Supplementary Materials

Stability of centrality indices. We evaluated the stability of the centrality indices by using the *R* package *bootnet* (Epskamp et al., 2017) by implementing a subset bootstrap procedure (Costenbader & Valente, 2003). To do so, we repeatedly correlated centrality metrics of the original dataset with centrality metrics calculated from a subsample of participants missing via person-dropping bootstraps as implemented. If correlation values decline substantially as participants are removed, then this centrality index would be considered as less stable. We set the bootstraps to 1,000 and plotted the centrality stability correlation coefficient (CS-coefficient) to quantify the effects of this person-dropping procedure. The CS-coefficient represents the maximum proportion of participants that can be dropped while maintaining 95% probability that the correlation between centrality metrics from the full data set and the subset data are at least .70. A minimum CS-coefficient of .25 is recommended for interpreting centrality indices (Epskamp et al., 2017).

Costenbader, E., & Valente, T. W. (2003). The stability of centrality measures when networks are sampled. *Social Networks, 25*(4), 283-307. doi:10.1016/S0378-8733(03)00012-1

Epskamp, S., Borsboom, D., & Fried, E. I. (2017). Estimating psychological networks and their accuracy: A tutorial paper. *Behavior Research Methods*. doi:10.3758/s13428-017-0862-1

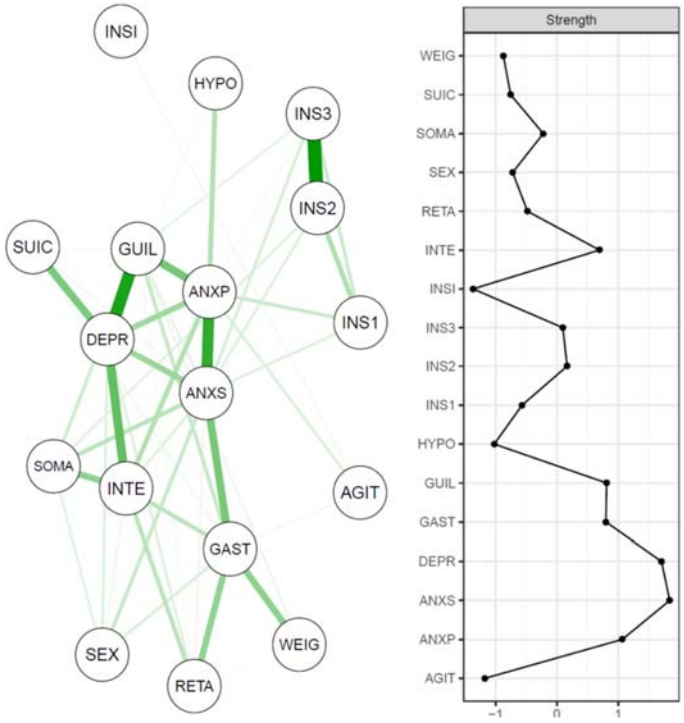

Figure S1. Baseline symptom network and strength centrality indices for the whole sample. Nodes represent HRSD scores at baseline. Label descriptions: DEPR = depressed mood; GUIL = self-depreciation and guilt feelings; SUIC = suicidal impulses; INS1 = early insomnia; INS2 = middle insomnia; INS3 = late insomnia; INTE = work and interests; RETA = psychomotor retardation; AGIT = psychomotor agitation; ANXP = anxiety (psychic); ANXS = anxiety (somatic); GAST = gastro-intestinal symptoms; SOMA = somatic symptoms; SEX = sexual interest; HYPO = hypochondriasis; INSI = loss of insight; WEIG = weight loss. Associations are indicated by edge thickness between nodes (thicker edge = stronger association).

