) named General Practitioners (GP) as their main form of support. Several participants (4) reported self-managing symptoms (visiting GPs <5 times per year) and the remainder (4) described their main support as being provided by specialist or multidisciplinary outpatient services. Half of the sample were in full or part time employment, with the remainder being retired (3) or unemployed (7).

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Power calculations were made to determine the sample size required for demonstrating effect sizes with adequate power (AICBT Ltd, 2017). For the correlational analyses, a sample of 28 participants would be required for detecting a strong positive correlation ($r \leq 0.5$) with desired power (0.8) at the 95% significance level. However, given the recruitment difficulties and time constraints, as a practical compromise the sample size was 20 participants. This gives a 6% increase in alpha-error level for detecting a strong correlation at a borderline level of significance ($p < 0.10$). For chi-squared analyses, this increase in alpha-error level was similar at borderline significance level.

Instruments and Measures

REPERTORY GRID TECHNIQUE (RGT)

Personal constructs were elicited using an adapted triadic method (Kelly, 1955). Participants were presented with three cards at a time with the names of various persons (known as 'elements') known to participants written on them. They were instructed to provide 'a way in which two are alike and different from the third' in a physical/embodied way, and a psychological way. When participants provided a word or phrase that describes the similarity or difference (e.g. 'generous'), they were asked to describe a person who they saw as being the *opposite* of that characteristic (e.g. 'greedy'). This gives a word-pair representing a bipolar personal construct ('generous---greedy'). The order in which the physical and psychological constructs were elicited for each pair was counterbalanced. A total of 6 psychological and physical constructs were elicited from the following elements: *me as I am currently, how I would like to be, me when my symptoms are at their worst, me before symptoms began, a person I know and like, a person I know and do not like, significant people in my life (x4 names)*. Following this, the person was provided with the MUS they had described (e.g. 'burning knee pain') and asked to describe a person who they saw as being the opposite of that

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(e.g. 'walking freely') – it was left open as to whether the participant construed the symptom contrast pole as physical or psychological.

Following elicitation, participants were presented with a numeric scale from 1 to 7 with each of the word pairs representing a pole of the construct they had provided. They were presented with each element they had rated, plus the following additional elements: *my symptom if it were a person, how I think other people see me, how I would like other people to see me*. Participants were asked to give a rating for each element on each construct. This produced a grid of ratings, which was analysed using the IDIOGRID (Grice, 2002) and GRIDSTAT (Bell, 2004) computer programmes to extract the following quantitative **measures**:

Principal Components Analysis. Principal components analysis (PCA) analyses the variance of grid ratings into components, which represent constellations of **constructs which correlate** highly with one another, but less with constructs on other components. Components accounting for more variance are considered to represent more well-developed subsystems, being used to make more predictions than components with fewer constructs and accounting for less grid variance (the first principal component being the largest). This study replicates Metcalfe's (1997) method with participants experienced agoraphobia, by recording the number of times on which the symptom construct loads on the first component compared to the next two largest components. If the symptom is more likely to load on components 2 and 3 than the first component than would be expected based on the loadings of other constructs, then this is evidence that the symptom construct is poorly integrated within the wider identity construct system.

Intensity of symptom construct. Symptom construct intensity provides a continuous measure of the level of integration of the symptom construct within grids. It is calculated by summing the

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squared values of correlations of the symptom construct with the rest of the constructs, then averaging by the total number of constructs minus one.

Inter-element distances. Relationships between the ratings of different elements can be calculated as distances between elements in the 'grid-space', which are standardized according to all other inter-element differences within the grid (Grice, 2002). The standardized distances range between 0 and 2, where a distance of 0 indicates that elements are construed as being identical, distances ≤ 0.8 indicate similarity between elements, and distances ≥ 1.2 suggest dissimilarity between elements (Makhlouf-Norris & Norris, 1973).

Implicative Dilemmas (self-defined and interpersonally-defined). **Implicative dilemmas are counted when the desirable pole of a congruent construct (on which current self and ideal self are similarly rated) is correlated $r > .35$ with the undesirable pole of a discrepant construct (on which current self and ideal self are rated as different, marking the pole describing the current self as undesirable) (Feixas & Saúl, 2005). Such dilemmas were identified by the a version of IDIOGRID which uses a somewhat different criterion for identifying a congruent construct (self and ideal self on the same side of the midpoint) than in the Feixas & Saúl (2005) method (self and ideal self no more than one point different in ratings). In this study, implicative dilemmas were also counted pertaining to how the current self as seen by others is construed relative to the self as ideally seen by others. No previous attempts to operationalize and measure such 'interpersonal implicative dilemmas' have been made to the authors' knowledge.**

The content of the constructs involved in implicative dilemmas can be semantically categorized (e.g. Compan et al., 2011). Psychological constructs were classified using the Classification System for Personal Constructs (CSPC) (Feixas, Geldschlager & Neimeyer, 2002), which uses the following categories: operational, personal, relational, emotional, moral and values/interests. Physical constructs were classified using the following categories:

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aesthetic appearance, weight, strength, age, energy/dynamism, health function, gender and emotions – largely based on the content analysis of body constructs for people with cancer (Segura-Valverde, Saúl & Baca-Garcia, 2017).

