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The McLean Screening Instrument for Borderline Personality Disorder: What, and why in a clinical cohort?

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Abstract

Borderline Personality Disorder is a severe psychiatric disorder with debilitating consequences. Screening for the disorder is problematic as symptoms overlap with other psychiatric disorders. The McLean Screening Instrument (MSI) assesses endorsement (yes/no) of 10 symptoms, with a cut-off of seven indicating potential caseness. Participants were (N = 68) from an established clinical cohort who completed a structured clinical interview, the MSI, the Childhood Trauma Questionnaire, and the Adolescent and Adult Time Attitudes Scale. A proportion (N = 20) also completed a follow-up interview examining their rationale for endorsing MSI items. Total number of MSI items endorsed was meaningfully related to scores on emotional neglect and negative time attitudes. There was substantive overlap between MSI threshold (≥ 7 items) and lifetime diagnosis of a mental disorder. The stated rationale for endorsing MSI items, was less indicative of personality trait, and was related more to particular developmental periods, one-off episodes, and life-contexts. Additionally, participants conflated constructs such as emptiness with loneliness, and moodiness with general emotionality. Those meeting MSI threshold recalled more childhood emotional neglect, and were more negative about all time periods. It is apparent that scoring of the MSI is driven by prevailing life circumstances as much as enduring personality traits.

1. Introduction

Borderline Personality Disorder (BPD) is a severe psychiatric disorder characterized by feelings of emptiness, identity problems, relationship instability, impulsivity, and fear of abandonment, among other features (Lieb et al., 2004; Yen et al., 2021). Prevalence is estimated at 1–3% of the general population, 11–22% in psychiatric outpatients, and 33–49% among psychiatric inpatients (Chanen and McCutcheon, 2013; Sharp and Fonagy, 2015). BPD is associated with substantial mental and physical disability, is treatment intensive, and is accompanied by a high risk of mortality by suicide (McGlashan et al., 2000; Zanarini et al., 2000). Diagnosis of BPD is complicated by the fact that it often co-occurs with and/or shares symptoms of other mental disorders (Shah and Zanarini, 2018), for example bipolar disorder (Baryshnikov et al., 2015; Zimmerman and Morgan, 2013), depression (Wongpakaran et al., 2015), suicidality (Wongpakaran et al., 2019), and psychotic symptoms (Kingdon et al., 2010).

Diagnostic testing and screening are different things (Zimmerman and Holst, 2018). Screening is a relatively inexpensive and easy-to-administer approach to identifying individuals who require further assessment (Zimmerman and Balling, 2021). The most widely-used screener for BPD is the McLean Screening Instrument for Borderline Personality Disorder (MSI; Zanarini et al., 2003). The MSI includes 10 items (see Appendix 1) assessing: relationship problems, self-harm/suicide, impulsive behaviors, moodiness, anger/sarcasm, distrustfulness, feeling unreal, emptiness, identity problems, and fear of abandonment. The developmental validation study (Zanarini et al., 2003) recommended a cutoff score of seven as providing the optimal balance of sensitivity (81%) and specificity (89%).

It has been suggested that those diagnosed with BPD tend to report considerably more childhood traumas or adversities. However, extensive debate has surrounded the causal role of traumas in BPD (e.g., Bornovalova et al. 2013), and the association between specific traumas (for example sexual abuse) and the development of BPD (e.g., Paris and Zweig-Frank 1992). However, some adversities have been shown to be significant environmental risk factors for the development of BPD, including childhood illness (Bandelow et al., 2005), bullying (Sansone et al., 2010), parental loss (Porter et al., 2020), and maladaptive parenting (Musser et al., 2020). Indeed, it has been suggested that a diagnosis of BPD is associated with child abuse and neglect more than any other personality disorder (Battle et al., 2004; Yen et al., 2002). A recent meta-analysis of the literature identified that individuals with BPD are 13 times more likely to report childhood adversity than non-clinical controls and that of these adversities emotional abuse and neglect demonstrate the largest effect (Porter et al., 2020).

The present study sought to examine a number of issues in light of the extant literature. Firstly, to investigate the relationship between scoring on the MSI, and scores on retrospectively-reported childhood trauma (cross-sectionally), using MIS overall score, as well as cut-off values for caseness of ≥ 7 . Secondly, to investigate how scores on the MSI related to time attitudes (how individuals feel about the past, present, and future). A recent study reported that patients with BPD were more negative about their past and fatalistic about their present lives than controls (Mioni et al., 2020). Thirdly, to examine the

relationship between MSI scores at age 33, and lifetime mental disorder (assessed concurrently). Finally, to investigate the motivation for positive endorsement of MSI items through semi-structured interviews. These interviews were conducted with randomly selected participants from the quantitative part of the study.

2. Method

2.1. Participants – quantitative study

The study population comprised individuals who had previously taken part in the first two waves of the Challenging Times Study (Lynch et al., 2005). Those who participated at the second wave of data collection and who had given consent to be re-contacted (N = 169; Mage = 20.8 years, 53.8% female), were telephoned and or/emailed, and where necessary, letters were sent to the last known domiciliary address. In the majority of these cases, contact was not made. Four previous participants were reported to have died in the interim by a relative. Finally, a number of individuals reported themselves unable to participate owing to current life stresses. In the present study, participant profile was as follows: 68/169 (40.2%; Females = 43 [63.2%]; Mage = 33.43 (SD = .92).

2.2. Participants – interviews

Of those who participated in the telephone interviews (N = 63), twenty were randomly chosen for further interview in order to explore the motivation to endorse MSI items. These additional interviews occurred on average four months after the initial interview.

2.2.1. Materials – online questionnaire

Approximately three weeks prior to telephone interview (interviews were not face-to-face as a result of the COVID-19 pandemic lockdown) a number of questionnaires were completed in an online questionnaire (on the Qualtrics platform).