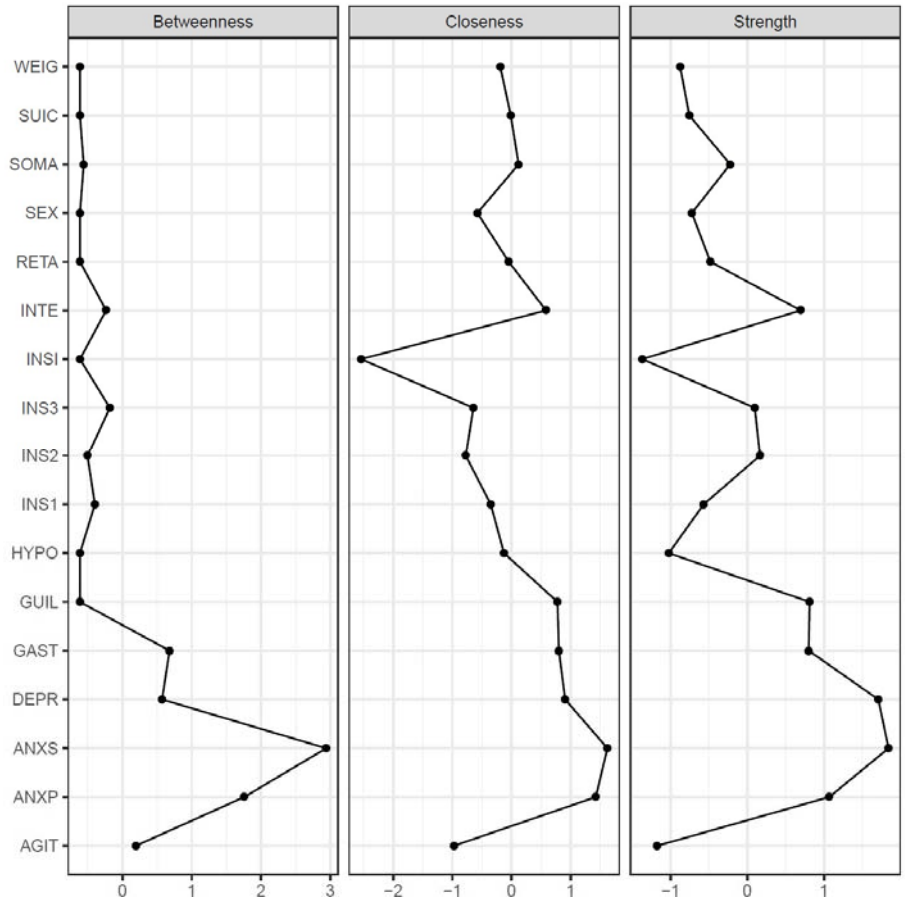

Figure S2. Centrality indices for baseline symptom network. Label descriptions: DEPR = depressed mood; GUIL = self-depreciation and guilt feelings; SUIC = suicidal impulses; INS1 = early insomnia; INS2 = middle insomnia; INS3 = late insomnia; INTE = work and interests; RETA = psychomotor retardation; AGIT = psychomotor agitation; ANXP = anxiety (psychic); ANXS = anxiety (somatic); GAST = gastro-intestinal symptoms; SOMA = somatic symptoms; SEX = sexual interest; HYPO = hypochondriasis; INSI = loss of insight; WEIG = weight loss.

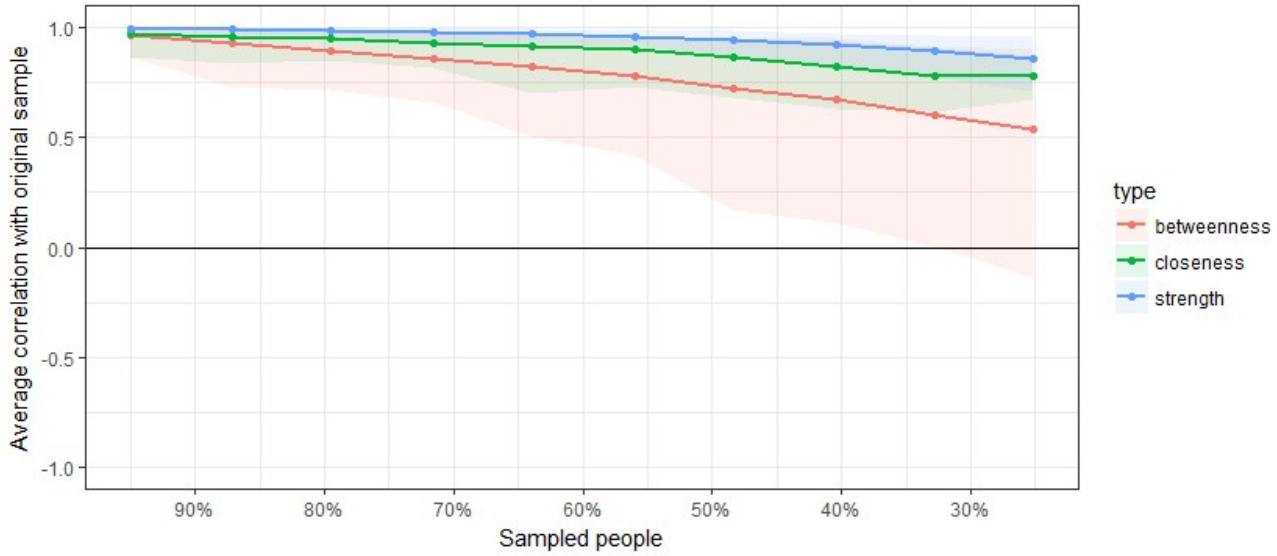

Figure S3. Stability analysis (person-drop) for the baseline symptom network.