MEASURE YOURSELF MEDICAL OUTCOMES PROFILE (MYMOP-2)

The MYMOP-2 (Paterson, 1996) is a symptom-focussed, patient-generated instrument which requires the individual to specify at least one symptom and one valued activity that the symptom interferes with. Participants rate the symptom on a 7-point scale (0= 'as good as it could be'; 6= 'As bad as it could be'). Questions on general wellbeing and coping strategies are similarly scaled. Three subscales and an overall symptom impact score are produced. This tool has been used in primary care settings, and with MUS (e.g. Payne & Brooks, 2016).

GENERAL ANXIETY DISORDER (GAD-7)

The GAD-7 (Spitzer et al., 2006) is a structured 7-item questionnaire tool on self-reported symptoms of anxiety over the past 2 weeks. It is widely used as a screening tool for anxiety disorders in primary care settings (Lowe et al., 2008) and has been used in research with MUS populations (Payne & Brooks, 2016).

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

The PHQ-9 is a structured 9-item tool on self-reported symptoms of low mood and depression over the past 2 weeks. Like the GAD-7, it is widely used in primary care settings and has been used with MUS populations (Payne & Brooks, 2016).

Procedure

Participants were given information sheets electronically, and provided written consent prior to interviews. Interviews were conducted either in person or via tele-conferencing software (Skype), and lasted between 60 and 90 minutes. Participants provided key demographic

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information, followed by completion of the MYMOP, PHQ-9 and GAD-7 with the guidance of the researcher. Following this, participants completed the Repertory Grid interview as described above.

Results

Symptom construct integration

Symptom constructs were not significantly more likely to load on the peripheral components, and indeed showed a tendency to load slightly (though not significantly) more than would be expected on the largest component ($\chi^2(2,20)=2.21$, $p=.33$, one-tailed). A Jonkcheere-Terpstra test for ordered alternatives indicated a significant trend of increased median intensity for symptom constructs (Mdn=.71, IQR=.23) over physical (Mdn=.68, IQR=.19) and psychological (Mdn=.64, IQR=.23) constructs (TJT= 10881, $z= 2.042$, $p= .04$, one-tailed). The correlation between symptom construct intensity ($M= .69$, $SD=.10$) and PHQ-9 scores was negative and not significant ($r(19)= -.40$, $p= .07$, one-tailed). Symptom construct intensity significantly negatively correlated with GAD-7 scores ($r= -.39$, $p= .05$, one-tailed). A curvilinear relationship hypothesised (1b) between GAD-7 scores and symptom intensity was not significant ($r=-.36$, $p=.06$, one-tailed) and did not add significant predictive value to the linear negative relationship between GAD-7 scores and symptom intensity when entered into a multiple regression model ($\Delta F=1.31$, $p=.29$).

Inter-element distances

Mean distance between current self and ideal self (1.15, $SD= .19$) was close to 1.2, indicating dissimilarity in how these elements were perceived. Distance between current self and ideal self did not significantly positively correlate with PHQ-9 scores as predicted ($r= .24$ $p= .16$, one-tailed). However, distances between the current self and the ideal self were significantly positively correlated with GAD-7 scores ($r(20)= .39$, $p= .05$, one-tailed). Mean distance