The Childhood Trauma Questionnaire (CTQ; Bernstein and Fink, 1998) is widely used to measure childhood maltreatment. The CTQ uses five items each to assess: emotional neglect (EN), physical neglect (PN), emotional abuse (EA), sexual abuse (SA), and physical abuse (PA). Each item is scored on a five-point Likert-scale (ranging from 'never true' to 'very often true'). A total Severity score can be obtained by summing the scores for the 25 items (three minimization items excluded). Subscale scores can be created in the same manner. In the present analyses mean CTQ domain scores were computed.

The Adolescent and Adult Time Inventory-Time Attitudes Scale (AATI-TA; Mello et al., 2016) is constituted of 30 items, with six latent factors, each evaluated on a 5-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree). The factors are as follows: Past Negative (5 items; e.g., "My past is a time in my life that I would like to forget"), Past Positive (5 items; e.g., "I have very happy memories of my childhood"), Present Negative (5 items; e.g., "I am not satisfied with my life right now"), Present Positive (5 items; e.g., "I am happy with my current life"), Future Negative (5 items; e.g., "I doubt I will make something of myself"), and Future Positive (5 items; "My future makes me happy"). For each subscale,

the score is computed by summing the responses and dividing the sum by the number of items for each subscale. A recent comprehensive review of the psychometric properties of the scale showed scores to be psychometrically valid and internally consistent in both adolescents and adults (McKay, Healy, & O'Donnell, 2021).

2.3. Materials - telephone interviews

Approximately three weeks after completing the online questionnaire, participants were invited to take part in a telephone interview.

The Structured Clinical Interview for DSM-5 Disorders – Research Version (SCID-5-RV; American Psychiatric Association, 2015) is a comprehensive semi-structured psychiatric interview guide that includes diagnostic assessment of all major DSM-5 disorders including subtypes, severity, and course specifiers. The Research Version allows for the customization of the interview to the specific needs of a study. It was designed for administration by a clinician or trained mental health professional familiar with the DSM-5 diagnostic system. However, non-clinicians can administer the SCID-5-RV with appropriate training and supervision (First et al., 2015). In the current study the SCID-5-RV was administered by the first author. Training included receiving in-person instruction from researchers with specialized SCID training, viewing instructional videos, and participating in role plays and mock interviews. The interviewer also received on-going support from a psychiatrist.

The McLean Screening Instrument for Borderline Personality Disorder has been detailed in the literature review. Briefly, ten items with binary response options yes/no assess BPD features including: impulsivity, feelings of emptiness, fear of abandonment, distrustfulness, and anger/sarcasm. A total score of seven has been proposed to be indicative of caseness (Zanarini et al., 2003). Elsewhere, following a review of the literature, Zimmerman and Balling (2021) suggested that a lower threshold might be more appropriate.

2.4. Statistical analyses

Zero-order correlations were computed between overall MSI score, and scores on both the CTQ, and the AATI-TA. In all analyses, the recommendations for interpretation suggested by Funder and Ozer (2019) were employed. Accordingly, an effect size of .10 was interpreted as small, an effect size of .20 was interpreted as medium, and any effect size $\geq .30$ was interpreted as large. In further analyses, a series of t-tests were computed comparing CTQ mean scores for those attaining 'caseness' on the MSI. Caseness comparisons (yes/no) were computed for both MSI scores of ≥ 7 . Finally, we compared the proportion of those attaining 'caseness' on the MSI to those with lifetime diagnoses of mental disorders based on the SCID-5-RV).

3. Results

Table 1 displays the results of zero-order correlations between MSI total score, scores on the CTQ and scores on the AATI-TA. Using Funder and Ozer (2019) as a guide for the interpretation of r values, the only relationship between MSI total score and retrospectively

reported childhood trauma to reach a medium effect size was for CTQ-EN. Accordingly higher scores on retrospectively-reported emotional neglect were associated with higher MSI score. Three of the coefficients between MSI and AATI-TA scores attained a large effect size, while the other three were close to large in effect size. Higher MSI scores were associated with higher past, present, and future negative affectivity, and lower positive affectivity for each time period, with highest scores being observed for present affect. Said another way, those endorsing more MSI items were more likely to report lower past positive, present positive, and future positive time attitudes, with scores for poor present time attitudes particularly large.

Table 1

Correlations between scores in the McLean Screening Instrument, the Childhood Trauma Questionnaire, and the Adolescent and Adult Time Inventory – Time Attitudes Scale

	1	2	3	4	5	6	7	8	9	10	11	12
1 MSI Total	-											
2 CTQ-EN	.20	-										
3 CTQ-EA	.12	.59	-									
4 CTQ-PN	.06	.30	.28	-								
5 CTQ-PA	-.02	.32	.44	.22	-							
6 CTQ-SA	.10	.18	.38	-.04	.28	-						
7 Past Pos	-.17	-.61	-.50	-.34	-.27	-.32	-					
8 Past Neg	.29	.60	.59	.21	.44	.40	-.71	-				
9 Present Pos	-.40	-.19	-.25	-.19	-.21	-.13	.44	-.59	-			
10 Present Neg	.39	.20	.31	.18	.26	.22	-.48	.61	-.89	-		
11 Future Pos	-.25	-.13	-.26	-.15	.06	-.09	.46	-.44	.73	-.63	-	
12 Future Neg	.29	.23	.32	.11	.05	.16	-.42	.57	-.70	.70	-.75	-

Note: MSI = McLean Screening Instrument; CTQ = Childhood Trauma Questionnaire; EN = Emotional Neglect; EA = Emotional Abuse; PN = Physical Neglect; PA = Physical Abuse; SA = Sexual Abuse; Pos = Positive; Neg = Negative.

