## Supplemental Online Materials

Table S1. Unconstrained polychoric correlations at wave one (above the diagonal) and wave two (below the diagonal).

| PHQ1 PHQ2 PHQ3 PHQ4 PHQ5 PHQ6 PHQ7 PHQ8 PHQ9 GAD1 GAD2 GAD3 GAD4 GAD5 GAD6 GAD7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PHQ1 |  | 0.80 | 0.62 | 0.70 | 0.55 | 0.69 | 0.65 | 0.64 | 0.65 | 0.48 | 0.60 | 0.59 | 0.57 | 0.51 | 0.59 | 0.51 |
| PHQ2 | 0.84 | - | 0.63 | 0.65 | 0.57 | 0.76 | 0.63 | 0.66 | 0.78 | 0.59 | 0.68 | 0.67 | 0.59 | 0.54 | 0.63 | 0.62 |
| PHQ3 | 0.63 | 0.54 | - | 0.75 | 0.57 | 0.55 | 0.54 | 0.49 | 0.44 | 0.54 | 0.62 | 0.56 | 0.58 | 0.54 | 0.52 | 0.47 |
| PHQ4 | 0.77 | 0.66 | 0.72 |  | 0.62 | 0.56 | 0.62 | 0.53 | 0.49 | 0.53 | 0.56 | 0.59 | 0.58 | 0.43 | 0.59 | 0.41 |
| PHQ5 | 0.63 | 0.60 | 0.59 | 0.66 | - | 0.57 | 0.58 | 0.54 | 0.47 | 0.36 | 0.43 | 0.50 | 0.40 | 0.42 | 0.50 | 0.46 |
| PHQ6 | 0.68 | 0.79 | 0.47 | 0.58 | 0.64 | - | 0.59 | 0.59 | 0.74 | 0.60 | 0.65 | 0.66 | 0.56 | 0.52 | 0.56 | 0.62 |
| PHQ7 | 0.69 | 0.63 | 0.63 | 0.69 | 0.61 | 0.60 | - | 0.64 | 0.55 | 0.48 | 0.55 | 0.57 | 0.60 | 0.60 | 0.61 | 0.46 |
| PHQ8 | 0.72 | 0.66 | 0.58 | 0.62 | 0.61 | 0.59 | 0.72 |  | 0.69 | 0.47 | 0.51 | 0.51 | 0.49 | 0.62 | 0.55 | 0.52 |
| PHQ9 | 0.68 | 0.77 | 0.51 | 0.57 | 0.47 | 0.79 | 0.58 | 0.61 | - | 0.51 | 0.54 | 0.57 | 0.46 | 0.44 | 0.43 | 0.52 |
| GAD1 | 0.51 | 0.63 | 0.53 | 0.56 | 0.43 | 0.56 | 0.54 | 0.56 | 0.56 | - | 0.77 | 0.72 | 0.69 | 0.61 | 0.49 | 0.61 |
| GAD2 | 0.61 | 0.70 | 0.56 | 0.56 | 0.48 | 0.64 | 0.58 | 0.56 | 0.59 | 0.81 | - | 0.91 | 0.73 | 0.60 | 0.53 | 0.71 |
| GAD3 | 0.63 | 0.68 | 0.51 | 0.59 | 0.51 | 0.65 | 0.52 | 0.52 | 0.54 | 0.75 | 0.86 | - | 0.75 | 0.61 | 0.53 | 0.69 |
| GAD4 | 0.64 | 0.63 | 0.57 | 0.68 | 0.54 | 0.56 | 0.62 | 0.58 | 0.57 | 0.76 | 0.74 | 0.73 | - | 0.73 | 0.58 | 0.62 |
| GAD5 | 0.57 | 0.54 | 0.49 | 0.50 | 0.45 | 0.40 | 0.62 | 0.70 | 0.45 | 0.65 | 0.63 | 0.57 | 0.67 | - | 0.63 | 0.60 |
| GAD6 | 0.65 | 0.58 | 0.49 | 0.62 | 0.55 | 0.52 | 0.60 | 0.56 | 0.54 | 0.58 | 0.57 | 0.60 | 0.65 | 0.62 | - | 0.51 |
| GAD7 | 0.55 | 0.61 | 0.52 | 0.52 | 0.54 | 0.59 | 0.54 | 0.58 | 0.54 | 0.69 | 0.76 | 0.71 | 0.64 | 0.62 | 0.59 | - |

