**Supplement 1: detail and references of measures administered**

*Sociodemographic characteristics*

Continuous variables comprised age, BMI, physical illness severity (total Modified Cumulative Illness Rating Scale score excluding the mental health item1) and the extent of social support available to them (total score from the patient-rated Oslo 3 social support scale2). Categorical variables comprised gender (binary; all participants identified as male or female via self-report), ethnicity (nominal), education level (highest qualification; ordinal), relationship status (nominal) and employment status (binary).

### Clinical characteristics

These were pre-selected for inclusion based on existing evidence of associations with bipolarity in addition to data availability from the PROMPT study. Historical factors included:

* Past major depressive episode (MDE, according to the MINI interview3)
* Past psychosis (according to the MINI3)
* Age of mental illness onset (patient-report)
* Number of psychiatric hospital admissions (lifetime)
* Negative life events (total score from the lifetime List of Threatening Events questionnaire, and binary variable indicating experience of such an event in the last 12 months4)
* Childhood trauma severity (total score from the Childhood Trauma Questionnaire5)

Current presentation factors included:

* Recurrent MDE ([according to the MINI3)
* OCD (according to the MINI3)
* PTSD (according to the MINI3)
* GAD (according to the MINI3)
* Any other anxiety disorder (including panic disorder, agoraphobia and social phobia, according to the MINI3)
* Significant traits of borderline personality disorder (BPD; i.e. scoring ‘definite’ for at least five trait items on the BPD subsection of the Structured Clinical Interview for DSM-IV Personality Disorders6)
* Traits of personality disorder more broadly (total score from the Standardised Assessment of Personality – Abbreviated Scale [SAPAS]7)
* Substance abuse (scoring positively for substance abuse and/or alcohol abuse on the MINI interview3)
* Extent of alcohol use (total score on the AUDIT assessment8)
* Eating disorder (scoring positively for anorexia and/or bulimia on the MINI interview3)
* Suicidality severity (according to MINI interview3)
* Self-criticism (negative cognitions and reassurance subscales from the Forms of Self-critical/Attacking and Self-reassuring Scale9)
* Illness perception (total score from the illness perception questionnaire10)
* Antidepressant use (current)
* Mood stabiliser or antipsychotic medication use (current)

Participants’ HCL scores (measuring self-reported bipolarity)11 and the proportion of participants meeting the criteria for a current major depressive episode (MINI interview)3 were not examined statistically (because these were associated with the criteria used to define participant group categories) but are reported descriptively.

### Therapy characteristics

Participant-rated wellbeing assessments from the PROMPT research assessment (pre-therapy) and final therapy session attended (post-therapy) were recorded, measuring symptoms of depression (Patient Health Questionnaire [PHQ-9] total score12), anxiety (Generalised Anxiety Disorder [GAD-7] total score13) and psychosocial functioning (Work and Social Adjustment Scale [WSAS] total score14). Also assessed was the proportion of participants receiving therapy (defined as attending two or more sessions), and for therapy completers the number of sessions and type of therapy received.

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### **Supplement 2. Full statistical description of univariate comparisons of clinical-related variables between four participant groups**

**A**ANOVA analyses with Tukey’s HSD

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Characteristic** | **F statistic** | **p value** | **BD-1 vs BSp** | **BD-1 vs uMDD** | **BD-2 vs BSp** | **BD-2 vs uMDD** |
| **Age of mental illness onset** | *F*3,277 = 3.379 | 0.019 | ~ | ~ | ~ | p = 0.039 |
| **N stressful life events (LTE)** | *F*3,322 = 0.356 | 0.784 |
| **Childhood trauma (CTQ)** | *F*3,317 = 4.598 | 0.004 | p = 0.003 | p = 0.005 | ~ | ~ |
| **PD traits (SAPAS)** | *F*3,322 = 7.935 | <0.001 | ~ | p = 0.014 | p = 0.002 | p < 0.001 |
| **Alcohol use (AUDIT)** | *F*3,320 = 4.137 | 0.007 | ~ | p = 0.009 | ~ | ~ |
| **Self-criticism reassurance** | *F*3,321 = 1.086 | 0.355 |
| **Self-criticism negative cognitions** | *F*3,321 = 3.405 | 0.018 | ~ | ~ | ~ | p = 0.020 |
| **Illness perception score (IPQ)** | *F*3,314 = 2.925 | 0.034 | ~ | ~ | ~ | ~ |

Grey cells. Overall (4-way) test statistics. In all cases except age of mental illness onset (blue), the variable is higher in the first group. ~ indicates the comparison was not significant.