The relationship between MSI categories (those meeting threshold) and these same constructs were examined in a series of t-tests. Results are displayed in Table 2. Given the small sample size, effect sizes (Hedge's g effect sizes) rather than p values, are reported.

Using Funder and Ozer's (2019) cut-offs, to interpret effect sizes, those scoring seven or more on the MSI also scored higher on CTQ-EN, as well as all time attitudes factors (with the exception of past positive) with a large effect size. The effect sizes for the relationship between caseness (≥ 7) and emotional abuse, physical abuse, and sexual abuse, were all small.

Table 2

Results comparing mean scores on the Childhood Trauma Questionnaire and the Adolescent and Adult Time Inventory-Time Attitudes Scale, for McLean Screening Instrument categories. Shown are Mean (+SD).

	MSI threshold score $\geq 7^a$			MSI threshold score $\geq 5^b$		
	Yes	No	Hedge's <i>g</i>	Yes	No	Hedge's <i>g</i>
CTQ-EA	1.40 (0.49)	1.51 (0.58)	-0.19	1.68 (0.58)	1.46 (0.56)	0.39
CTQ-EN	2.03 (1.08)	1.70 (0.78)	0.44	2.06 (1.01)	1.67 (0.76)	0.48
CTQ-PA	1.10 (0.24)	1.13 (0.25)	-0.12	1.08 (0.19)	1.13 (0.26)	-0.20
CTQ-PN	1.20 (0.33)	1.20 (0.37)	0.00	1.30 (0.32)	1.18 (0.37)	0.33
CTQ-SA	1.13 (0.24)	1.21 (0.67)	-0.12	1.40 (0.67)	1.17 (0.63)	0.36
Past Positive	4.10 (0.37)	3.92 (0.71)	0.26	3.74 (0.60)	3.98 (0.70)	-0.35
Past Negative	2.73 (0.86)	2.40 (1.01)	0.33	2.90 (0.71)	2.34 (1.02)	0.56
Present Positive	3.00 (1.17)	3.92 (0.78)	-1.20	3.16 (0.98)	3.96 (0.78)	-0.97
Present Negative	3.17 (1.18)	2.45 (0.90)	0.77	3.22 (0.94)	2.38 (0.89)	0.92
Future Positive	3.79 (0.92)	4.11 (0.57)	-0.52	3.86 (0.81)	4.12 (0.56)	-0.43
Future Negative	2.30 (0.91)	1.91 (0.64)	0.58	2.24 (0.75)	1.89 (0.65)	0.52

Note: ^a meeting threshold $N = 6$; ^b meeting threshold $N = 10$. MSI = McLean Screening

Instrument; CTQ = Childhood Trauma Questionnaire; EN = Emotional Neglect; EA = Emotional Abuse; PN = Physical Neglect; PA = Physical Abuse; SA = Sexual Abuse; Pos = Positive; Neg = Negative.

Bold font = achieved Funder & Ozer's (2019) large effect size.

A series of cross tabulations were computed to examine the comorbidity of SCID-5-RV lifetime diagnoses, and threshold scores on the MSI. These are displayed in Table 3. Bolded values indicate where Fisher's exact test was significant, and Cramer's V indicates the size of

the effect. Results show that there was a significant association between MSI category and lifetime mood disorder, lifetime substance use disorder, lifetime suicidal thoughts/actions (all with a moderate effect), and both lifetime psychotic experiences and lifetime self-harming (with a large effect).

Table 3

Comorbidity between MSI threshold and SCID I lifetime diagnoses for other disorders.

	MSI threshold score $\geq 7^a$				MSI threshold score $\geq 5^b$			
	No	Yes	V	Fisher's	No	Yes	V	Fisher's
Mood No	27	0	-	-	26	1	-	-
Mood Yes	30	6	.28	.03	27	9	.29	.03
Anxiety No	17	1	-	-	17	1	-	-
Anxiety Yes	40	5	.09	.66	36	9	.18	.26
SUD No	27	0	-	-	26	1	-	-
SUD Yes	30	6	.28	.03	27	9	.29	.03
Trauma No	42	4	-	-	40	6	-	-
Trauma Yes	15	2	.05	.66	13	4	.13	.44
Self-harm No	44	1	-	-	43	2	-	-
Self-harm Yes	13	5	.39	.00	10	8	.49	.00
Suicide No	44	2	-	-	42	4	-	-
Suicide Yes	13	4	.29	.04	11	6	.32	.02
Psychotic No	50	3	-	-	47	6	-	-
Psychotic Yes	7	3	.30	.05	6	4	.29	.04

Note: ^a meeting threshold $N = 6$; ^b meeting threshold $N = 10$.

V = Cramer's V; Fisher's = Fisher's Exact Test. SUD = substance use disorder; Suicide = suicidal thoughts and/or attempt; Psychotic = any psychotic experience. Bolded values = Fisher's Exact Test statistically significant.

3.1. Interview responses

Approximately four months after completion of the MSI, we interviewed 20 of the cohort (randomly selected) in order to investigate what had motivated them to endorse the MSI items which they had done. The results of these interviews are detailed in Supplementary materials, and a brief summary is provided here. Pseudonyms have been used in order to

protect participants' identity. These follow-up interviews were conducted deliberately to better understand what had motivated individuals to endorse individual MSI items. Such a process would not have been possible in the first round of interviews owing to time constraints, and the potential to influence changes in MSI items responses based on follow-up questioning.

A total of six participants endorsed MSI Item #1, Have any of your closest relationships been troubled by a lot of arguments or repeated breakups? Four months later some struggled to remember why they would have endorsed it, and one focussed on relationships beyond romantic relationships. Of note, the focus of most people was on one or two major relationships in the past. In other words, not all past relationships were characterised by arguments or repeated break-ups.