Table S2. All six pairwise comparisons using the complementary metrics for network comparison among the four individually estimated PTSD symptom networks in Fried et al. (2018).

| Network characteristic | Complementary metric for comparison | Pairwise Network Comparisons (A vs. B) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Sample 1 vs. Sample 2 | Sample 1 vs. Sample 3 | Sample 1 vs. Sample 4 | Sample 2 vs. Sample 3 | Sample 2 vs. Sample 4 | Sample 3 vs. Sample 4 |
| Non-zero (present) edges | Number in Network A | 77 | 77 | 77 | 73 | 73 | 77 |
|  | Number in Network B | 73 | 77 | 77 | 77 | 77 | 77 |
|  | Total edges estimated in A or B | 94 | 98 | 100 | 95 | 99 | 95 |
|  | Number of edges estimated consistently (present and with the same sign) in A and B | 54 | 54 | 54 | 54 | 51 | 58 |
|  | Number of edges that reversed in sign (e.g., positive to negative) | 2 | 2 | 0 | 1 | 0 | 1 |
|  | Proportion of edges replicated (unreplicated) from Network A | $\begin{aligned} & 70.1 \% \\ & (29.9 \%) \end{aligned}$ | $\begin{aligned} & 70.1 \% \\ & (29.9 \%) \end{aligned}$ | $\begin{aligned} & 70.1 \% \\ & (29.9 \%) \end{aligned}$ | $\begin{aligned} & 74.0 \% \\ & (26.0 \%) \end{aligned}$ | $\begin{aligned} & 69.9 \% \\ & (30.1 \%) \end{aligned}$ | $\begin{aligned} & 75.3 \% \\ & (24.7 \%) \end{aligned}$ |
|  | Proportion of edges replicated (unreplicated) from Network B | $\begin{aligned} & 74.0 \% \\ & (26.0 \%) \end{aligned}$ | $\begin{aligned} & 70.1 \% \\ & (29.9 \%) \end{aligned}$ | $\begin{gathered} 70.1 \% \\ (29.9 \%) \end{gathered}$ | $\begin{aligned} & 70.1 \% \\ & (29.9 \%) \end{aligned}$ | $\begin{aligned} & 66.2 \% \\ & (33.8 \%) \end{aligned}$ | $\begin{aligned} & 75.3 \% \\ & (24.7 \%) \end{aligned}$ |
|  | Proportion of total edges replicated (unreplicated) | $\begin{aligned} & 57.4 \% \\ & (42.6 \%) \end{aligned}$ | $\begin{aligned} & 55.1 \% \\ & (44.9 \%) \end{aligned}$ | $\begin{aligned} & 54.0 \% \\ & (46.0 \%) \end{aligned}$ | $\begin{gathered} 56.8 \% \\ (43.2 \%) \end{gathered}$ | $\begin{aligned} & 51.5 \% \\ & (48.5 \%) \end{aligned}$ | $\begin{aligned} & 61.1 \% \\ & (38.9 \%) \end{aligned}$ |
| $\begin{aligned} & \text { Zero (absent) } \\ & \text { edges } \end{aligned}$ | Number in Network A | 43 | 43 | 43 | 47 | 47 | 43 |
|  | Number in Network B | 47 | 43 | 43 | 43 | 43 | 43 |
|  | Total edges estimated in A or B | 64 | 64 | 66 | 65 | 69 | 61 |
|  | Number of edges estimated consistently (absent) in A and B | 26 | 22 | 20 | 25 | 21 | 25 |
|  | Proportion of edges replicated (unreplicated) from Network A | $\begin{aligned} & 60.5 \% \\ & (39.5 \%) \end{aligned}$ | $\begin{gathered} 51.2 \% \\ (48.8 \%) \end{gathered}$ | $\begin{aligned} & 46.5 \% \\ & (53.5 \%) \end{aligned}$ | $\begin{aligned} & 53.2 \% \\ & (46.8 \%) \end{aligned}$ | $\begin{aligned} & 44.7 \% \\ & (55.3 \%) \end{aligned}$ | $\begin{aligned} & 58.1 \% \\ & (41.9 \%) \end{aligned}$ |
|  | Proportion of edges replicated (unreplicated) from Network B | $\begin{aligned} & 55.3 \% \\ & (44.7 \%) \end{aligned}$ | $\begin{aligned} & 51.2 \% \\ & (48.8 \%) \end{aligned}$ | $\begin{aligned} & 46.5 \% \\ & (53.5 \%) \end{aligned}$ | $\begin{aligned} & 58.1 \% \\ & (41.9 \%) \end{aligned}$ | $\begin{aligned} & 48.8 \% \\ & (51.2 \%) \end{aligned}$ | $\begin{aligned} & 58.1 \% \\ & (41.9 \%) \end{aligned}$ |
|  | Proportion of total edges replicated (unreplicated) | $\begin{aligned} & 40.6 \% \\ & (59.4 \%) \end{aligned}$ | $\begin{gathered} 34.4 \% \\ (65.6 \%) \end{gathered}$ | $\begin{aligned} & 30.3 \% \\ & (69.7 \%) \end{aligned}$ | $\begin{aligned} & 38.5 \% \\ & (61.5 \%) \end{aligned}$ | $\begin{aligned} & 30.4 \% \\ & (69.6 \%) \end{aligned}$ | $\begin{aligned} & 41.0 \% \\ & (59.0 \%) \end{aligned}$ |

