Supplementary Table 1: Comparison of Latent Class Growth Analyses (LCGA) Model fits

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Metric | Num. Slopes | Num. Classes | Num. Free Parameters | Loglikelihood H0 | AIC | BIC | N-adjusted BIC | Entropy | Lo-Mendell-Ruben p-value | Max Class Size  | Min Class Size  |
| Univariate Depression (MADRS) | 1 | 1 | 7 | -39272.34 | 78558.68 | 78600.57 | 78578.33 | NA | NA | 1.00 | 1.00 |
|  | 2 | 10 | -38070.23 | 76160.47 | 76220.32 | 76188.55 | 0.73 | 0.00E+00 | 0.65 | 0.35 |
|  |  | 3 | 13 | -37831.54 | 75689.08 | 75766.89 | 75725.58 | 0.67 | 0.00E+00 | 0.46 | 0.14 |
|  |   | 4 | 16 | -37771.39 | 75574.78 | 75670.55 | 75619.71 | 0.66 | 5.20E-03 | 0.46 | 0.05 |
|  | 2 | 1 | 8 | -39264.50 | 78545.00 | 78592.88 | 78567.46 | NA | NA | 1.00 | 1.00 |
|  |  | 2 | 12 | -38057.83 | 76139.65 | 76211.48 | 76173.35 | 0.73 | 0.00E+00 | 0.65 | 0.35 |
|  |  | 3 | 16 | -37811.54 | 75655.08 | 75750.85 | 75700.01 | 0.68 | 0.00E+00 | 0.46 | 0.14 |
|   |   | 4 | 20 | -37738.86 | 75517.73 | 75637.44 | 75573.89 | 0.63 | 8.70E-03 | 0.47 | 0.09 |
| Univariate Mania (YMRS) | 1 | 1 | 7 | -33810.10 | 67634.20 | 67676.10 | 67653.86 | NA | NA | 1.00 | 1.00 |
|  |  | 2 | 10 | -32937.68 | 65895.36 | 65955.21 | 65923.44 | 0.82 | 0.00E+00 | 0.84 | 0.16 |
|  |  | 3 | 13 | -32773.88 | 65573.76 | 65651.58 | 65610.27 | 0.81 | 1.59E-02 | 0.81 | 0.06 |
|  |   | 4 | 16 | -32658.94 | 65349.88 | 65445.65 | 65394.81 | 0.79 | 2.66E-02 | 0.75 | 0.03 |
|  | 2 | 1 | 8 | -33809.14 | 67634.28 | 67682.16 | 67656.74 | NA | NA | 1.00 | 1.00 |
|  |  | 2 | 12 | -32929.71 | 65883.41 | 65955.24 | 65917.11 | 0.82 | 0.00E+00 | 0.84 | 0.16 |
|  |  | 3 | 16 | -32699.29 | 65430.58 | 65526.35 | 65475.51 | 0.84 | 0.00E+00 | 0.78 | 0.10 |
|  |   | 4 | 20 | -32547.22 | 65134.44 | 65254.15 | 65190.60 | 0.83 | 1.22E-01 | 0.72 | 0.03 |
| Univariate Psychosocial Functioning (LRIFT) | 1 | 1 | 7 | -21723.74 | 43461.48 | 43502.20 | 43479.96 | NA | NA | NA | NA |
|  | 2 | 10 | -20894.07 | 41808.13 | 41866.31 | 41834.53 | 0.67 | 0.00E+00 | 0.58 | 0.42 |
|  |  | 3 | 13 | -20747.86 | 41521.71 | 41597.34 | 41556.04 | 0.59 | 0.00E+00 | 0.48 | 0.23 |
|  |   | 4 | 16 | -20729.09 | 41490.17 | 41583.25 | 41532.42 | 0.53 | 7.09E-02 | 0.44 | 0.12 |
|  | 2 | 1 | 8 | -21719.14 | 43454.28 | 43500.83 | 43475.41 | NA | NA | NA | NA |
|  |  | 2 | 12 | -20886.61 | 41797.23 | 41867.04 | 41828.91 | 0.67 | 0.00E+00 | 0.58 | 0.42 |
|  |  | 3 | 16 | -20739.04 | 41510.09 | 41603.17 | 41552.33 | 0.59 | 0.00E+00 | 0.48 | 0.23 |
|   |   | 4 | 20 | -20721.12 | 41482.24 | 41598.59 | 41535.05 | 0.55 | 8.30E-01 | 0.41 | 0.04 |
| Multivariate: Depression, Mania, Psychosocial Functioning(MADRS YMRS and LRIFT) | 1 | 1 | 21 | -85097.43 | 170236.86 | 170358.68 | 170291.96 | NA | NA | NA | NA |
|  | 2 | 28 | -82167.60 | 164391.20 | 164553.63 | 164464.67 | 0.85 | 0.00E+00 | 0.56 | 0.44 |
|  | 3 | 35 | -81530.22 | 163130.44 | 163333.47 | 163222.27 | 0.78 | 0.00E+00 | 0.42 | 0.19 |
|   | 4 | 42 | -81092.63 | 162269.26 | 162512.90 | 162379.46 | 0.80 | 1.90E-03 | 0.38 | 0.10 |
|  | 2 | 1 | 24 | -85086.72 | 170221.45 | 170360.67 | 170284.42 | NA | NA | NA | NA |
|  |  | 2 | 34 | -82146.12 | 164360.23 | 164557.46 | 164449.44 | 0.85 | 0.00E+00 | 0.56 | 0.44 |
|  |  | 3 | 44 | -81507.97 | 163103.94 | 163359.19 | 163219.39 | 0.78 | 0.00E+00 | 0.42 | 0.19 |
|   |   | 4 | 54 | -81061.13 | 162230.25 | 162543.51 | 162371.94 | 0.80 | 4.50E-03 | 0.38 | 0.10 |

AIC: Akaike Information Criterion;

BIC: Bayesian Information Criterion; N-adjusted BIC: sample size-adjusted BIC; LMRp Value: Lo-Mendell-Rubin *p*-value; Max and Min Class Prop: proportion of the sample assigned (according to maximum class membership statistic) to the largest and the smallest class.