Five participants endorsed MSI Item #2, Have you deliberately hurt yourself physically (e.g., punched yourself, cut yourself, burned yourself)? How about made a suicide attempt? In all cases this represented actions or feelings dating back to childhood or early adulthood, in other words, these thoughts or feelings were not current. Meanwhile, a total of 10 participants endorsed MSI Item #3, Have you had at least two other problems with impulsivity (e.g., eating binges and spending sprees, drinking too much and verbal outbursts)? Alcohol and/or drug use were the main issues discussed in this regard, with other individuals discussing issues such as eating binges, and sexual disinhibition. As with items #2 and #3, a lot of the behaviors were discussed in historical terms, with only a few participants describing themselves as being impulsive currently.

A total of 11 participants endorsed MSI Item #4, Have you been extremely moody? Again, there was a difference between those whose moodiness was described in terms of a discrete period in the past, or was related to specific times or episodes, and those who would see themselves as 'moody people' more generally. Of note, a number of people conflated the issues of 'emptiness' and general 'emotionality'. Nine individuals endorsed the MSI Item#5, Have you felt very angry a lot of the time? How about often acted in an angry or sarcastic manner? As with previous responses, responses to that item were often related to particular historical episodes, or in the case of the impact of COVID-19 lockdowns, acutely contemporary. Anger was discussed both in terms of externalising, and internalising behaviors.

Six individuals endorsed the MSI Item #6, Have you often been distrustful of other people? There were two notable and common themes across responses. Firstly, there was a differentiation between family/close friends and everyone else in terms of trust, such that problems with trust would center on strangers, or people new to their life experience. The second commonality across responses related to the fact that bad experiences, or being let down by others, would have implications for relationship-building in the present and future. In other words, having been let down, would have left scars for relationship-building going forward.

Only three participants endorsed the MSI Item #7, Have you frequently felt unreal or as if the things around you were unreal? There was little by way of consistency in the responses.

One person described life as feeling like 'a simulation', another described disassociation in terms of fully embracing 'good things' that happened to, or for him. The third individual described how self-harming behaviors brought about a greater or deeper sense of reality than otherwise would have been the case. Eleven individuals endorsed MSI Item #8, Have you chronically felt empty? Despite having endorsed the item, a number struggled to understand either what emptiness represented, or why they had endorsed it at all. There was a conflation for some between 'emptiness' and 'loneliness'. Other ways in which loneliness was described were as 'hopelessness', 'nothingness', or as 'a void'. Emptiness for a few was related to particular and discrete experiences including the period after the birth of a first child, the experience of severe addiction, or the period following a very intense personal trauma.

Five participants endorsed MSI Item #9, Have you often felt that you had no idea of who you are or that you have no identity? There was a variation in responses to this item, ranging from those concerned about how others would perceive them, through to those who described actively choosing to pursue goals or hobbies to deliberately please others. One participant described being so lacking in confidence that their whole identity relied on their outward physical appearance, and how that influenced the way in which others thought about her, while another, identity problems were closely related to having experienced childhood sexual abuse. Finally, only three participants endorsed MSI Item #10, Have you made desperate efforts to avoid feeling abandoned or being abandoned? The responses were quite different in terms of what the participants were looking/hoping for. In one case, the participant was clear that they needed the simple 'attention' of other people, and was related to not wanting to feel alone. In a second case, the participant spoke of their desire to still feel wanted or valued as a person by ex-partners. In the case of the other participant, the contact and relationship was described in terms of their investment in it to a degree which would keep the other person interested and make them feel valued and special.

4. Discussion

Despite the limitation of sampling in a small clinical cohort, the present study both supports previously reported findings regarding symptoms of BPD, and reveals new ones. Firstly, correlation coefficients between total MSI score and scores on the CTQ were small in magnitude, with coefficients between MSI score and scores on the AATI-TA more interpretable. Essentially, the only meaningful trauma correlation was with emotional neglect such that a greater number of MSI items endorsed was significantly associated with higher self-reported emotional neglect in childhood. With regard to time attitudes, a higher number of endorsed MSI items was significantly associated with higher positive affect in the past, present, and future, with the highest coefficients observed for present positive (and negative). Said another way, a greater number of MSI item endorsements is associated with feeling particularly negative in the present, but also in the past and future. This supports findings elsewhere (Mioni et al., 2020) indicating that time perspective might be related to BPD, and BPD symptomatology. Operationalizing MSI scores categorically (using cut-offs) offers no further meaningful insight into the inter-relatedness of MSI, CTQ and AATI-TA

scores, insofar as the same variables emerge as meaningfully related. That said, the effect size for present positive time attitude using a cut-off of ≥ 7 suggests that it might possibly be a variable of consequence. This suggests that higher MSI item endorsement is particularly related to a lack of positivity about the present, more so than the past or the future. Mioni et al (2020) reported BPD patients to be particularly fatalistic about the present, and these results point to a similar finding, albeit at the level of symptomatology.

The results of the present study also point to substantive overlap between SCID-RV-5 lifetime diagnoses of mental disorders, and attainment of MSI threshold (≥ 7 items). For example, all those who endorsed ≥ 7 MSI items also met threshold for lifetime mood disorder, and substance use disorder. In all cases (with the exception of psychotic experiences) a higher proportion of individuals endorsing > 7 MSI items also met threshold for each of the SCID categories examined. This offers some support to the co-occurrence of BPD with other mental disorders (Shah and Zanarini, 2018) with the caveat that the present study was not working with an exclusive BPD cohort. Results of analyses examining the relationship between MSI item endorsement at age 33, and scores on measures assessed up to 20 years previously were also instructive. While the magnitude of coefficients between measures at ages 33 and 13 are smaller than with those in the early 20's, they still suggest that MSI endorsement in adulthood is associated with a higher endorsement of stressful life events and a lower endorsement of general functioning in early adolescence. Further, that higher MSI item endorsement at age 33 is associated with higher overall SDQ score, and a lower assessment of overall functioning at age 21.