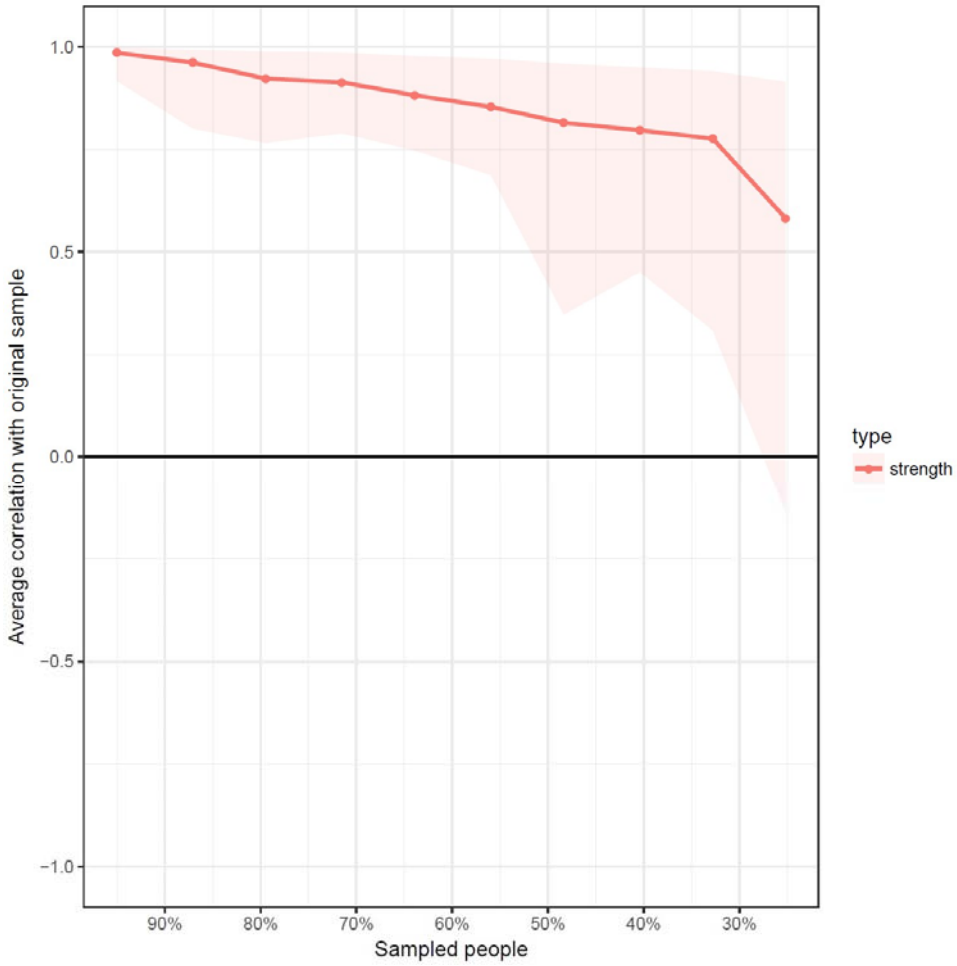

Figure S4. Stability analysis (person-drop) for the symptom change network.

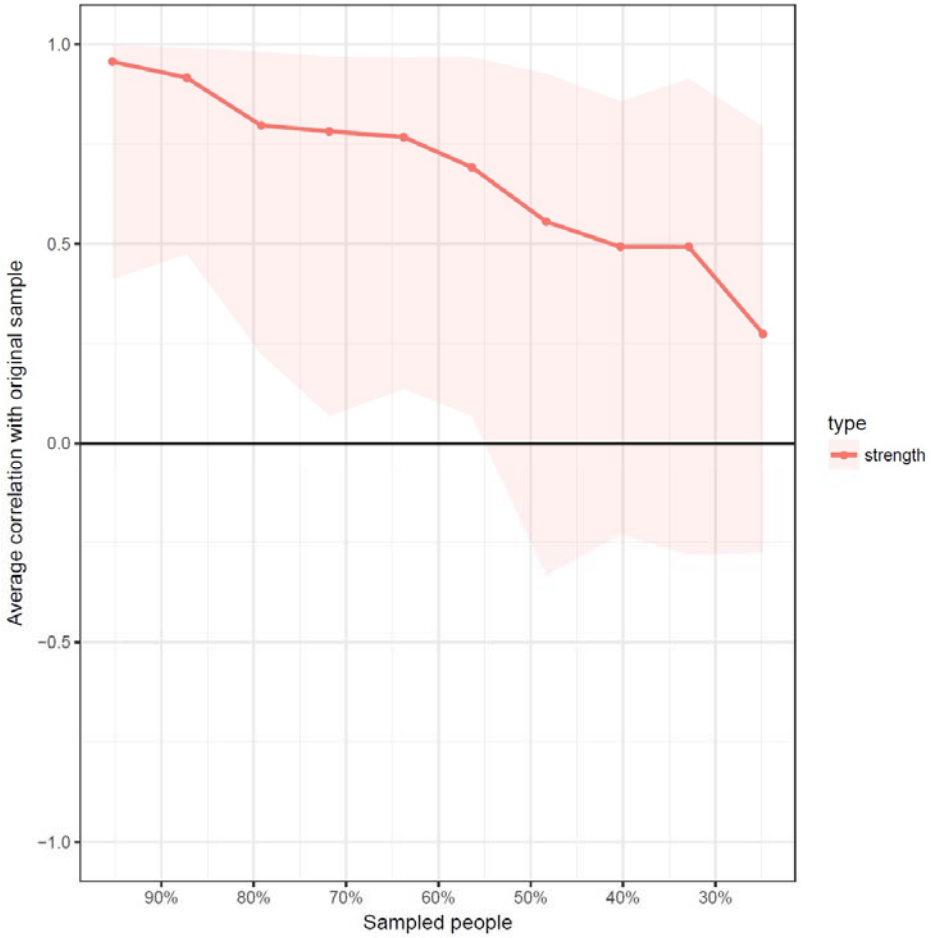

Figure S5. Stability analysis (person-drop) for the symptom change network in the control group.