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4 between current self and self when symptoms are worst was .77 (SD=.25), indicating that
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6 participants tended to regard these elements as somewhat similar. After removing one outlier
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8 who appeared to dissociate their current self from self when symptoms are worst (distance =
9
10 1.25), a significant negative correlation was found between distance between current self and
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12 self when symptoms are worst and PHQ-9 scores ($r(19) = -.48, p = .02$, one-tailed). The mean
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14 distance between the current self and the self before symptoms was .91 (SD=.29), indicating
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16 that participants perceived themselves to be different people as the result of experiencing
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18 symptoms, but not to the extent that they perceived themselves as completely dissimilar to the
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20 way that they construed themselves before symptom onset. The distance between the ideal self
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22 and the self before symptoms ($M = .43, SD = .26$) was significantly positively correlated with
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24 GAD-7 scores ($r(20) = .55, p = .01$, one-tailed) but was not significantly positively correlated
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26 with PHQ-9 scores ($r(19) = -.37, p = .06$, one-tailed).
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30 The distance between current self and ideal self ($Mdn = 1.25, IQR = .3Z$) was
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32 significantly greater than the distance between the self as currently seen by others and the self
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34 as ideally seen by others ($Mdn = .73, IQR = .41$) ($Z = .37, p < .01$, one-tailed). The difference
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36 between the distance between current self and ideal self, and current self as seen by others and
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38 self as ideally seen by others ($MD = .32, SD = .22$) was significantly positively correlated with
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40 PHQ-9 scores ($r(20) = .49, p = .03$, one-tailed), as was the distance between the ideal self and the
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42 self as ideally seen by others ($Mdn = .28, IQR = .46$) ($r(20) = .53, p = .02$, one-tailed).
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45 Hierarchical multiple regression analyses were conducted to explore the relative
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47 predictive value of the inter-element measures correlating with the GAD-7 and PHQ-9
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49 respectively (no variables significantly correlated with MYMOP-2 scores) (Table 1). For the
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51 GAD-7, the distance between current self and ideal self no longer added predictive value
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53 ($\Delta F = .06, p = .81$), whereas a model which included both (i) the distance between current self
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55 and self when symptoms are worst, and (ii) distance between self before symptoms and ideal
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self had the highest predictive value of GAD-7 scores ($\Delta F(2,19)$, 7.17, $p=.01$). Of the PHQ-9 variables, the distance between the ideal self and the self as ideally seen by others no longer added significant predictive value ($\Delta F=4.20$, $p=.21$). A combined model of (i) distance between current self and self when symptoms are worst and (ii) difference between distance between current self and ideal self and self as currently seen by others and self as ideally seen by others was most significantly predictive of PHQ-9 scores ($F(2,19)=5.28$, $p=.02$).

Implicative dilemmas

Less than half of the sample ($n=8$) had implicative dilemmas relating to congruent psychological constructs and incongruent physical or symptom constructs in their grids. Four participants had “interpersonal” dilemmas relating to the self as seen by other and ideal self as seen by others, one participant had an “intrapersonal” dilemma relating to the current self in relation to the ideal self, and three participants had overlapping dilemmas where the same dilemmas existed both intrapersonally and interpersonally. A chi-square test revealed that there were significant differences in the CPSC content category for congruent constructs in dilemmas compared to what would be expected from the distribution of all constructs across CSPC categories ($\chi^2(5,20)=13.31$, $p=.021$, two-tailed). The observed number of congruent constructs classified as ‘moral’ and ‘relational’ was notably greater than expected (Table 2). When the test was repeated using the physical constructs correlating most highly with congruent psychological constructs, there were significant differences in the categorization of these physical constructs as compared to what would be expected based on the distributions of all physical constructs into categories ($\chi^2(1,162)=20.55$, $p=.02$, two-tailed). Bodily constructs relating to gender (typically being ‘female’ as opposed to ‘male’) were notably more likely

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than expected (expected count = 0.5, actual count = 3) to correlate most with congruent physical constructs, and they also correlated with congruent moral and relational constructs.

Discussion

Attempts to theoretically formulate and treat MUS are frequently hamstrung by the tacit assumption that 'mind' and 'body' are in reality separate entities, which can lead to the 'psychologization' (Crane & Patterson, 2012) of symptoms, which invalidates the inherently embodied experiences of those with MUS (Edwards et al., 2010; Salmon, Ring, Dowrick & Humphris, 2005); or alternatively, reduces the body to a passive mechanistic object in the search for medical causes, leading to a 'dead-end' in the process of finding meaning for symptoms when no substantial causes can be identified (Nettleton et al., 2005). The Repertory Grid method used in this study could be regarded as a tool for exploring mind and body identity in an integrated way for people with MUS, one that listens to the meaning a person gives to their body, connecting it to their broader personhood in a manner which is less stigmatizing and driven by dualistic assumptions.