(Smaller-magnitude values for Loglikelihood, AIC, and BIC indicate better model fit; Higher entropy values indicate higher distinguishability between classes; and the proportion of total sample assigned to the largest and smallest classes, recommended to be above 0.05, helps differentiate true class distinction from statistical artifact)

Supplementary Table 2: Association of Clinical Correlates with Depression Trajectory Classes

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category** | **Covariate Test**  | **Trajectory Reference Category** | **Trajectory Class** | **Omnibus** **P-value** | **RRR1** | **SE** | **Z** | **LCI3** | **UCI3** | **P-value** |
| Demographics | Black Race vs all others | Non-depressed | Worsening depression  |  | 0.45 | 0.27 | -1.33 | 0.14 | 1.46 | 0.184 |
| Demographics | Black Race vs all others | Non-depressed | Improving mod depression  | 0.184 | 1.06 | 0.21 | 0.27 | 0.71 | 1.56 | 0.786 |
| Demographics | Black Race vs all others | Non-depressed | Persistently depressed  |  | 1.43 | 0.36 | 1.42 | 0.87 | 2.33 | 0.155 |
| Demographics | Asian Race vs all others | Non-depressed | Worsening depression  |  | 0.46 | 0.33 | -1.08 | 0.11 | 1.91 | 0.282 |
| Demographics | Asian Race vs all others | Non-depressed | Improving mod depression  | 0.001 | 0.43 | 0.14 | -2.59 | 0.23 | 0.82 | 0.0095 |
| Demographics | Asian Race vs all others | Non-depressed | Persistently depressed  |  | 0.09 | 0.09 | -2.37 | 0.01 | 0.66 | 0.018 |
| Demographics | Age | Non-depressed | Worsening depression  |  | 1.05 | 0.09 | 0.56 | 0.89 | 1.24 | 0.577 |
| Demographics | Age | Non-depressed | Improving mod depression  | 0.739 | 1.03 | 0.04 | 0.63 | 0.95 | 1.11 | 0.527 |
| Demographics | Age | Non-depressed | Persistently depressed  |  | 1.06 | 0.06 | 1.01 | 0.95 | 1.19 | 0.313 |
| Demographics | Sex (Female) (Y/N) | Non-depressed | Worsening depression  |  | 1.03 | 0.18 | 0.18 | 0.74 | 1.45 | 0.855 |
| Demographics | Sex (Female) (Y/N) | Non-depressed | Improving mod depression  | 0.357 | 1.15 | 0.10 | 1.65 | 0.97 | 1.35 | 0.100 |
| Demographics | Sex (Female) (Y/N) | Non-depressed | Persistently depressed  |  | 0.98 | 0.11 | -0.17 | 0.78 | 1.23 | 0.866 |
| Demographics | Married (Y/N) | Non-depressed | Worsening depression  |  | 0.79 | 0.15 | -1.28 | 0.55 | 1.13 | 0.200 |
| Demographics | Married (Y/N) | Non-depressed | Improving mod depression  | 0.455 | 0.98 | 0.08 | -0.22 | 0.83 | 1.16 | 0.825 |
| Demographics | Married (Y/N) | Non-depressed | Persistently depressed  |  | 0.88 | 0.11 | -1.09 | 0.69 | 1.11 | 0.276 |
| Demographics | Attended College (Y/N) | Non-depressed | Worsening depression  |  | 0.92 | 0.16 | -0.50 | 0.65 | 1.29 | 0.618 |
| Demographics | Attended College (Y/N) | Non-depressed | Improving mod depression  | 1.32 x 10-9 | 0.71 | 0.06 | -4.02 | 0.60 | 0.84 | 5.70 x 10-5 |
| Demographics | Attended College (Y/N) | Non-depressed | Persistently depressed  |  | 0.47 | 0.06 | -6.08 | 0.37 | 0.60 | 1.20 x 10-9 |
| Demographics | Disability/Unemployed (Y/N) | Non-depressed | Worsening depression  |  | 1.36 | 0.24 | 1.73 | 0.96 | 1.93 | 0.084 |
| Demographics | Disability/Unemployed (Y/N) | Non-depressed | Improving mod depression  | 3.62 x 10-13 | 1.61 | 0.14 | 5.51 | 1.36 | 1.91 | 3.6 x 10-8 |
| Demographics | Disability/Unemployed (Y/N) | Non-depressed | Persistently depressed  |  | 2.31 | 0.28 | 6.96 | 1.83 | 2.93 | 3.5 x 10-12 |
| Diagnosis | BD-II vs. BD-I | Non-depressed | Worsening depression  |  | 1.10 | 0.21 | 0.48 | 0.75 | 1.61 | 0.634 |
| Diagnosis | BD-II vs. BD-I | Non-depressed | Improving mod depression  | 0.0276 | 1.32 | 0.12 | 3.01 | 1.10 | 1.59 | 0.003 |
| Diagnosis | BD-II vs. BD-I | Non-depressed | Persistently depressed  |  | 1.17 | 0.15 | 1.19 | 0.91 | 1.51 | 0.232 |
| Diagnosis | BD-NOS vs. BD-I | Non-depressed | Worsening depression  |  | 1.13 | 0.36 | 0.39 | 0.61 | 2.12 | 0.693 |