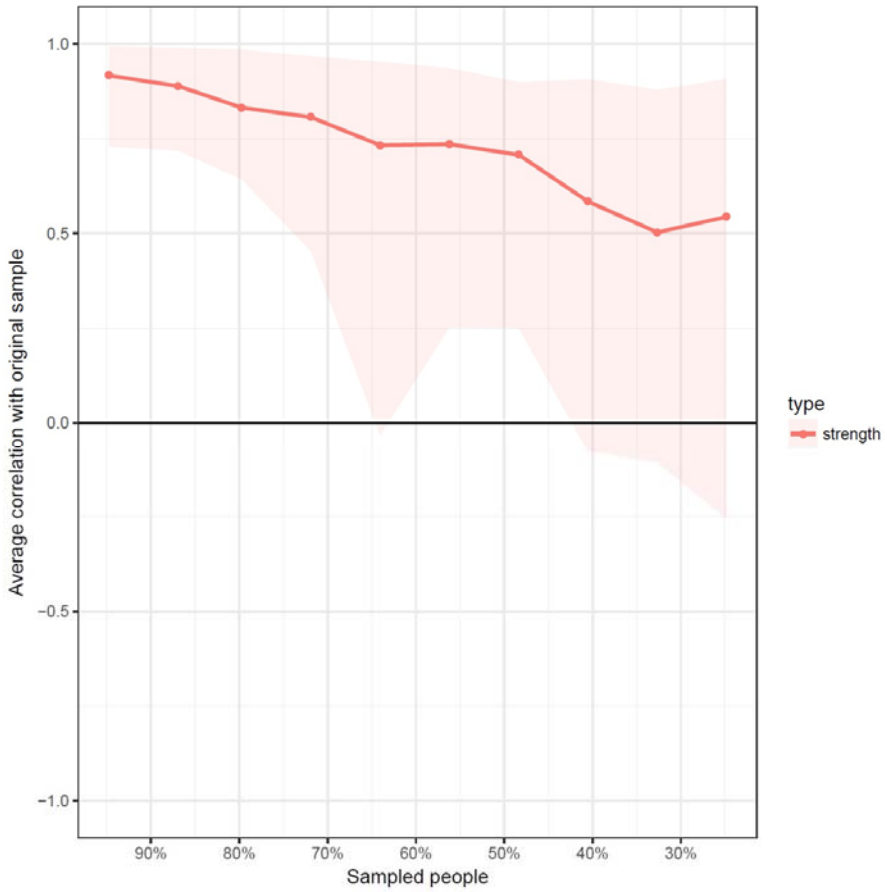

Figure S6. Stability analysis (person-drop) for the symptom change network in the training group.

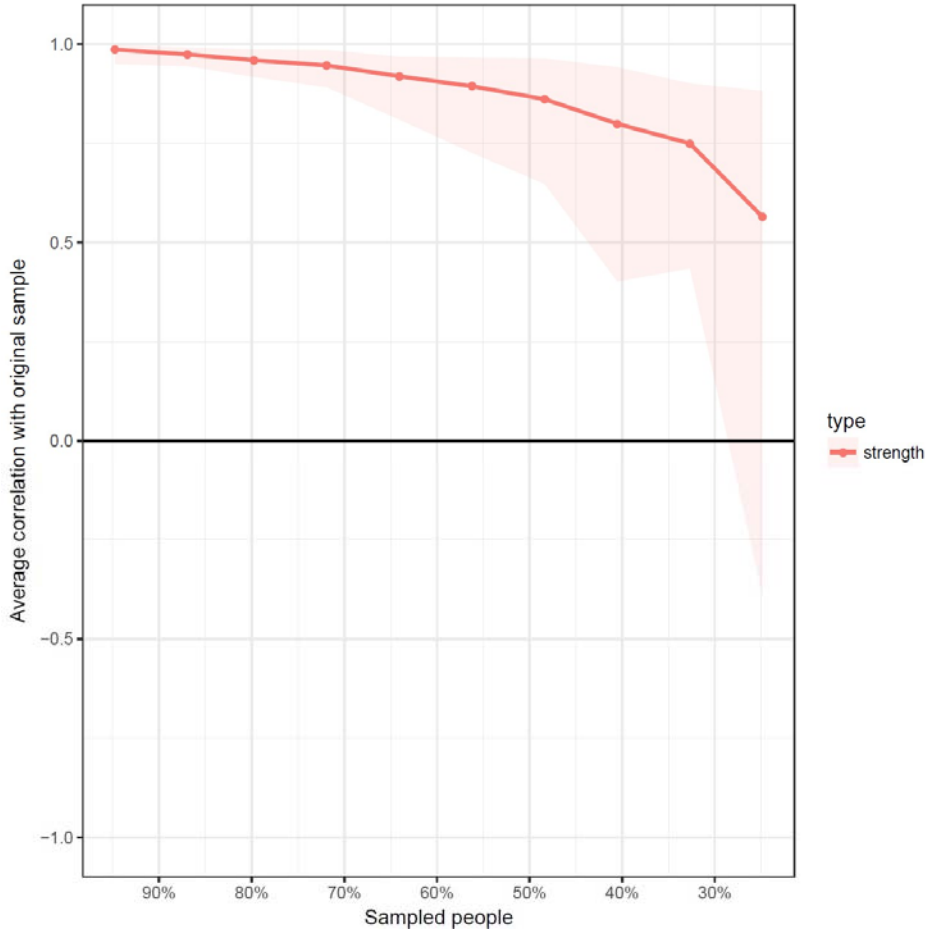

Figure S7. Stability analysis (person-drop) for the post ABM network in the training group.