While much of this supports previously-reported findings, results are, to a large degree, called into question by the results of the qualitative element of the study. Of particular concern are the facts that: (i) on many occasions respondents were unsure why they had endorsed particular items (and on some occasions had suggested that quite the opposite situation might be true), and (ii) rather than endorsement of an item being reflective of a personality type, or as representing the enduring life experience of the individual, responses were often specifically related to very specific and one-off events or periods in the past, and in some cases, the present. It does, however, remain a possibility that MSI responses were predominantly driven by more significant life periods and one-off experiences, but that they tap into a lower level and enduring pattern of behavior. For example, many responses focused on events that had taken place in adolescence and early adulthood, with participants suggesting that they had either 'moved on', or that the issues experienced back then were no longer part of their lives. In particular, the timing of the interviews, coming as they did in the middle of a COVID-19 National lockdown, meant that in a large number of cases, individuals were responding with a very acute focus on the present. Indeed, this may also account for the fact that present time attitudes (positive and negative) were particularly associated with MSI score, when interview responses would have suggested that events in the distant past were more strongly related to item endorsement.

A further concern emanating from the interview responses was the conflation of certain constructs, for example, the apparent conflation of 'emptiness' and 'loneliness', as well as the apparent conflation of 'moodiness' with individuals feeling themselves to be generally

'emotional' people. It might be potentially useful to include, as part of the MSI instruction guidance to indicate that responses should reflect more general or overall life experience, than just being restricted to one-off relationships, periods, or stages of life.

The present study is not without limitations. In the first instance, the sample size was small. However, they are part of a longitudinal cohort, and some of that previously-gathered information was incorporated in the analyses. Secondly, they were not a specific BPD cohort, and scoring on the MSI reflects symptomatology more than BPD caseness. Thirdly, for most of the MSI items, there were too few respondents in order to be able to perform detailed content analyses of interview responses. However, the qualitative information included does reflect the totality of responses to rationale for endorsing each item.

Given the stated rationale for endorsing MSI items, it is unclear whether the relationship between MSI score, or category (potential caseness or not) is reflective of a stable personality trait, or more reflective of a particular context, time, or state. Results are suggestive of the fact that both contribute to item endorsement. Beyond this important point, those endorsing a greater number of MSI items are definitely more negative about their past (in particular), present, and future, and self-report a greater degree of emotional neglect.

Appendix 1

MacLean Screening Instrument for BPD

1. Have any of your closest relationships been troubled by a lot of arguments or repeated breakups?
2. Have you deliberately hurt yourself physically (e.g., punched yourself, cut yourself, burned yourself)? How about made a suicide attempt?
3. Have you had at least two other problems with impulsivity (e.g., eating binges and spending sprees, drinking too much and verbal outbursts)?
4. Have you been extremely moody?
5. Have you felt very angry a lot of the time? How about often acted in an angry or sarcastic manner?
6. Have you often been distrustful of other people?
7. Have you frequently felt unreal or as if things around you were unreal?
8. Have you chronically felt empty?
9. Have you often felt that you had no idea of who you are or that you have no identity?
10. Have you made desperate efforts to avoid feeling abandoned or being abandoned (e.g., repeatedly called someone to reassure yourself that he or she still cared, begged them not to leave you, clung to them physically)?

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CRedit authorship contribution statement

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Declaration of Competing Interest

The authors report no conflicts of interest.

Supplementary Material

Details about rationale for responses to McLean Screener items.

MSI Item #1. Have any of your closest relationships been troubled by a lot of arguments or repeated breakups? Six participants endorsed this item. One focussed on family relationships as well as romantic relationships: “...like the last girlfriend that I had... like if we were driving and I just snapped like missing the amber light, and was like ‘ah shut up’, she would know to leave me for 30 seconds and I’d be fine. The girl that I met abroad...she would do the opposite, like if I did something like that [snapped] she wouldn’t let it go until I exploded in her face, and one of us would leave the other one on the side of the road or something, you know?” (Kevin). Moreover, in a number of cases, individuals struggled to recall why they had endorsed the item, or what relationship(s) precisely they had in mind: “I can’t think of why I may have said that [endorsed the item]. I’d never instigate an argument, and I would avoid it at all costs. So, it would have to be pretty bad for me to argue” (Grace).

However, for all but one participant, responses focussed on relationships with only one or two individuals in the past, thus not all of their relationships were characterised by arguments and break-ups. For the participant who reported issues with arguments and repeated breakups more generally, she stated: “I would have gotten jealous very easily because I would have had such a low opinion of myself. I’d think, they might like someone else so why are they with me? That would be a cause for arguments or breakups” (Gillian). In one case, the participant explained how this issue had changed for them with age: “I was in a few difficult relationships, one really bad where the person was very controlling... Not as volatile, or nearly as volatile in recent times” (Fiona).

MSI Item #2. Have you deliberately hurt yourself physically (e.g., punched yourself, cut yourself, burned yourself)? How about made a suicide attempt? Five people endorsed this item. In all cases, participants were reflecting back to adolescence and into early adulthood when (as they recalled it), suicide had been a viable option for them. Only one participant had contemplated suicide in recent times. For example, "So... when I was in my teens yea, I'd really think about suicide. I didn't self-harm too much... it was more like a cry for help more than anything" (John). Or again: "When I said about being 12, I can clearly remember that was the first time that I was actively suicidal... I remember that day like as if it had been yesterday... I always had my suicide plan or variations of it over the years" (Pauline). For another, issues did not come to a head until early adulthood: "Yea by my mid 20's I was cutting myself having gone through periods of depression, and having suffered low self-esteem and eating disorder type stuff" (Fiona).