| Diagnosis | BD-NOS vs. BD-I | Non-depressed | Improving mod depression  | 0.351 | 0.78 | 0.13 | -1.43 | 0.56 | 1.10 | 0.152 |
| Diagnosis | BD-NOS vs. BD-I | Non-depressed | Persistently depressed  |  | 0.76 | 0.19 | -1.12 | 0.46 | 1.23 | 0.261 |
| Diagnosis | Schizoaffective vs.BD-I | Non-depressed | Worsening depression  |  | 3.23 | 1.56 | 2.43 | 1.25 | 8.31 | 0.015 |
| Diagnosis | Schizoaffective vs.BD-I | Non-depressed | Improving mod depression  | 0.183 | 1.17 | 0.42 | 0.44 | 0.58 | 2.35 | 0.663 |
| Diagnosis | Schizoaffective vs.BD-I | Non-depressed | Persistently depressed  |  | 1.23 | 0.59 | 0.44 | 0.48 | 3.15 | 0.663 |
| Clinical features | Rapid Cycling (Y/N) | Non-depressed | Worsening depression  |  | 2.72 | 0.53 | 5.13 | 1.86 | 4.00 | 2.90 x 10-7 |
| Clinical features | Rapid Cycling (Y/N) | Non-depressed | Improving mod depression  | 1.24 x 10-24 | 2.45 | 0.26 | 8.52 | 1.99 | 3.01 | 1.6 x 10-17 |
| Clinical features | Rapid Cycling (Y/N) | Non-depressed | Persistently depressed  |  | 3.29 | 0.46 | 8.54 | 2.50 | 4.32 | 1.3 x 10-17 |
| Clinical features | Age of Onset | Non-depressed | Worsening depression  |  | 0.95 | 0.08 | -0.60 | 0.81 | 1.12 | 0.548 |
| Clinical features | Age of Onset | Non-depressed | Improving mod depression  | 3.63 x 10-13 | 0.75 | 0.03 | -6.36 | 0.69 | 0.82 | 2.1 x 10-10 |
| Clinical features | Age of Onset | Non-depressed | Persistently depressed  |  | 0.69 | 0.05 | -5.46 | 0.60 | 0.79 | 4.8 x 10-8 |
| Clinical features | Anxiety Disorder (Y/N) | Non-depressed | Worsening depression  |  | 2.04 | 0.36 | 4.07 | 1.45 | 2.87 | 4.70 x 10-5 |
| Clinical features | Anxiety Disorder (Y/N) | Non-depressed | Improving mod depression  | 1.44 x 10-47 | 2.82 | 0.25 | 11.85 | 2.38 | 3.35 | 2.1 x 10-32 |
| Clinical features | Anxiety Disorder (Y/N) | Non-depressed | Persistently depressed  |  | 4.35 | 0.56 | 11.31 | 3.37 | 5.61 | 1.2 x 10-29 |
| Clinical features | PTSD (Y/N) | Non-depressed | Worsening depression  |  | 1.39 | 0.32 | 1.43 | 0.89 | 2.19 | 0.151 |
| Clinical features | PTSD (Y/N) | Non-depressed | Improving mod depression  | 1.18 x 10-16 | 1.89 | 0.21 | 5.70 | 1.52 | 2.36 | 1.2 x 10-8 |
| Clinical features | PTSD (Y/N) | Non-depressed | Persistently depressed  |  | 3.20 | 0.44 | 8.42 | 2.44 | 4.20 | 3.7 x 10-17 |
| Clinical features | Substance abuse/dep (Y/N) | Non-depressed | Worsening depression  |  | 1.24 | 0.22 | 1.24 | 0.88 | 1.74 | 0.216 |
| Clinical features | Substance abuse/dep (Y/N) | Non-depressed | Improving mod depression  | 4.39 x 10-9 | 1.61 | 0.14 | 5.59 | 1.36 | 1.90 | 2.3 x 10-8 |
| Clinical features | Substance abuse/dep (Y/N) | Non-depressed | Persistently depressed  |  | 1.76 | 0.21 | 4.74 | 1.40 | 2.23 | 2.10 x 10-6 |
| Clinical features | Suicide Attempt (Y/N) | Non-depressed | Worsening depression  |  | 2.40 | 0.42 | 4.97 | 1.70 | 3.40 | 6.80 x 10-7 |
| Clinical features | Suicide Attempt (Y/N) | Non-depressed | Improving mod depression  | 6.35 x 10-27 | 2.13 | 0.19 | 8.43 | 1.78 | 2.54 | 3.4 x 10-17 |
| Clinical features | Suicide Attempt (Y/N) | Non-depressed | Persistently depressed  |  | 3.07 | 0.37 | 9.28 | 2.42 | 3.88 | 1.7 x 10-20 |
| Clinical features | Psychotic symptoms (Y/N) | Non-depressed | Worsening depression  |  | 0.73 | 0.13 | -1.76 | 0.51 | 1.04 | 0.078 |
| Clinical features | Psychotic symptoms (Y/N) | Non-depressed | Improving mod depression  | 0.002 | 0.73 | 0.06 | -3.58 | 0.62 | 0.87 | 3.50 x 10-4 |
| Clinical features | Psychotic symptoms (Y/N) | Non-depressed | Persistently depressed |  | 0.81 | 0.10 | -1.73 | 0.64 | 1.03 | 0.084 |

1RRR: Relative Risk Ratio obtained from multinomial logistic regression, using the least symptomatic class as the reference category

2P corr refers to P-value after correction for the 17 independent covariates tested

3LCI and UPC refer to the 95% confidence Interval (CI) of the Relative Risk Ratio (RRR)