\* NB no differences significant between BD-1 and BD-2 participants or BSp and uMDD participants (no column for their comparisons)

**B**Chi-square, Fisher’s exact test and Kruskall-Wallis tests with Bonferroni correction

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Characteristic** | **Relevant statistic** | **p value** | **BD-1 vs BSp** | **BD-1 vs uMDD** | **BD-2 vs BSp** | **BD-2 vs uMDD** |  |
| **Past depression (MINI)** | *X2*(3)= 4.099 | 0.251 |  | | | |
| **Recurrent depression (MINI)** | *X2*(3)= 1.948 | 0.583 |  | | | |
| **Past psychosis (MINI)** | *X2*(3) = 22.547 | <0.001 | p = 0.013 | ~ | p < 0.001 | p = 0.007 |  |
| **Past psychiatric admission** | Fisher’s exact test | 0.053 |  | | | |
| **Recent stressful event (LTE)** | *X2*(3) = 8.615 | 0.035 | ~ | ~ | ~ | p = 0.027 |  |
| **Current GAD (MINI)** | *X­2*(3) = 8.078 | 0.044 | ~ | ~ | ~ | ~ |  |
| **Current other anxiety (MINI)** | *X2*(3) = 3.690 | 0.297 |  | | | |
| **Current OCD (MINI)** | *X*2(3) = 14.903 | 0.002 | ~ | p = 0.018 | ~ | p = 0.004 |  |
| **Current PTSD (MINI)** | Fisher’s exact test | 0.027 | p = 0.010 | ~ | ~ | ~ |  |
| **BPD traits (SCID-II)** | *X*2(3) = 41.042 | <0.001 | p < 0.001 | p < 0.001 | p = 0.007 | p = 0.001 |  |
| **Substance/alcohol abuse (MINI)** | *X*2(3) = 10.027 | 0.018 | ~ | ~ | ~ | p = 0.013 |  |
| **Anorexia/bulimia (MINI)** | Fisher’s exact test | 0.113 |  | | | |
| **Suicidality (MINI)** | H(3) = 9.610 | 0.022 | 0.019 | ~ | ~ | ~ |  |
| **Antidepressant medications** | *X*2(3) = 0.297 | 0.961 |  | | | |
| **Mood stabiliser/antipsychotic medications** | Fisher’s exact test | 0.952 |  | | | |

Grey cells. Overall (4-way) test statistics. In all cases, the proportion is higher in the first group. ~ indicates the comparison was not significant.

\* NB no differences significant between BD-1 and BD-2 participants or BSp and uMDD participants (no column for their comparisons)

### **Supplement 3. Correlation matrix of multi-collinearity assessment of variables in the multinomial logistic regression.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlation matrix (Pearson's r)** | **Alcohol/ substance abuse** | **Post-traumatic stress disorder** | **Recent negative life events** | **Age of psychiatric symptom onset** |
| **Substance/alcohol abuse** | 1.000 | 0.047 | 0.134\* | -0.103 |
| **Post-traumatic stress disorder** | 0.047 | 1.000 | 0.020 | -0.025 |
| **Recent negative life events** | 0.134\* | 0.020 | 1.000 | -0.083 |
| **Age of psychiatric symptom onset** | -0.103 | -0.025 | -0.083 | 1.000 |

Pearson’s correlation (r) between variables included in the multinomial model. \* p < 0.05. \*\* p < 0.01.

**Supplement 4. Between-group comparisons for variables used in the multinomial logistic regression.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **BD vs BSp** | **BD vs uMDD** | **BSp vs uMDD** |
| **Substance/alcohol abuse** | OR: 1.813 (0.952 to 3.453)  p = 0.070 | OR: 4.183 (1.716 to 10.195)  p = 0.002 | OR: 2.307 (0.968 to 5.498)  p = 0.059 |
| **Post-traumatic stress disorder** | OR: 3.177 (1.192 to 8.469)  p = 0.021 | OR: 1.152 (0.433 to 3.065)  p = 0.777 | OR: 0.363 (0.125 to 1.050)  p = 0.062 |
| **Recent negative life events** | OR: 1.102 (0.599 to 2.030)  p = 0.754 | OR: 2.167 (1.072 to 4.379)  p = 0.031 | OR: 1.966 (1.046 to 3.694)  p = 0.036 |
| **Age of psychiatric symptoms onset** | OR: 0.966 (0.937 to 0.995)  p = 0.022 | OR: 0.957 (0.927 to 0.989)  p = 0.009 | OR: 0.992 (0.967 to 1.017)  p = 0.505 |

Odds ratios (and 95% confidence intervals) for predictor variables. Dark orange = p < 0.05; lighter orange = p < 0.1; grey = non-significant.