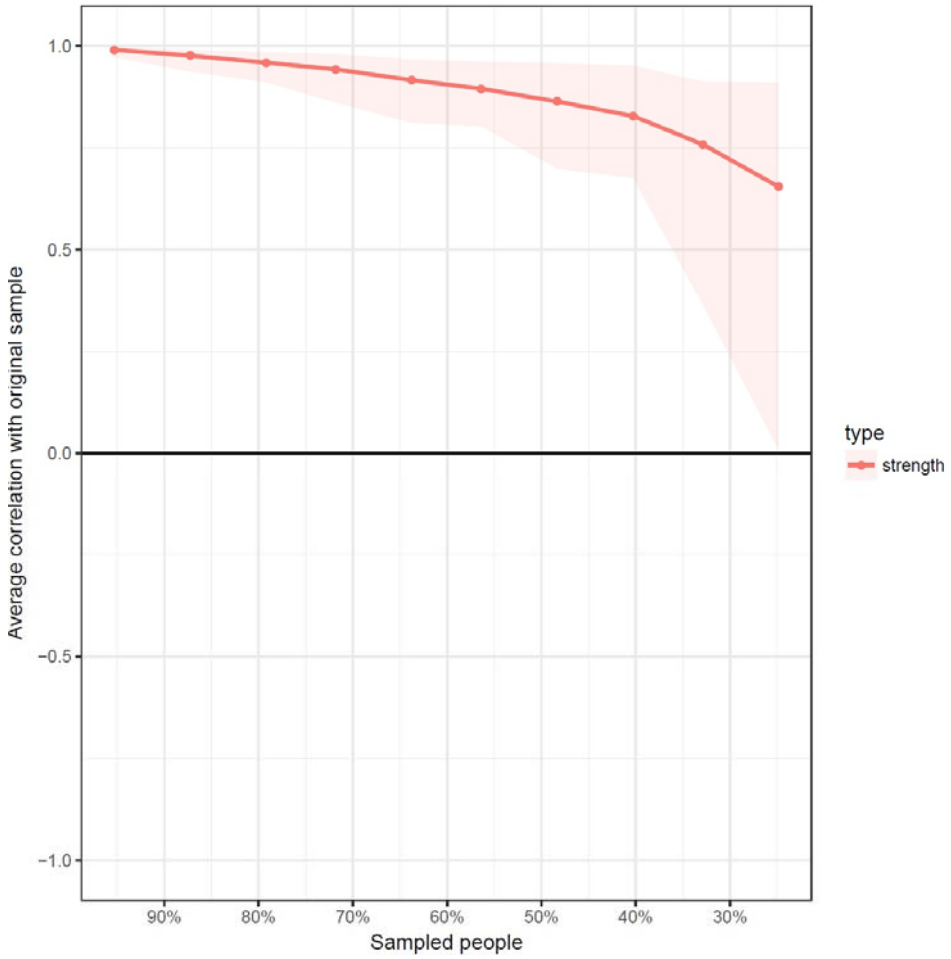

Figure S8. Stability analysis (person-drop) for the post ABM network in the control group.

Measurement of attentional bias

Attentional bias was measured at baseline and after two weeks of ABM using a standard visual probe procedure (MacLeod, Rutherford, Campbell, Ebsworthy, & Holker, 2002) consisting of 96 trials, with the same trial types as used in the ABM procedure. Novel facial stimuli were used in the assessment tasks. We calculated a total attentional bias score, and three valence-specific attentional bias scores based on the difference in reaction between trials in which the probe replaced the relatively more 1) negative face vs. the more positive face, 2) neutral face vs. the more positive face, 3) negative face vs. the more neutral face.

MacLeod, C., Rutherford, E., Campbell, L., Ebsworthy, G., & Holker, L. (2002). Selective attention and emotional vulnerability: Assessing the causal basis of their association through the experimental manipulation of attentional bias. *Journal of abnormal psychology, 111*(1). doi:10.1037/0021-843X.111.1.107 11866165

Associations between changes in specific attentional bias measures and symptom changes

We conducted additional analyses to explore the specific contribution of attentional bias (AB) changes to symptom changes. First, we examined the contribution of total AB change on symptom changes (*Figure S9*). Second, we examined each valence-specific AB index separately (*Figure S10-12*). Third, to control for the general covariance among AB measures (i.e., general reaction time pre-post changes), we included all three AB change indices together (*Figure S13*). Finally, in an effort to delineate to what extent AB changes specifically resulting from the ABM intervention interplay with symptom changes, we also examined the role of valence-specific AB changes in the ABM training group only (*Figure S14*). Overall, the results suggest that only attentional bias for positive vs. negative was related to changes in symptom from pre to post ABM. However, when considering the ABM group only (*Figure S14*), there were no edges appearing between attentional bias changes and symptoms. However, the small sample size (n = 153) greatly reduces sensitivity to detect edges.