Supplementary Table 3: Association of Clinical Correlates with Mania Trajectory Classes

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category** | **Covariate** | **Reference** **Category** | **Trajectory Class** |  | **RRR1** | **SE** | **Z** | **LCI3** | **UCI3** | **P** |
| Demographics | Black Race vs all others | Non-manic | Persistent manic symptoms  | 0.458 | 1.37 | 0.38 | 1.14 | 0.80 | 2.36 | 0.256 |
| Demographics | Black Race vs all others | Non-manic | Improving mania  |  | 1.22 | 0.32 | 0.75 | 0.73 | 2.04 | 0.455 |
| Demographics | Asian Race vs all others | Non-manic | Persistent manic symptoms  | 0.054 | 0.17 | 0.18 | -1.72 | 0.02 | 1.27 | 0.085 |
| Demographics | Asian Race vs all others | Non-manic | Improving mania  |  | 0.69 | 0.33 | -0.78 | 0.27 | 1.75 | 0.433 |
| Demographics | Age | Non-manic | Persistent manic symptoms  | 2.02 x 10-4 | 0.81 | 0.05 | -3.18 | 0.72 | 0.92 | 0.002 |
| Demographics | Age | Non-manic | Improving mania  |  | 0.84 | 0.05 | -2.93 | 0.75 | 0.94 | 0.003 |
| Demographics | Sex (Female) (Y/N) | Non-manic | Persistent manic symptoms  | 0.391 | 1.19 | 0.15 | 1.36 | 0.93 | 1.53 | 0.174 |
| Demographics | Sex (Female) (Y/N) | Non-manic | Improving mania  |  | 1.03 | 0.12 | 0.27 | 0.82 | 1.30 | 0.786 |
| Demographics | Married (Y/N)  | Non-manic | Persistent manic symptoms  | 0.204 | 0.80 | 0.11 | -1.61 | 0.61 | 1.05 | 0.107 |
| Demographics | Married (Y/N) | Non-manic | Improving mania  |  | 0.90 | 0.11 | -0.91 | 0.71 | 1.14 | 0.362 |
| Demographics | Attended College (Y/N) | Non-manic | Persistent manic symptoms  | 4.27 x 10-5 | 0.68 | 0.09 | -2.86 | 0.53 | 0.89 | 0.004 |
| Demographics | Attended College (Y/N) | Non-manic | Improving mania  |  | 0.64 | 0.08 | -3.70 | 0.50 | 0.81 | 2.1 x 10-4 |
| Demographics | Disability/ Unemployed (Y/N) | Non-manic | Persistent manic symptoms  | 0.017 | 1.42 | 0.19 | 2.69 | 1.10 | 1.84 | 0.007 |
| Demographics | Disability/ Unemployed (Y/N) | Non-manic | Improving mania  |  | 1.17 | 0.14 | 1.32 | 0.93 | 1.48 | 0.185 |
| Diagnosis | BD-II vs. BD-I | Non-manic | Persistent manic symptoms  | 0.0156 | 0.65 | 0.10 | -2.75 | 0.48 | 0.88 | 0.006 |
| Diagnosis | BD-II vs. BD-I | Non-manic | Improving mania  |  | 0.90 | 0.12 | -0.78 | 0.70 | 1.17 | 0.433 |
| Diagnosis | BD-NOS vs. BD-I | Non-manic | Persistent manic symptoms  | 0.240 | 0.72 | 0.21 | -1.13 | 0.41 | 1.27 | 0.258 |
| Diagnosis | BD-NOS vs. BD-I | Non-manic | Improving mania  |  | 0.71 | 0.19 | -1.28 | 0.43 | 1.19 | 0.199 |
| Diagnosis | Schizoaffective vs. BD-I | Non-manic | Persistent manic symptoms  | 0.092 | 2.40 | 0.92 | 2.28 | 1.13 | 5.09 | 0.023 |
| Diagnosis | Schizoaffective vs. BD-I | Non-manic | Improving mania  |  | 0.85 | 0.45 | -0.31 | 0.30 | 2.42 | 0.760 |
| Clinical features | Rapid Cycling (Y/N) | Non-manic | Persistent manic symptoms  | 3.41 x 10-25 | 3.81 | 0.54 | 9.44 | 2.89 | 5.03 | 3.6 x 10-21 |
| Clinical features | Rapid Cycling (Y/N) | Non-manic | Improving mania  |  | 2.35 | 0.31 | 6.42 | 1.81 | 3.05 | 1.4 x 10-10 |
| Clinical features | Age of Onset | Non-manic | Persistent manic symptoms  | 6.01 x 10-12 | 0.68 | 0.05 | -4.81 | 0.59 | 0.80 | 1.5 x 10-6 |
| Clinical features | Age of Onset | Non-manic | Improving mania  |  | 0.69 | 0.05 | -5.20 | 0.60 | 0.79 | 2.0 x 10-7 |
| Clinical features | Anxiety Disorder (Y/N) | Non-manic | Persistent manic symptoms  | 4.97 x 10-14 | 2.06 | 0.28 | 5.29 | 1.58 | 2.70 | 1.3 x 10-7 |
| Clinical features | Anxiety Disorder (Y/N) | Non-manic | Improving mania  |  | 2.13 | 0.26 | 6.10 | 1.67 | 2.71 | 1.1 x 10-9 |
| Clinical features | PTSD (Y/N) | Non-manic | Persistent manic symptoms  | 2.15 x 10-11 | 2.09 | 0.31 | 4.99 | 1.57 | 2.80 | 6.1 x 10-7 |
| Clinical features | PTSD (Y/N) | Non-manic | Improving mania  |  | 2.20 | 0.29 | 5.93 | 1.70 | 2.85 | 3.0 x 10-9 |
| Clinical features | Substance abuse/dep (Y/N) | Non-manic | Persistent manic symptoms  | 3.80 x 10-9 | 1.68 | 0.22 | 3.86 | 1.29 | 2.18 | 1.1 x 10-4 |
| Clinical features | Substance abuse/dep (Y/N) | Non-manic | Improving mania  |  | 1.88 | 0.23 | 5.19 | 1.48 | 2.39 | 2.1 x 10-7 |
| Clinical features | Suicide Attempt (Y/N) | Non-manic | Persistent manic symptoms  | 2.43 x 10-5 | 1.63 | 0.21 | 3.77 | 1.27 | 2.11 | 1.6 x 10-4 |
| Clinical features | Suicide Attempt (Y/N) | Non-manic | Improving mania  |  | 1.45 | 0.17 | 3.16 | 1.15 | 1.84 | 0.002 |
| Clinical features | Psychotic symptoms (Y/N) | Non-manic | Persistent manic symptoms  | 0.107 | 1.26 | 0.16 | 1.76 | 0.97 | 1.62 | 0.078 |
| Clinical features | Psychotic symptoms (Y/N) | Non-manic | Improving mania  |  | 0.89 | 0.11 | -0.96 | 0.70 | 1.13 | 0.339 |