**Supplement 5: Therapy characteristics and outcome**

### 5a. Therapy characteristics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Characteristic** | |  | **n** | **ALL** | **BD-I** | **BD-II** | **BSp** | **uMDD** |
| **Received therapy** | | n (%) yes | 343 | 301 (88) | 29 (83) | 61 (85) | 129 (88) | 82 (91) |
| **Number of therapy sessions** | | Mean (SD) | 343 | 9.0 (6.6) | 8.9 (6.5) | 8.3 (6.2) | 9.2 (7.2) | 9.3 (6.2) |
| **Type of therapy** | **CBT**  **Counselling**  **Group self-help**  **Other** | n (%) yes | 246 | 94 (38)  56 (23)  67 (27)  29 (12) | 8 (36)  5 (23)  6 (27)  3 (14) | 23 (44)  12 (23)  11 (21)  6 (12) | 40 (37)  25 (23)  30 (28)  13 (12) | 23 (36)  14 (22)  20 (31)  7 (11) |
| **Depressive symptoms (PHQ-9):**  **pre-therapy**  **post-therapy** | | Mean (SD)  Mean (SD) | 297  298 | 14.1 (6.5)  9.6 (6.9) | 15.4 (6.9)  9.1 (7.0) | 14.3 (6.4)  10.2 (7.0) | 13.6 (6.7)  9.1 (6.6) | 14.4 (6.3)  10.3 (7.5) |
| **Anxiety symptoms (GAD-7):**  **pre-therapy**  **post-therapy** | | Mean (SD)  Mean (SD) | 297  298 | 11.9 (5.6)  8.1 (6.0) | 14.3 (4.8)  9.2 (5.7) | 12.2 (5.5)  8.7 (6.1) | 11.5 (5.7)  7.4 (5.5) | 11.4 (5.7)  8.3 (6.6) |
| **Psychosocial functioning (WSAS):**  **pre-therapy**  **post-therapy** | | Mean (SD)  Mean (SD) | 295  285 | 18.8 (9.1)  14.4 (9.7) | 20.0 (10.3)  13.5 (9.9) | 19.1 (7.4)  16.9 (9.5) | 18.8 (8.7)  13.3 (9.1) | 18.2 (10.3)  14.4 (10.5) |

Receipt and response to IAPT therapy between groups.

Abbreviations: BD-I = bipolar disorder type 1, BD-II = bipolar disorder type 2, BSp = bipolar spectrum, uMDD = unipolar major depressive disorder, SD = standard deviation, CBT = cognitive behavioural therapy, PHQ-9 = 9-item patient health questionnaire of depressive symptoms21, GAD-7 = 7-item generalised anxiety disorder questionnaire22, WSAS = work and social adjustment scale23.

Chart, box and whisker chart

Description automatically generated

**5b. Change in PHQ-9, GAD-7 and WSAS scores from pre- to post-therapy in people who had received at least two sessions of therapy.**

Error bars show standard error of the mean. Multivariate analysis of variance (MANOVA) showed that there was no effect of disorder (BD-I v BD-II v BSp v uMDD) on the change in either **A** PHQ-9 scores, **B** GAD-7 scores, or **C** WSAS scores (one-way MANOVA, *F*9,679 = 1.056, p = 0.393; Wilk's Λ = 0.967, partial η2 = 0.011). Across groups, there was a significant decrease in PHQ-9, GAD-7 and WSAS scores compared to zero (one-way MANOVA effect of intercept, *F*3,279= 41.838, p < 0.001; Wilk's Λ = 0.690, partial η2 = 0.310; effect of intercept for change in PHQ-9, GAD-7 and WSAS scores, p < 0.001)

**Supplement 6: Sample comparison with Southwark IAPT as a whole**

From annual IAPT reports covering the time period April 2014 – March 2016 (i.e., slightly shorter than the PROMPT study), this IAPT service provided therapy to 7,165 individuals [371 PROMPT participants = 5.2%].

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Group described** | **n patients** | **% depressed pre-therapy** | **% recovered** | **% female** | **Average age** | **% white** |
| 2014-2015 Southwark IAPT | 3555 | 15% (PHQ) | 37% of all cases a | 67% | ~36 b | 70% |
| 2015-2016 Southwark IAPT | 3610 | 15% (PHQ) | 37% of all cases a  Average PHQ score (depressed cases at baseline) 17.5 pretherapy - 12.3 post-therapy | 66% | ~36 b | 70% |
| Our sample | 371 | 56% (MINI)  71% PHQ | 41% of all cases a  Average PHQ change (all patients) from 14.1 to 9.6  Average PHQ change (PHQ cases) from 17.0 to 11.22 | 63% | 39.6 | 77% |

a recovery defined as meeting criteria for a clinical case (depression or anxiety) before therapy and not meeting criteria for a case on either depression or anxiety measure after treatment.

b Estimate: Almost identical number of participants aged 18-35 as 36-64 (with few under 18 or over 65)

**Information retrieved from:**

2014-2015 <https://files.digital.nhs.uk/publicationimport/pub19xxx/pub19098/psych-ther-ann-rep-tab-2014-15.xlsx> and <https://files.digital.nhs.uk/publicationimport/pub19xxx/pub19098/psyc-ther-ann-rep-2014-15.pdf>

2015-2016 <https://files.digital.nhs.uk/excel/1/q/psych-ther-ann-rep-tab-2015-16-v2.xlsx> and <https://files.digital.nhs.uk/pdf/1/0/psyc-ther-ann-rep-2015-16_v2.pdf>