In one case, self-harm was a precursor to addiction problems: "I think there were a lot of other people in my friend group and social circles who were self-harming, like with cutting... For me that sort of ended up developing into addiction, which is a form of self-harm, like self-medicating but also self-harm..." (Liz). For another, self-harming was described as a deliberate means to alleviate mental pressure: "I used to self-harm to have a release of, obviously the pain wasn't release, but the pressure, the tension... and you see the world in a different light in a way, so things seemed and felt different as I was walking, even though it could have been somewhere that I've walked a million times before" (Grace).

MSI Item #3. Have you had at least two other problems with impulsivity (e.g., eating binges and spending sprees, drinking too much and verbal outbursts)? Ten participants endorsed this item. Most endorsed abuse of alcohol or drugs, while for others there were eating binges, or issues relating to sexual disinhibition. As with responses to MSI items #1 and #2, a lot of the issues dated back to late adolescence, and early adulthood. For example, "...as I turned 18 I went out every weekend at least... yeah probably twice a weekend... and get absolutely hammered! [drunk]" (Michael). Elsewhere, "Definitely with the food, and at times, not as much now, maybe the drinking, So, erm, impulsive... I do think about the consequences, so I wouldn't be so impulsive that I wouldn't be thinking of the consequences... I think rationally, even though I can be impulsive" (Grace). In the latter case, the individual identified engaging in past impulsive behaviors, without being completely reckless in doing so.

For a number, there was (and for one still is) risky and impulsive sexual behaviour: "I think it was really impulsive sexual behaviour, most of it, and drinking, a lot of drinking... I would just be like out by myself and just like go off with these people that I shouldn't have been going off with, like as a way of having [sexual] fun" (Mary). Or again, "Yea so when I'm feeling quite low I do get quite impulsive, I might engage in risky sexual behaviour with men or drinking binges, so yea... when I am low and depressed I tend to do those type of things, whether I enjoy them or not, mostly I don't" (John). In the latter case, this individual would still see themselves as impulsive, as would another individual who singled out addictive behaviors and self-harming as problematic: Definitely drinking and drug taking. I would be

very impulsive. The 'cutting' would have been on the spot impulsive behaviour. I suppose I would be generally impulsive." (Fiona).

Elsewhere, others were more definitive that impulsive behaviors were more a thing of the past: "So mine probably would have been probably the eating binges or... the spending sprees. When I was younger I tended to drink a bit more often... well obviously now that I am older it's different, but for years yeah, it would have been eating if I was stressed" (Alice). Additionally, "I had a lot of insecurities and had to be around people, it was unhealthy socialising with a lot of drugs and stuff. I did that all through my 20's... I had no sense of belonging and all of my focus was in friends and my social circle. I was partying to mask my feelings" (Lucy). In one case, despite having endorsed the item, the individual struggled to think of herself as impulsive: "With food... I don't think it's binge eating, I don't think it has ever that sort of severe. In terms of verbal outbursts, not really. I'd be more considerate with my words, and thoughtful. It's sort of more that a conscious impulse to hurt myself" (Liz).

Finally, one individual spoke of impulsive behaviour as a way of feeling 'in control': "...like you when you engage in those behaviours you want to rebel sometimes...where you feel quite hemmed in, and sometimes I think it's a way of releasing pressure, and maybe rebelling, feeling like you have a bit of control, you know that kind of away? It kinda feels like you're taking control even though I suppose you might be out of control in a way" (Paul).

MSI Item #4. Have you been extremely moody? Eleven participants endorsed this item. Again, there was a difference between those whose moodiness was described in terms of a discrete period in the past, or was related to specific times or episodes, and those who would see themselves as 'moody people' more generally. In respect of the former: "...sometimes if my partner said something to upset me instead of just getting over it there and then, I'd drag it on for days... whereas now I can brush things off easily" (Michael). Or again: "Yeah well the last time that we spoke I was in a bit of a bad place, you know... I suppose most people were because of lockdown... So I was getting short with a lot of people, maybe short with myself. I was in a bad way the last time that we spoke, but I've pulled myself out of it now" (Kevin). As with other responses, some reflected right back to adolescence: "So if I am moody I lash out, I'm loud, I shout, I lash out, I throw things. When I was younger... my Mam would have suggested anger management at one stage... erm obviously now I am different but I still lash out and scream and shout to get... my voice heard, if that makes sense" (Alice). Moodiness related to a specific period in the past was very evident in two exchanges:

Katrina: "I suppose when I was coming to the end of my degree... I was kind of in turmoil in myself, trying to figure out where life goes from here."

Interviewer: "It was moodiness for a very specific time and for a very specific reason, yeah? It's not really that [name] is this really moody character, no?"

Katrina: I'd say probably as a teenager my Mam and Dad would have said that, for a period. I particularly think that I was moody at that time but my Mam and Dad might answer and say you were moody".

Pauline: "I suppose my Mam who I live with, and I know that we wouldn't have been getting on very well last year, I imagine it is the same for a lot of people in lockdown who are kind of stuck in the house and stuff. I noticed that I was particularly moody and just very short-tempered, and quick to get annoyed, but not all of the time!

Interviewer: And it was very specific to the lockdown period?

Pauline: "Yea I suppose... something that I noticed about myself more recently, you know? So I wouldn't have considered myself hugely moody years ago".

For some individuals there was a conflation of moodiness and generally being 'emotional': "I think that I was quite an emotional person... I just always remember that I had feelings about stuff... everything affects me emotionally... so in regards to moody I wouldn't say ratty or snapping at people, but I always have an emotional reaction to everything that I do" (Grace). Or again: "That's a difficult one at the moment because I am going through highs and lows, and they come so frequently... but when I am low, again I get quite moody, I get quite introverted and find it difficult to talk. My moods swing day to day at the moment... I am not as moody as I was" (John). Moodiness was also discussed in relation to feeling low or down by another participant who observed: "The times in my life when I have been the moodiest have tended to be the lowest times in my life, maybe the times when I felt lost, or... when I was just exhausted all the time, perhaps from depression or sleeping problems or stuff like that. I think insecurity can make you moody as well" (Paul).