1RRR: Relative Risk Ratio obtained from multinomial logistic regression, using the least symptomatic class as the reference category

2P corr refers to P-value after correction for the 17 independent covariates tested

3LCI and UPC refer to the 95% confidence Interval (CI) of the Relative Risk Ratio (RRR)

Supplementary Table 4: Association of Clinical Correlates with Psychosocial Functioning Trajectory Classes

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category** | **Covariate** | **Reference Category** | **Trajectory Class** |  | **RRR1** | **SE** | **Z** | **LCI3** | **UCI3** | **P** |
| Demographics | Black Race vs all others | Unimpaired | Mildly impaired  |  | 0.99 | 0.32 | -0.02 | 0.53 | 1.85 | 0.983 |
| Demographics | Black Race vs all others | Unimpaired | Moderately impaired  | 0.525 | 1.35 | 0.44 | 0.93 | 0.72 | 2.55 | 0.352 |
| Demographics | Black Race vs all others | Unimpaired | Severely impaired  |  | 1.34 | 0.52 | 0.76 | 0.63 | 2.87 | 0.445 |
| Demographics | Asian Race vs all others | Unimpaired | Mildly impaired  |  | 0.51 | 0.17 | -2.02 | 0.27 | 0.98 | 0.044 |
| Demographics | Asian Race vs all others | Unimpaired | Moderately impaired  | 0.016 | 0.30 | 0.13 | -2.82 | 0.13 | 0.69 | 0.005 |
| Demographics | Asian Race vs all others | Unimpaired | Severely impaired  |  | 0.25 | 0.16 | -2.17 | 0.07 | 0.87 | 0.03 |
| Demographics | Age | Unimpaired | Mildly impaired  |  | 0.89 | 0.05 | -1.89 | 0.80 | 1.00 | 0.059 |
| Demographics | Age | Unimpaired | Moderately impaired  | 0.003 | 1.02 | 0.06 | 0.26 | 0.90 | 1.15 | 0.794 |
| Demographics | Age | Unimpaired | Severely impaired  |  | 1.11 | 0.09 | 1.32 | 0.95 | 1.29 | 0.186 |
| Demographics | Sex (Female) (Y/N) | Unimpaired | Mildly impaired  |  | 1.00 | 0.12 | 0.01 | 0.79 | 1.26 | 0.995 |
| Demographics | Sex (Female) (Y/N) | Unimpaired | Moderately impaired  | 0.797 | 0.98 | 0.13 | -0.12 | 0.77 | 1.26 | 0.901 |
| Demographics | Sex (Female) (Y/N) | Unimpaired | Severely impaired  |  | 0.88 | 0.14 | -0.83 | 0.64 | 1.19 | 0.406 |
| Demographics | Married (Y/N) | Unimpaired | Mildly impaired  |  | 0.78 | 0.09 | -2.08 | 0.62 | 0.99 | 0.038 |
| Demographics | Married (Y/N) | Unimpaired | Moderately impaired  | 0.217 | 0.81 | 0.10 | -1.62 | 0.63 | 1.04 | 0.105 |
| Demographics | Married (Y/N) | Unimpaired | Severely impaired  |  | 0.80 | 0.13 | -1.41 | 0.58 | 1.09 | 0.158 |
| Demographics | Attended College (Y/N) | Unimpaired | Mildly impaired  |  | 0.72 | 0.09 | -2.73 | 0.57 | 0.91 | 0.006 |
| Demographics | Attended College (Y/N) | Unimpaired | Moderately impaired  | 6.89 x 10-16 | 0.52 | 0.07 | -5.12 | 0.40 | 0.67 | 3.1 x 10-7 |
| Demographics | Attended College (Y/N) | Unimpaired | Severely impaired  |  | 0.28 | 0.05 | -7.64 | 0.20 | 0.39 | 2.2 x 10-14 |
| Demographics | Disability/Unemployed (Y/N) | Unimpaired | Mildly impaired  |  | 1.60 | 0.22 | 3.50 | 1.23 | 2.09 | 4.6 x 10-4 |
| Demographics | Disability/Unemployed (Y/N) | Unimpaired | Moderately impaired  | 3.44 x 10-28 | 3.04 | 0.43 | 7.91 | 2.31 | 4.01 | 2.7 x 10-15 |
| Demographics | Disability/Unemployed (Y/N) | Unimpaired | Severely impaired  |  | 4.77 | 0.81 | 9.15 | 3.41 | 6.67 | 5.5 x 10-20 |
| Diagnosis | BD-II vs. BD-I | Unimpaired | Mildly impaired  |  | 1.04 | 0.14 | 0.32 | 0.80 | 1.36 | 0.749 |
| Diagnosis | BD-II vs. BD-I | Unimpaired | Moderately impaired  | 0.8916 | 1.10 | 0.16 | 0.69 | 0.83 | 1.46 | 0.493 |
| Diagnosis | BD-II vs. BD-I | Unimpaired | Severely impaired  |  | 1.10 | 0.19 | 0.56 | 0.78 | 1.55 | 0.575 |