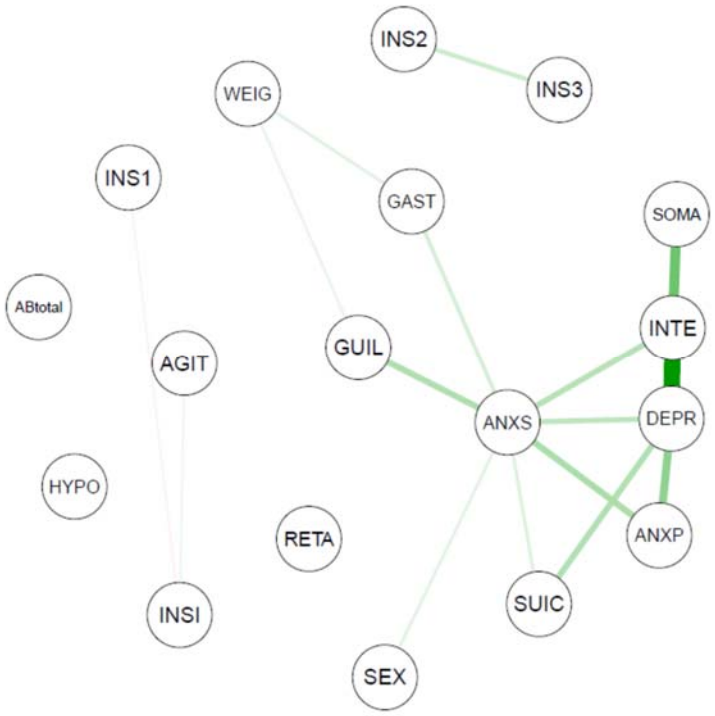

Figure S9. Symptom change network for the whole sample. ABtotal = changes in attentional bias (total) from pre to post ABM. Symptom nodes represent symptom severity changes on each HRSD item from baseline to post ABM (post minus baseline). Label descriptions: DEPR = depressed mood; GUIL = self-depreciation and guilt feelings; SUIC = suicidal impulses; INS1 = early insomnia; INS2 = middle insomnia; INS3 = late insomnia; INTE = work and interests; RETA = psychomotor retardation; AGIT = psychomotor agitation; ANXP = anxiety (psychic); ANXS = anxiety (somatic); GAST = gastro-intestinal symptoms; SOMA = somatic symptoms; SEX = sexual interest; HYPO = hypochondriasis; INSI = loss of insight; WEIG = weight loss. Associations are indicated by edge thickness between nodes (thicker edge = stronger association).

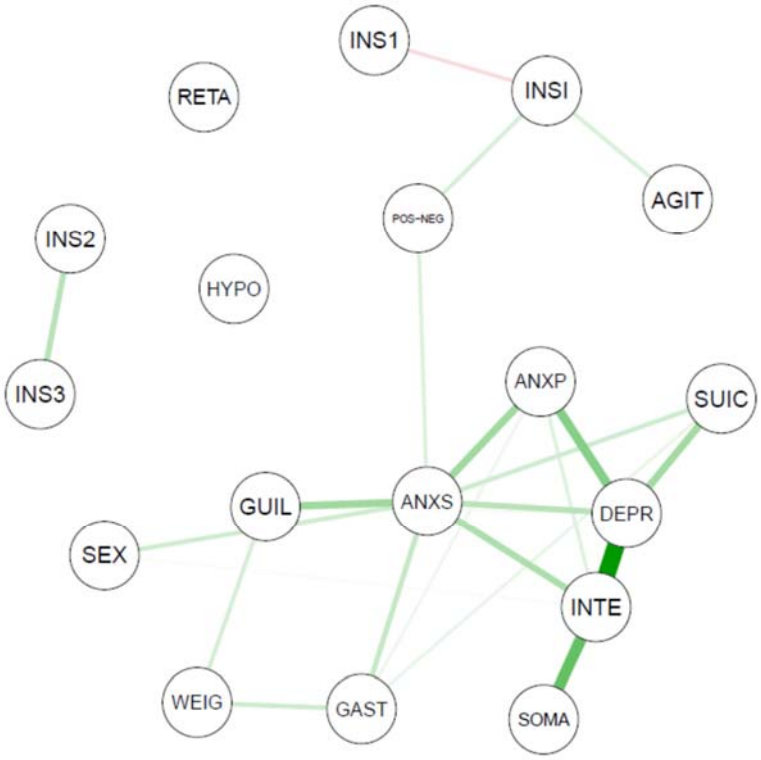

Figure S10. Symptom change network for the whole sample. pos-neg = changes in attentional bias for positive vs. negative stimuli from pre to post ABM. Symptom nodes represent symptom severity changes on each HRSD item from baseline to post ABM (post minus baseline). Label descriptions: DEPR = depressed mood; GUIL = self-depreciation and guilt feelings; SUIC = suicidal impulses; INS1 = early insomnia; INS2 = middle insomnia; INS3 = late insomnia; INTE = work and interests; RETA = psychomotor retardation; AGIT = psychomotor agitation; ANXP = anxiety (psychic); ANXS = anxiety (somatic); GAST = gastro-intestinal symptoms; SOMA = somatic symptoms; SEX = sexual interest; HYPO = hypochondriasis; INSI = loss of insight; WEIG = weight loss. Associations are indicated by edge thickness between nodes (thicker edge = stronger association).