Table S2. (continued)

| Network characteristic | Complementary metric for comparison | Pairwise Network Comparisons (A vs. B) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Sample 1 vs. Sample 2 | Sample 1 vs. Sample 3 | Sample 1 vs. Sample 4 | Sample 2 vs Sample 3 | Sample 2 vs. Sample 4 | Sample 3 vs. Sample 4 |
| Edges with bootstrapped 95\% confidence intervals that do not include zero ("bootnetsignificant) | Number in Network A | 26 | 26 | 26 | 17 | 17 | 34 |
|  | Number in Network B | 17 | 34 | 27 | 34 | 27 | 27 |
|  | Total edges estimated in A or B | 34 | 40 | 36 | 37 | 34 | 43 |
|  | Number of edges estimated consistently (present and with the same sign) in A and B | 9 | 20 | 17 | 14 | 10 | 18 |
|  | Number of edges that reversed in sign (e.g., positive to negative) | 0 | 0 | 0 | ${ }^{0}$ | ${ }^{0}$ | ${ }^{0}$ |
|  | Proportion of edges consistent (inconsistent) from Network A | $\begin{aligned} & 34.6 \% \\ & (65.4 \%) \end{aligned}$ | $\begin{aligned} & 76.9 \% \\ & (23.1 \%) \end{aligned}$ | $\begin{aligned} & 65.4 \% \\ & (34.6 \%) \end{aligned}$ | $\begin{aligned} & 82.4 \% \\ & (17.6 \%) \end{aligned}$ | $\begin{aligned} & 58.8 \% \\ & (41.2 \%) \end{aligned}$ | $\begin{aligned} & 52.9 \% \\ & (47.1 \%) \end{aligned}$ |
|  | Proportion of edges consistent (inconsistent) from Network B | $\begin{aligned} & 52.9 \% \\ & (47.1 \%) \end{aligned}$ | $\begin{aligned} & 58.8 \% \\ & (41.2 \%) \end{aligned}$ | $\begin{aligned} & 63.0 \% \\ & (37.0 \%) \end{aligned}$ | $\begin{aligned} & 41.2 \% \\ & (58.8 \%) \end{aligned}$ | $\begin{gathered} 37.0 \% \\ (63.0 \%) \end{gathered}$ | $\begin{aligned} & 66.7 \% \\ & (33.3 \%) \end{aligned}$ |
|  | Proportion of total edges consistent (inconsistent) | $\begin{aligned} & 26.5 \% \\ & (73.5 \%) \end{aligned}$ | $\begin{aligned} & 50.0 \% \\ & (50.0 \%) \end{aligned}$ | $\begin{aligned} & 47.2 \% \\ & (52.8 \%) \end{aligned}$ | $\begin{aligned} & 37.8 \% \\ & (62.2 \%) \end{aligned}$ | $\begin{aligned} & 29.4 \% \\ & (70.6 \%) \end{aligned}$ | $\begin{aligned} & 41.9 \% \\ & (58.1 \%) \end{aligned}$ |