In the current sample, it appears that symptom constructs were well integrated within the mind body construct systems of participants, tending (though not significantly) towards the phenomenon of 'enmeshment' of symptoms with psychological and physical ways of construing self and others (Pincus & Morley, 2001). **Increased interconnectedness of symptom construct with other constructs for identity was found to be associated with decreased anxiety symptoms, presumably because this allows more predictions to be made about self and others based on symptoms.**

The way in which the self in general is perceived relative to times when symptoms are worst appeared to be particularly important for participants, perhaps more so than the

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4 difference between how the current self is construed in comparison to the ideal self and the self
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6 before onset of symptoms respectively. Perceiving a dissimilarity between self in general and
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8 self when symptoms are worst reduced anxiety, and the fact that this discrepancy did not
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10 correlate with symptom severity scores suggests that it is the perceived difference, rather than
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12 the absolute difference made by symptoms, that has this effect on anxiety. This appears to
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14 support an enmeshment-based formulation of MUS: If a number of undesirable characteristics
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16 are enmeshed with symptoms, construing these negative differences as residing more in the self
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18 when symptoms are at their worst than the self in general may serve to protect from construing
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20 the self as having globally changed in undesirable ways (Hellstroem, 2001).
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24 While there was evidence that perceived dissimilarity between self and ideal self was
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26 correlated with anxiety, the perceived distance between the self prior to symptoms and the ideal
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28 self had stronger predictive value of anxiety experience. This latter finding appears to support
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30 research which suggests that prior to experiencing symptoms, people with MUS may have high
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32 and difficult to achieve standards for themselves (Ayats, Martin & Soler, 2006; Compan et al.,
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34 2011; Hallberg & Carlsson, 2011), rather than the increased distance between self and ideals
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36 due to MUS being a primary contributor to psychological distress.
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39 As expected, the discrepancy between the current self and the ideal self was greater
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41 than the discrepancy between the self as seen by others and the self as ideally seen by others.
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43 This might be taken as evidence of 'subversion' (Miles et al., 2005) and processes whereby
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45 people try to maintain their public identity by avoiding social situations when symptomatic, or
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47 by 'pushing through symptoms' to maintain a public identity (Hellstroem, 2001; Kindermans et
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49 al., 2011). Increased difference between these perceived discrepancies was associated with
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51 increased depression symptoms, even after factoring in additional predictors of depression. The
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53 fact that the difference in discrepancies had greater explanatory power for depression
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55 symptoms than the discrepancy between the respective ideals (i.e. ideal self and self as ideally
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seen by others) suggests that increased depression scores may not be related specifically to experiencing guilt and/or shame about having different and possibly conflicting ideals. Rather, it could reflect more of a sense of hopelessness about achieving both sets of ideals (whether overlapping or distinct) whilst also experiencing symptoms.

For a number of participants the construct '*strong-weak*' appeared to have a high intensity in the overall construct system, and these participants also tended to use psychological constructs akin to ideas of mental strength and weakness, such as '*determined-lazy*' (psychological for this participant) or '*resilient-fragile*' (physical for this participant). This merits further exploration, as it possibly suggests a rather rigid and less-compassionate ('nonvalidating', Walker, 2002) way of relating to psychological and/or physical forms of vulnerability. This sub-finding resembles the construing of self by people who experience forms of chronic pain as 'emotionally strong' (Werner et al., 2004) 'independent' and 'stoically coping' (Large & Strong, 1997). During the interviews, several participants asked to be reminded whether '*Strong-Weak*' was a physical or psychological construct during the ratings procedure, suggesting that they would give very different ratings for elements depending on the psychological or physical nature of this construct. Using the repertory grid method where 'my mind' and 'my body' are construed as separate elements, perhaps with '*strong-weak*' as a supplied construct could potentially be used to explore different ways of construing strength and weakness of mental and bodily nature with people who experience MUS.

The presence of implicative dilemmas relating to symptoms was neither a ubiquitous or distinctive characteristic of the current sample. For those with interpersonal and/or intrapersonal implicative dilemmas, the content of these dilemmas was significantly more likely to involve congruent relational constructs (as Compan et al., 2011 found), and some of the physical constructs involved in dilemmas appeared to elaborate relational aspects