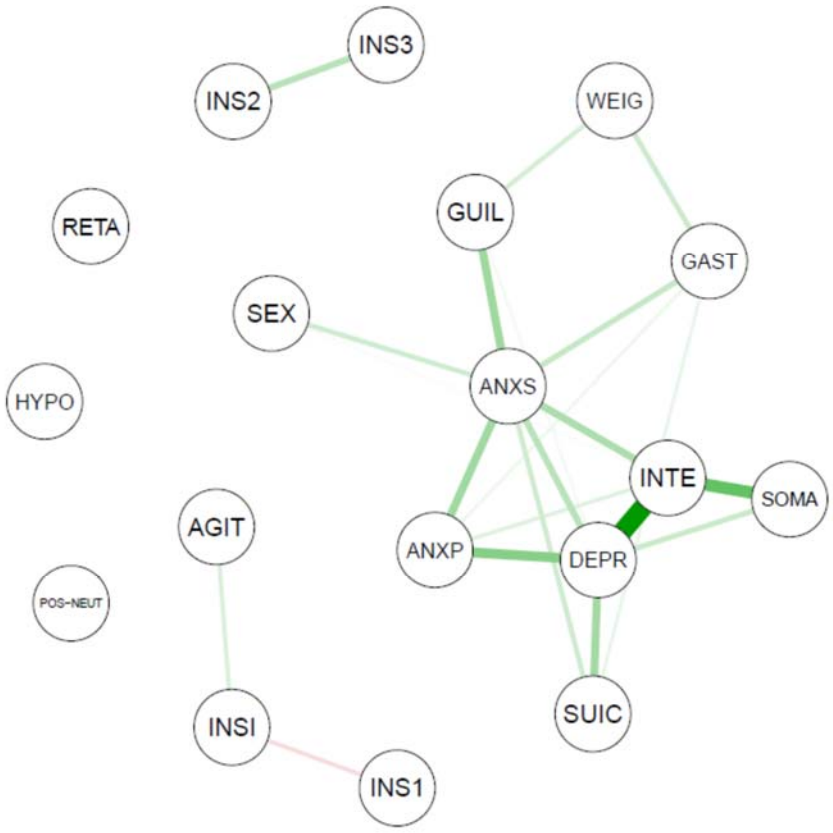

Figure S11. Symptom change network for the whole sample. pos-neut = changes in attentional bias for positive vs. neutral stimuli from pre to post ABM. Symptom nodes represent symptom severity changes on each HRSD item from baseline to post ABM (post minus baseline). Label descriptions: DEPR = depressed mood; GUIL = self-depreciation and guilt feelings; SUIC = suicidal impulses; INS1 = early insomnia; INS2 = middle insomnia; INS3 = late insomnia; INTE = work and interests; RETA = psychomotor retardation; AGIT = psychomotor agitation; ANXP = anxiety (psychic); ANXS = anxiety (somatic); GAST = gastro-intestinal symptoms; SOMA = somatic symptoms; SEX = sexual interest; HYPO = hypochondriasis; INSI = loss of insight; WEIG = weight loss. Associations are indicated by edge thickness between nodes (thicker edge = stronger association).

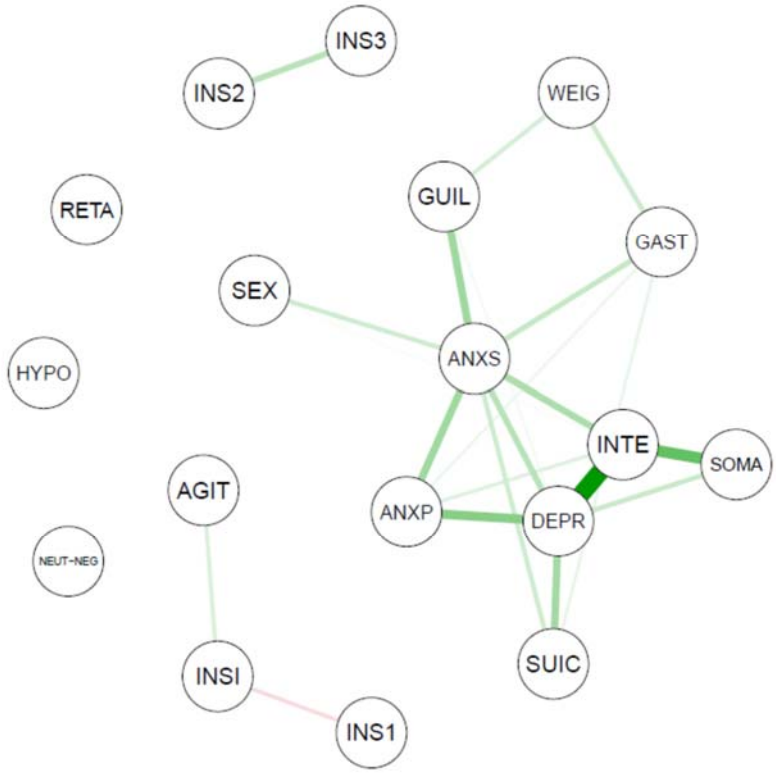

Figure S12. Symptom change network for the whole sample. neut-neg = changes in attentional bias for neutral vs. negative stimuli from pre to post ABM. Symptom nodes represent symptom severity changes on each HRSD item from baseline to post ABM (post minus baseline). Label descriptions: DEPR = depressed mood; GUIL = self-depreciation and guilt feelings; SUIC = suicidal impulses; INS1 = early insomnia; INS2 = middle insomnia; INS3 = late insomnia; INTE = work and interests; RETA = psychomotor retardation; AGIT = psychomotor agitation; ANXP = anxiety (psychic); ANXS = anxiety (somatic); GAST = gastro-intestinal symptoms; SOMA = somatic symptoms; SEX = sexual interest; HYPO = hypochondriasis; INSI = loss of insight; WEIG = weight loss. Associations are indicated by edge thickness between nodes (thicker edge = stronger association).