| Diagnosis | BD-NOS vs. BD-I | Unimpaired | Mildly impaired  |  | 1.07 | 0.25 | 0.30 | 0.68 | 1.70 | 0.767 |
| Diagnosis | BD-NOS vs. BD-I | Unimpaired | Moderately impaired  | 0.526 | 0.92 | 0.23 | -0.34 | 0.56 | 1.51 | 0.734 |
| Diagnosis | BD-NOS vs. BD-I | Unimpaired | Severely impaired  |  | 0.71 | 0.24 | -0.99 | 0.37 | 1.39 | 0.323 |
| Diagnosis | Schizoaffective vs.BD-I | Unimpaired | Mildly impaired  |  | 0.98 | 0.57 | -0.04 | 0.31 | 3.09 | 0.969 |
| Diagnosis | Schizoaffective vs.BD-I | Unimpaired | Moderately impaired  | 0.889 | 1.36 | 0.81 | 0.52 | 0.42 | 4.37 | 0.604 |
| Diagnosis | Schizoaffective vs.BD-I | Unimpaired | Severely impaired  |  | 1.01 | 0.78 | 0.02 | 0.23 | 4.57 | 0.985 |
| Clinical features | Rapid Cycling (Y/N) | Unimpaired | Mildly impaired  |  | 2.04 | 0.35 | 4.10 | 1.45 | 2.86 | 4.1 x 10-5 |
| Clinical features | Rapid Cycling (Y/N) | Unimpaired | Moderately impaired  | 1.93 x 10-12 | 2.96 | 0.53 | 6.07 | 2.08 | 4.19 | 1.3 x 10-9 |
| Clinical features | Rapid Cycling (Y/N) | Unimpaired | Severely impaired  |  | 3.76 | 0.77 | 6.42 | 2.51 | 5.62 | 1.4 x 10-10 |
| Clinical features | Age of Onset | Unimpaired | Mildly impaired  |  | 0.84 | 0.05 | -3.15 | 0.75 | 0.94 | 1.6 x 10-3 |
| Clinical features | Age of Onset | Unimpaired | Moderately impaired  | 1.56 x 10-7 | 0.70 | 0.04 | -5.51 | 0.62 | 0.80 | 3.5 x 10-8 |
| Clinical features | Age of Onset | Unimpaired | Severely impaired  |  | 0.73 | 0.06 | -3.93 | 0.62 | 0.85 | 8.6 x 10-5 |
| Clinical features | Anxiety Disorder (Y/N) | Unimpaired | Mildly impaired  |  | 1.90 | 0.24 | 5.11 | 1.48 | 2.42 | 3.2 x 10-7 |
| Clinical features | Anxiety Disorder (Y/N) | Unimpaired | Moderately impaired  | 4.88 x 10-26 | 3.27 | 0.44 | 8.84 | 2.51 | 4.25 | 9.9 x 10-19 |
| Clinical features | Anxiety Disorder (Y/N) | Unimpaired | Severely impaired  |  | 4.52 | 0.77 | 8.88 | 3.24 | 6.30 | 6.8 x 10-19 |
| Clinical features | PTSD (Y/N) | Unimpaired | Mildly impaired  |  | 1.78 | 0.35 | 2.97 | 1.22 | 2.61 | 3.0 x 10-3 |
| Clinical features | PTSD (Y/N) | Unimpaired | Moderately impaired  | 1.57 x 10-13 | 2.73 | 0.54 | 5.08 | 1.85 | 4.03 | 3.7 x 10-7 |
| Clinical features | PTSD (Y/N) | Unimpaired | Severely impaired  |  | 4.44 | 0.97 | 6.82 | 2.89 | 6.82 | 9.2 x 10-12 |
| Clinical features | Substance abuse/dep (Y/N) | Unimpaired | Mildly impaired  |  | 1.54 | 0.19 | 3.54 | 1.21 | 1.96 | 4.0 x 10-4 |
| Clinical features | Substance abuse/dep (Y/N) | Unimpaired | Moderately impaired  | 3.98 x 10-9 | 2.12 | 0.28 | 5.74 | 1.64 | 2.73 | 9.5 x 10-9 |
| Clinical features | Substance abuse/dep (Y/N) | Unimpaired | Severely impaired  |  | 2.28 | 0.37 | 5.09 | 1.66 | 3.13 | 3.6 x 10-7 |
| Clinical features | Suicide Attempt (Y/N) | Unimpaired | Mildly impaired  |  | 2.18 | 0.32 | 5.32 | 1.64 | 2.91 | 1.1 x 10-7 |
| Clinical features | Suicide Attempt (Y/N) | Unimpaired | Moderately impaired  | 1.31 x 10-19 | 2.91 | 0.44 | 7.01 | 2.16 | 3.92 | 2.5 x 10-12 |
| Clinical features | Suicide Attempt (Y/N) | Unimpaired | Severely impaired  |  | 4.70 | 0.84 | 8.66 | 3.31 | 6.67 | 4.8 x 10-18 |
| Clinical features | Psychotic symptoms (Y/N) | Unimpaired | Mildly impaired  |  | 0.78 | 0.09 | -2.09 | 0.61 | 0.98 | 0.036 |
| Clinical features | Psychotic symptoms (Y/N) | Unimpaired | Moderately impaired  | 0.055 | 0.70 | 0.09 | -2.74 | 0.54 | 0.90 | 0.006 |
| Clinical features | Psychotic symptoms (Y/N) | Unimpaired | Severely impaired  |  | 0.81 | 0.13 | -1.31 | 0.59 | 1.11 | 0.191 |