MSI Item#5. Have you felt very angry a lot of the time? How about often acted in an angry or sarcastic manner? Nine participants endorsed this item. In some cases it was clear that this related to a particular episode in the past: "Just after that [personal trauma] I was just so angry, I just wanted to take it back all of the time. I think I didn't take anything seriously really, relationships or people. I was angry with people and yea it would effect relationships. (Nicola). Elsewhere, "I do find that smoking weed does make you angrier when you are not stoned. I found that I did have a shorter fuse after like, if I didn't have a joint or... I definitely thought that smoking weed affected my mental health... yeah so if I didn't have a joint I could get angry quickly..." (Michael). In one case, the individual found lockdown periods resulting from the Covid-19 pandemic particularly difficult: "I was maybe lashing out at myself a bit, I was being short with a few pals as well. Again it was just the year in it... but it's better now, you know?" (Kevin).

The 'lashing out' described by that participant was also discussed by others: "So yea, just the same again, same as the last one [answer for moodiness], it's just if I am pissed off I roar and shout and be aggressive I suppose... just to get myself heard." (Alice). Externalising behaviors were discussed in terms of a response to criticism or frustration, where the individual would regret their 'lashing out' afterwards: It's like if had done something bad or

wrong or been criticized I wouldn't have taken it very well... and would have lashed out when I didn't mean to. Like, I'd find myself apologising quite a bit... I didn't mean it in that way... I just didn't express myself in the best way at the time" (Gillian). Or again: "... it's more like if I am in a bad mood, I am snappy... like if you were to say something smart to me and I am in bad form I can bite you back very quickly. Now sometimes I might regret what I say because if I said it in anger I probably didn't mean it fully but that's what I feel like" (Emma).

For others, anger was discussed more in terms of internalising: "Again I think like sometimes that was... anger at myself sometimes like internal anger... I think depression and feeling low and stuff like that... I think a lot of people have the idea that, you know, that makes you very just sad or weak or something like that, whereas in my case it makes me pricklier. If I am not really happy with myself yea I think that sometimes it can make you frustrated" (Paul). Or again: "I am very sarcastic, like most of the time. Not so much angry. If I have ever been angry I have always turned it inward because I can deal with the repercussions when I take it out on myself. But I am sarcastic all of the time... but that is how I deal with awkwardness or sadness (Grace).

MSI Item #6. Have you often been distrustful of other people? A total of six participants endorsed this item. There were two notable and common themes across responses. Firstly, there was a differentiation between family/close friends and everyone else in terms of trust, such that problems with trust would centre on strangers, or people new to their life experience. For example, "I trust my partner 100%, I trust anybody in my family, in situations like at work yeah, like I wouldn't trust someone straight away, in terms of someone that I work with, like I wouldn't show him the shortcuts or anything like that... I'd be 100% by the book with them... until I really got to know them." (Michael). For another it was similar, "I would always have been sceptical of... people you don't know, strangers and that type of thing... until you fully know somebody... you can't really trust them or any of that until you fully know someone" (Philip). The second commonality across responses related to the fact that bad experiences, or being let down by others, would have implications for relationship-building in the present and future: "...again, not just in romantic relationships but it would be in other relationships as well that I would have with people. So like being cheated on, and that probably didn't help with how I viewed myself and stuff like that". Or again, "I sort of did become distrustful of other people. I tried ... I was always waiting or watching, sort of like a survival thing really. I would still be aware, I wouldn't be so mistrustful now, like it sort of made me a good judge of character, maybe I can sort of see if someone is trying to manipulate me or whatever."

MSI Item #7. Have you frequently felt unreal or as if the things around you were unreal? A total of three participants endorsed this item. There was little by way of consistency in the responses. The most straightforward explanation (Fiona) was that the totality of her experiences, positive and negative, often felt like a simulation: "Just like feeling that, kind of wondering was I in a dream or was this reality or is it just like a... simulation." The second participant differentiated between having no trouble 'grasping reality', but struggled to believe or to feel it to be a reality when 'good things' happen to him. Citing the example of a

recent job promotion he said he would think (at times like that in his life when good things happened) “oh, this is too good to be true, is this real?” (John). The third individual (Grace) very clearly related feeling unreal to self-harming behaviours, in that, self-harming behaviors brought about a greater sense of clarity (including visual clarity) and reality. She stated “... putting myself back to when I used to self-harm regularly, and I used to self-harm to have a release of... pressure.” She contrasted the pressure that she felt pre self-harming, and the accompanying lack of reality, to the feelings of clarity, reality, and the decrease in pressure felt within, post self-harming. Feeling unreal was associated with a pressure within, and with self-harm (and the greater feelings of reality in its aftermath), “something is being let out and that’s how I likened it.”

MSI Item #8. Have you chronically felt empty? Eleven participants endorsed this item. Despite having endorsed the item, a number struggled to understand either what emptiness represented, or why they had endorsed it, for example: “So was I currently feeling empty? Erm yeah well I would have cause that’s probably why I went to the doctor about being depressed in the first place... I don’t really know emptiness like... emptiness as in no purpose?” (Michael). Or again, “I don’t think I’ve ever felt empty... like there’s loads going on inside me, like there’s two adventures in my life, the one that goes on like outside in the world, and the things that I do, and just the one inside myself” (Mary).