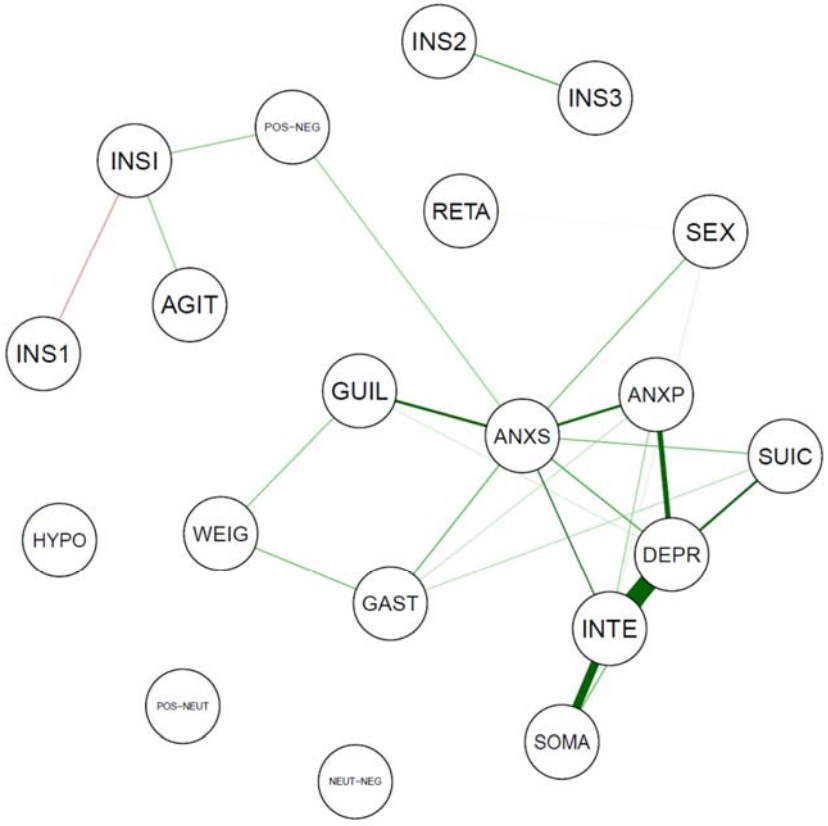

Figure S13. Symptom change network for the whole sample with three attentional bias change measures. pos-neg/pos-neut/neut-neg = changes in attentional bias for positive vs. negative/neutral or neutral vs. negative, stimuli from pre to post ABM. Symptom nodes represent symptom severity changes on each HRSD item from baseline to post ABM (post minus baseline). Label descriptions: DEPR = depressed mood; GUIL = self-depreciation and guilt feelings; SUIC = suicidal impulses; INS1 = early insomnia; INS2 = middle insomnia; INS3 = late insomnia; INTE = work and interests; RETA = psychomotor retardation; AGIT = psychomotor agitation; ANXP = anxiety (psychic); ANXS = anxiety (somatic); GAST = gastro-intestinal symptoms; SOMA = somatic symptoms; SEX = sexual interest; HYPO = hypochondriasis; INSI = loss of insight; WEIG = weight loss. Associations are indicated by edge thickness between nodes (thicker edge = stronger association).

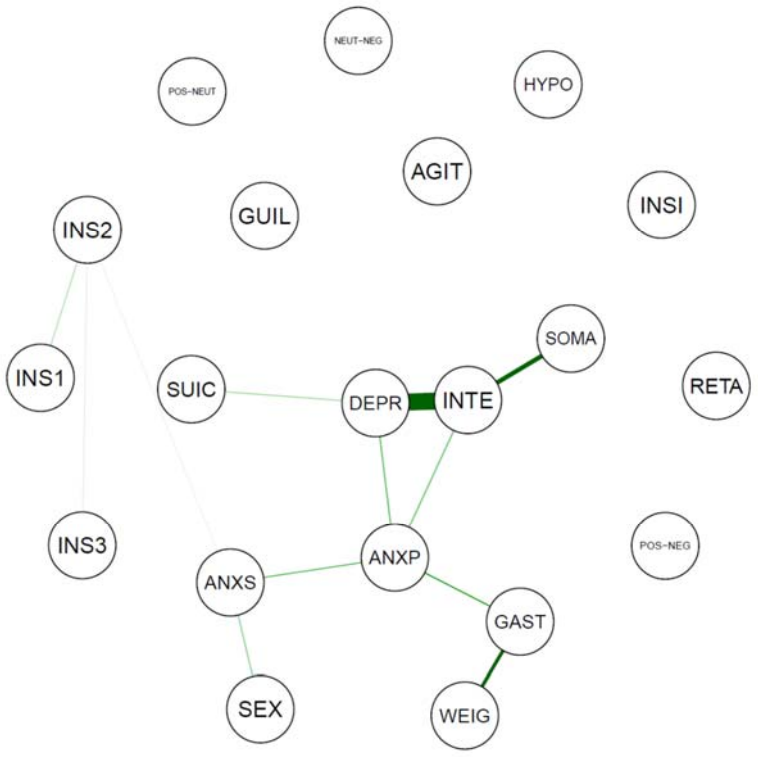

Figure S14. Symptom change network in the ABM group (n = 153) with three attentional bias change measures. pos-neg/pos-neut/neut-neg = changes in attentional bias for positive vs. negative/neutral or neutral vs. negative, stimuli from pre to post ABM. Symptom nodes represent symptom severity changes on each HRSD item from baseline to post ABM (post minus baseline). Label descriptions: DEPR = depressed mood; GUIL = self-depreciation and guilt feelings; SUIC = suicidal impulses; INS1 = early insomnia; INS2 = middle insomnia; INS3 = late insomnia; INTE = work and interests; RETA = psychomotor retardation; AGIT = psychomotor agitation; ANXP = anxiety (psychic); ANXS = anxiety (somatic); GAST = gastro-intestinal symptoms; SOMA = somatic symptoms; SEX = sexual interest; HYPO = hypochondriasis; INSI = loss of insight; WEIG = weight loss. Associations are indicated by edge thickness between nodes (thicker edge = stronger association).