1RRR: Relative Risk Ratio obtained from multinomial logistic regression, using the least symptomatic class as the reference category

2P corr refers to P-value after correction for the 17 independent covariates tested

3LCI and UPC refer to the 95% confidence Interval (CI) of the Relative Risk Ratio (RRR)

Supplementary Table 5: Association of Clinical Correlates with Multi-variate Trajectory Classes

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category** | **Covariate** | **Reference Category** | **Trajectory Class** |  | **RRR1** | **SE** | **Z** | **LCI3** | **UCI3** | **P** |
| Demographics | Black Race vs all others | Minimally symptomatic | Persistent mod depression |  | 1.23 | 0.31 | 0.83 | 0.75 | 2.01 | 0.408 |
| Demographics | Black Race vs all others | Minimally symptomatic | Persistent mixed symptoms | 0.055 | 2.00 | 0.78 | 2.86 | 1.33 | 4.59 | 0.004 |
| Demographics | Black Race vs all others | Minimally symptomatic | Persistent depression |  | 1.36 | 0.43 | 0.96 | 0.73 | 2.53 | 0.339 |
| Demographics | Asian Race vs all others | Minimally symptomatic | Persistent mod depression |  | 0.44 | 0.14 | -2.56 | 0.24 | 0.83 | 0.010 |
| Demographics | Asian Race vs all others | Minimally symptomatic | Persistent mixed symptoms | 0.004 | 0.27 | 0.20 | -1.77 | 0.06 | 1.15 | 0.076 |
| Demographics | Asian Race vs all others | Minimally symptomatic | Persistent depression |  | 0.24 | 0.14 | -2.36 | 0.07 | 0.78 | 0.018 |
| Demographics | Age | Minimally symptomatic | Persistent mod depression |  | 0.95 | 0.04 | -1.03 | 0.87 | 1.04 | 0.305 |
| Demographics | Age | Minimally symptomatic | Persistent mixed symptoms | 0.000 | 0.75 | 0.06 | -3.68 | 0.65 | 0.88 | 2.3 x 10-4 |
| Demographics | Age | Minimally symptomatic | Persistent depression |  | 1.07 | 0.07 | 1.16 | 0.95 | 1.21 | 0.246 |
| Demographics | Sex (Female) (Y/N) | Minimally symptomatic | Persistent mod depression |  | 1.12 | 0.11 | 1.20 | 0.93 | 1.35 | 0.230 |
| Demographics | Sex (Female) (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 0.153 | 1.28 | 0.20 | 1.63 | 0.95 | 1.73 | 0.103 |
| Demographics | Sex (Female) (Y/N) | Minimally symptomatic | Persistent depression |  | 0.92 | 0.12 | -0.69 | 0.72 | 1.17 | 0.487 |
| Demographics | Married (Y/N) | Minimally symptomatic | Persistent mod depression |  | 0.87 | 0.08 | -1.44 | 0.72 | 1.05 | 0.149 |
| Demographics | Married (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 0.006 | 0.59 | 0.10 | -3.27 | 0.43 | 0.81 | 0.001 |
| Demographics | Married (Y/N) | Minimally symptomatic | Persistent depression |  | 0.78 | 0.10 | -1.93 | 0.60 | 1.00 | 0.054 |
| Demographics | Attended College (Y/N) | Minimally symptomatic | Persistent mod depression |  | 0.65 | 0.06 | -4.61 | 0.54 | 0.78 | 4.0 x 10-6 |
| Demographics | Attended College (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 1.43 x 10-13 | 0.54 | 0.08 | -4.05 | 0.40 | 0.73 | 5.2 x 10-5 |
| Demographics | Attended College (Y/N) | Minimally symptomatic | Persistent depression |  | 0.38 | 0.05 | -7.27 | 0.29 | 0.50 | 3.7 x 10-13 |
| Demographics | Disability/Unemployed (Y/N) | Minimally symptomatic | Persistent mod depression |  | 1.91 | 0.19 | 6.50 | 1.57 | 2.32 | 8.1 x 10-11 |
| Demographics | Disability/Unemployed (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 9.77 x 10-20 | 2.23 | 0.35 | 5.13 | 1.64 | 3.02 | 2.9 x 10-7 |
| Demographics | Disability/Unemployed (Y/N) | Minimally symptomatic | Persistent depression |  | 3.09 | 0.41 | 8.59 | 2.39 | 4.00 | 8.6 x 10-18 |
| Diagnosis | BD-II vs. BD-I | Minimally symptomatic | Persistent mod depression |  | 1.37 | 0.14 | 3.01 | 1.12 | 1.69 | 0.003 |
| Diagnosis | BD-II vs. BD-I | Minimally symptomatic | Persistent mixed symptoms | 2.83 x 10-28 | 0.97 | 0.17 | -0.18 | 0.69 | 1.37 | 0.858 |
| Diagnosis | BD-II vs. BD-I | Minimally symptomatic | Persistent depression |  | 1.40 | 0.19 | 2.44 | 1.07 | 1.84 | 0.015 |
| Diagnosis | BD-NOS vs. BD-I | Minimally symptomatic | Persistent mod depression |  | 0.90 | 0.17 | -0.55 | 0.62 | 1.30 | 0.584 |