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of self (e.g. being seen as *'heavy-burdened'*, *'stiff-unreliable'* and *'weak-empathic'*). For example, one participant experiencing chronic fatigue construed being more *'energetic'* (as opposed to *wiped out*) and *'alert'* (as opposed to *dozey*) as having the implication of being (and being regarded by other people as being) more *'irresponsible'* (as opposed to *'steady/responsible'*) and *'having wanderlust'* (as opposed to being *'family oriented'*). These relational and moral congruent constructs in dilemmas were generally part of less elaborated and more peripheral subsystems suggesting that such aspects of identity are not well understood in terms of the main construct system for mind-body identity (Metcalf, 1997), possibly in lower levels of awareness (Compan et al., 2011; Koch et al., 2013; Leitner, 1999; Lilleas & Von Der Fehr, 2011). The constructs involved hint at the implicit but valued identity of *'sensitivity to others'* suggested by Drysdale (1989) with chronic low back pain participants. The association between congruent aspects of relational or moral identity and physical constructs relating to the female gender/sex found for several participants in this study also resembles the female habitus of a *'bodily state of preparedness for others'* proposed by Lilleas & Von der Fehr (2011) with women experiencing fibromyalgia. The quality in the content of construing of the bodily self in such dilemmas is suggestive of concrete, embodied metaphor that elaborates a more complex interpersonal identity (Caldwell, 2014; Centomo & Del Rizzo, 2016; Erskine, 2014). The fact for a number of participants interpersonal dilemmas existed both exclusively from, and in addition to, intrapersonal dilemmas, is further suggestive of the relational nature of these dilemmas for participants, suggesting that the measurement of interpersonally-defined implicative dilemmas could be fruitful in researching human difficulties from an interpersonal or relational frame. This possibility will be discussed further in an additional paper based on this research, and merits further exploration.

The current study has a number of limitations. Notably, the number of participants recruited substantially limits the statistical power of the findings, which would need to be

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4 substantiated with a larger sample size. The fact that these participants were recruited through
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6 social media may limit the generalization of these findings to clinical settings, though on the
7
8 other hand it may be argued that recruiting via social media led to the inclusion of participants
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10 who prefer not to use mainstream services due to perceived stigma (Raine et al., 2002). One
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12 encouraging feature of this study is that the use of Skype interviews which made the interview
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14 process more flexible and more accessible to participants whose physical needs may have made
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16 face to face interviews more difficult. The adaptations of the repertory grid technique for use
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18 with Skype are not documented elsewhere to the researchers' knowledge, and may be the
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20 subject of an additional publication.
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24 Another limitation concerns the data used to correlate with grid measures. Although the
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26 repertory grids yielded a rich amount of idiographic data, the questionnaire tools (MYMOP,
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28 PHQ-9 and GAD-7) were selected on the basis of their wide application in primary care
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30 settings, and to reduce the physical demands on participants whose symptoms may make
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32 engaging in research more difficult. The disadvantage of using such tools was that they do not
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34 provide a comprehensive or comparatively rich source of information alongside the repertory
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36 grid measures. Based on some of the data from this study, a tool which examines aspects of
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38 social functioning alongside clinical measures of anxiety and depression might be fruitful.
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42 In sum, for many participants, symptoms appear to be well-integrated, and perhaps
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44 superordinate in their construing of identity, and being able to perceive a difference between
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46 times when symptoms are worst and a general sense of self may be important in ensuring that
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48 symptoms do not become 'enmeshed' with identity. The discrepancies between public self and
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50 ideals, the presence of interpersonal implicative dilemmas, and the content of implicative
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52 dilemmas all hint towards the idea that symptoms may particularly influence how the self is
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54 viewed relationally and interpersonally. Using tools such as the repertory grid can facilitate the
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process of giving language to and raising awareness of the body, facilitating integrated, non-
dualistic assessment and encouraging a collaborative reconstructive process.

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Table 1

*Hierarchical regression analysis of repertory grid standardized euclidean distances
correlating with GAD-7 and PHQ-9 scores*

Dependent Variable	Block	Independent Variable	Pearson r (with all IVs)	ΔR^2	ΔF	Sig. ΔF
PHQ-9	1	Distance between current self and self when symptoms are worst	-.44	.145	4.21	.06
	2	Difference between distance between current self and ideal self, and current self as seen by others, and ideal self as seen by others	.49	.311	5.28	.03
	3	[ideal-self] – [ideally-seen-as] discrepancy	.43	.34	4.20	.21
GAD-7	1	Distance between pre symptom self and current self	-.55	.30	7.61	.01
	2	Distance between current self and self when symptoms are worst	-.36	.16	5.03	.04
	3	Distance between current self and ideal self	.39	.00	0.06	.81

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Table 2

Observed and expected number of constructs for each category of the Classification System for Personal Constructs (CSPC), for congruent constructs in implicative dilemmas versus psychological constructs not involved in implicative dilemmas

Classification System for Personal Constructs Category		Congruent Implicative Dilemma constructs	All psychological constructs
		Observed	Expected
Moral	Observed	3	6
	Expected	0.9	8.1
Emotional	Observed	1	38
	Expected	3.8	35.2
Relational	Observed	10	55
	Expected	6.3	58.7
Personal	Observed	1	14
	Expected	1.5	13.5
Operational	Observed	0	19
	Expected	1.9	17.1
Values & Interests	Observed	0	6
	Expected	0.7	6.3