There appeared to be a conflating of ‘emptiness’ and ‘loneliness’: “Like maybe as a child feeling a bit lonely, same when I was a teenager, feel a bit lonely, feel a bit different, feel a bit left out, I’d say last year I felt that as well, now last year was a bit different because of Covid I think everybody felt like that. But down through the years I would have felt lonely, felt kind of on my own, that sort of thing. Erm, just lost, just lost and no support I suppose” (Alice). Again, “I was very much a loner when I was younger. I am a loner now, but it is completely different. I was an active loner. I remember when I was in school and being around other people, not being on my own, but feeling alone, and it’s the weirdest feeling... So that emptiness would have been... a lot of it would have been then” (Grace). Indeed, for this particular participant, emptiness was characterised as a lot less troubling than the intense loneliness which they had experienced: “I would have rather have not felt anything and felt empty, than felt the sadness and pain that I did feel a lot of the time when I was younger... it’s an intense loneliness, because yes you can be on your own, and you can be lonely, but then when you are around people and you feel the same, it’s worse. I would have felt like that a good bit, especially in school.” (Grace).

For those commenting deliberately on ‘emptiness’, the explanations were of hopelessness, and nothingness, or of ‘a void’. For example, “You are nothing, you have nothing, nobody cared for you. There was nothing to look forward to, nothing to enjoy. I would have clear memories back to maybe being 12, and being in a bad place... up until my 20s”. (Pauline). For one, emptiness was described in terms of a weight: “It’s a weird sensation. It’s not like there’s a weight on my shoulders, or anything like that but just kinda a numb feeling in my mind and it passes onto my body. I guess that feeling empty would be the best way of describing that numb feeling” (John). Finally, “Just like no happiness, no joy, no excitement, but at the same time no sadness either. Just like a void, like there is nothing, no emotion”

(Fiona). Indeed, for one participant, emptiness presented a challenge beyond the more typical challenges of anxiety or feeling angry: "I think for me that's probably the worst feeling of all... there's energy in anger... there's energy in anxiety and sometimes I think you can channel that into a direction. I think [emptiness] that's kind of a paralysing feeling... when you are angry you can go for a walk, you can go for a run... and do something with that energy kind of to dissipate that, whereas, I dunno, when you feel alone or empty no one really cares about you" (Paul).

A number of individuals linked their emptiness to particular experiences, for example, "I think that's a big thing with addiction. Like you are trying to self-medicate the emptiness inside you for whatever reason. Just for years feeling empty and unsatisfied in addiction, because you are in a survival mode, you are so self-centered, like you are focussed totally on you, and trying not to feel awful, and everything else is second to that" (Liz). Again, "I remember when I had my first child, because of the way that I was feeling, it was just like I was in auto-pilot. I was just going through the motions, like I wasn't feeling anything. I was just doing things because they needed to be done" (Victoria). Finally, in the aftermath of an intense personal trauma, one participant remembered feeling "that my heart was turning black like that's how I felt, but there was definitely emptiness. I remember [in College] it was a two year course and I remember there was a lot of emptiness" (Nicola).

MSI Item #9. Have you often felt that you had no idea of who you are or that you have no identity? Five participants endorsed this item. There was a variation in responses to this item, ranging from those concerned about how other would perceive them, "...[I would be] conscious of what others think Yeah I'd always kinda be conscious of what other people think of me and I wouldn't, sometimes I wouldn't voice my opinions... in case people would think different of me" (Michael), through to those who described actively choosing to pursue goals or hobbies to deliberately please others: "I would pick up on others interests more than actually knowing what are my own interests. [I would say], oh I want to learn about that, and it came from wanting to be closer to them [in a relationship] as opposed to just developing it myself so in that way I wouldn't know who I am." (Gillian). Similarly, "Like questioning whether or not the things I do or the things that I say, or the ways that I treat people, am I doing that because that's what other people want, or am I doing that because that's what I want" (Fiona). One participant described being so lacking in confidence that their whole identity relied on their outward physical appearance, and how that influenced the way in which others thought about her: "... so much of my energy and my everything went into like the way that I looked, or the way other people perceived me that I actually... I never really knew who I was... because all I could think about like, was the way I looked, all the time... what I felt really didn't matter at the time. It was like... even to a certain extent now like, it was just all about what other people thought about me" (Sinead).

For one individual, identity problems were closely related to having experienced sexual abuse: "Yea, because of the abuse... I struggled with that my whole life... struggling with my sexuality because of that, yea I didn't know who I was, still trying to figure that out now, but getting there. I guess I have just forgotten the person that I was but yea, it definitely is a struggle to find out who I am and what my place in the world is" (John).

MSI Item #10. Have you made desperate efforts to avoid feeling abandoned or being abandoned? Only three participants endorsed this item. The responses were quite different in terms of what the participants were looking/hoping for. In one case, the participant was clear that they needed the simple 'attention' of other people, and was related to not wanting to feel alone: "So I'd be constantly on the phone, constantly, and looking for conversation, erm, constantly looking for attention, even my Mam would say that as a child now I would have looked for a lot of attention, like the main thing was to get attention. I always had to be out and around people. I'm still kind of like that, not as bad but I'd still always like to be surrounded by people" (Alice). In a second case, the participant spoke of their desire to still feel wanted or valued as a person by ex-partners: "I have done that, not relentlessly... contacting people that I haven't spoken to in years, and looking back on it now it was silly, but yea, just trying to contact people in my life in the past, when I was somewhat happier I guess. Basically messaging old ex-girlfriends kind of thing, just trying to like yea, do they still think of you, you're still wanted... I'm still wanted... in some way" (John). In the case of the other participant, the contact and relationship was described in terms of their investment in it to a degree which would keep the other person interested and make them feel valued and special: "Going out of my way to treat them, or make them feel comfortable, or let them know that they are special to me or whatever. That's the best way to describe it. That they would lose interest or find someone better if I didn't do that. (Fiona).