| Diagnosis | BD-NOS vs. BD-I | Minimally symptomatic | Persistent mixed symptoms | 6.63 x 10-14 | 0.76 | 0.25 | -0.83 | 0.40 | 1.44 | 0.405 |
| Diagnosis | BD-NOS vs. BD-I | Minimally symptomatic | Persistent depression |  | 0.98 | 0.24 | -0.09 | 0.60 | 1.59 | 0.928 |
| Diagnosis | Schizoaffective vs.BD-I | Minimally symptomatic | Persistent mod depression |  | 1.23 | 0.55 | 0.47 | 0.52 | 2.94 | 0.635 |
| Diagnosis | Schizoaffective vs.BD-I | Minimally symptomatic | Persistent mixed symptoms | 8.42 x 10-44 | 2.22 | 1.25 | 1.41 | 0.74 | 6.68 | 0.157 |
| Diagnosis | Schizoaffective vs.BD-I | Minimally symptomatic | Persistent depression |  | 0.55 | 0.43 | -0.76 | 0.12 | 2.56 | 0.447 |
| Clinical features | Rapid Cycling (Y/N) | Minimally symptomatic | Persistent mod depression |  | 2.44 | 0.31 | 6.97 | 1.90 | 3.14 | 3.1 x 10-12 |
| Clinical features | Rapid Cycling (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 4.84 x 10-24 | 6.11 | 1.10 | 10.0 | 4.29 | 8.71 | 9.7 x 10-24 |
| Clinical features | Rapid Cycling (Y/N) | Minimally symptomatic | Persistent depression |  | 3.48 | 0.56 | 7.77 | 2.54 | 4.76 | 8.0 x 10-15 |
| Clinical features | Age of Onset | Minimally symptomatic | Persistent mod depression |  | 0.77 | 0.04 | -5.35 | 0.70 | 0.85 | 9.0 x 10-8 |
| Clinical features | Age of Onset | Minimally symptomatic | Persistent mixed symptoms | 9.91 x 10-13 | 0.56 | 0.05 | -6.18 | 0.46 | 0.67 | 6.4 x 10-10 |
| Clinical features | Age of Onset | Minimally symptomatic | Persistent depression |  | 0.73 | 0.05 | -4.52 | 0.64 | 0.84 | 6.3 x 10-6 |
| Clinical features | Anxiety Disorder (Y/N) | Minimally symptomatic | Persistent mod depression |  | 2.49 | 0.24 | 9.38 | 2.06 | 3.02 | 6.3 x 10-21 |
| Clinical features | Anxiety Disorder (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 2.15 x 10-23 | 5.04 | 0.85 | 9.63 | 3.63 | 7.01 | 5.8 x 10-22 |
| Clinical features | Anxiety Disorder (Y/N) | Minimally symptomatic | Persistent depression |  | 4.51 | 0.62 | 10.9 | 3.44 | 5.91 | 8.7 x 10-28 |
| Clinical features | PTSD (Y/N) | Minimally symptomatic | Persistent mod depression |  | 2.27 | 0.32 | 5.73 | 1.71 | 3.00 | 1.0 x 10-8 |
| Clinical features | PTSD (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 1.95 x 10-4 | 5.20 | 0.96 | 8.94 | 3.62 | 7.46 | 3.9 x 10-19 |
| Clinical features | PTSD (Y/N) | Minimally symptomatic | Persistent depression |  | 3.96 | 0.66 | 8.26 | 2.86 | 5.48 | 1.4 x 10-16 |
| Clinical features | Substance abuse/dep (Y/N) | Minimally symptomatic | Persistent mod depression |  | 1.50 | 0.14 | 4.24 | 1.24 | 1.80 | 2.2 x 10-5 |
| Clinical features | Substance abuse/dep (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 0.005 | 2.84 | 0.45 | 6.55 | 2.08 | 3.89 | 5.9 x 10-11 |
| Clinical features | Substance abuse/dep (Y/N) | Minimally symptomatic | Persistent depression |  | 1.91 | 0.25 | 5.00 | 1.48 | 2.46 | 5.9 x 10-7 |
| Clinical features | Suicide Attempt (Y/N) | Minimally symptomatic | Persistent mod depression |  | 2.05 | 0.21 | 6.87 | 1.67 | 2.51 | 6.5 x 10-12 |
| Clinical features | Suicide Attempt (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 0.833 | 3.26 | 0.51 | 7.48 | 2.39 | 4.43 | 7.2 x 10-14 |
| Clinical features | Suicide Attempt (Y/N) | Minimally symptomatic | Persistent depression |  | 3.16 | 0.42 | 8.59 | 2.43 | 4.11 | 8.6 x 10-18 |
| Clinical features | Psychotic symptoms (Y/N) | Minimally symptomatic | Persistent mod depression |  | 0.67 | 0.06 | -4.19 | 0.55 | 0.81 | 2.8 x 10-5 |
| Clinical features | Psychotic symptoms (Y/N) | Minimally symptomatic | Persistent mixed symptoms | 0.340 | 0.87 | 0.13 | -0.88 | 0.65 | 1.18 | 0.379 |
| Clinical features | Psychotic symptoms (Y/N) | Minimally symptomatic | Persistent depression |  | 0.70 | 0.09 | -2.76 | 0.54 | 0.90 | 0.006 |

1RRR: Relative Risk Ratio obtained from multinomial logistic regression, using the least symptomatic class as the reference category

2P corr refers to P-value after correction for the 17 independent covariates tested

3LCI and UPC refer to the 95% confidence Interval (CI) of the Relative Risk Ratio (RRR)