| Average \% change in consistent "bootnetsignificant" edges | From A to B | 46.5\% | 39.4\% | 20.9\% | 24.9\% | 49.3\% | 46.7\% |
|  | From B to A | 52.1\% | 43.5\% | 24.6\% | 36.0\% | 82.2\% | 55.7\% |
|  |  |  |  |  |  |  |  |
| Symptom strength centrality | Spearman's rho | 0.50 | 0.38 | 0.40 | 0.42 | 0.60 | 0.45 |
|  | Kendall's tau-b | 0.38 | 0.25 | 0.30 | 0.30 | 0.45 | 0.35 |
|  | Number and proportion of possible rank-order matches | 4 (25\%) | 2 (12.5\%) | 2 (12.5\%) | 0 (0\%) | 4 (25\%) | 2 (12.5\%) |



Figure S1. $95 \%$ confidence intervals for edge weights at each wave.
(A)

(B)


Figure S2. Significance of difference tests between edges within each network. (A) Wave 1; (B) Wave 2.


Figure S3. Centrality stability plots based on subsampling participants. (A) Wave one; (B) Wave 2. The CScoefficient for strength was .13 at both waves.


Figure S4. Significance of difference tests between node strength centrality values within each network. (A) Wave 1; (B) Wave 2.


Figure S5. Standardized symptom centrality estimates at each wave (plotted as $z$-scores, per centralityPlot in the qgraph package in $R$ ).

Sample $1(n=526)$


Sample $2(\mathrm{n}=365)$


Sample 3 ( $\mathrm{n}=926$ )


Sample 4 ( $\mathrm{n}=965$ )


Figure S6. Individually estimated Gaussian graphical model PTSD symptom networks from Fried et al. (2018) using graphical lasso regularisation with EBIC.

Sample $1(n=526)$


Sample $2(\mathrm{n}=365)$


Sample 3 ( $\mathrm{n}=926$ )


Sample $4(n=965)$


Figure S7. Inconsistently estimated edges among the four PTSD symptom networks. Orange edges were inconsistently estimated (present/absent), red edges reversed in sign, and dashed edges are negative.

Sample $1(n=526)$


Sample $2(\mathrm{n}=365)$


Sample 3 ( $\mathrm{n}=926$ )


Sample 4 ( $\mathrm{n}=965$ )


Figure S8. Subsets of the networks in Figure S5 showing the edges in each network with $95 \%$ bootstrapped confidence intervals that did not include zero ("bootnet-significant" edges).

Sample $1(n=526)$
Sample $2(\mathrm{n}=365)$


Sample 3 ( $\mathrm{n}=926$ )


Sample 4 ( $\mathrm{n}=965$ )


Figure S9. Inconsistently estimated edges among the four "bootnet-significant" edge networks in Figure S7.

