Supplemental Material for "The centrality of motivation in psychosocial functioning: Network and bifactor analysis of the Quality of Life Scale in first episode psychosis”

**Network analysis results for the revised QLS.**

**Centrality**. Centrality measures are shown in Supplemental Figure 1. On average, items reflecting the subscales Interpersonal functioning, Instrumental functioning, and Motivation had strength values of 0.91, 0.98, and 0.83. “*Degree of motivation*” had the highest strength value in the network but did not significantly differ from“*Level of social activity*,”“*Social initiatives*,” and“*Level of accomplishment*” (see Supplemental Figure 2)—findings synonymous with the original scale. Strength values for these latter items were again primarily driven by fewer edges compared to “*Degree of motivation*.” This is particularly evident for “*Level of accomplishment*,” as its strength value only stems from its association with the other two Instrumental functioning items. “*Degree of Motivation*” and “*Time Utilization*” had the highest betweenness values. “*Degree of Motivation*” also had the highest closeness value. In contrast with the original scale, “*Time utilization*” had the second highest closeness value.

**Network stability**. For network edges, bootstrapped 95% confidence intervals revealed high network stability, suggesting the network can be reliably interpreted. The correlation stability coefficient suggested highly stable strength centrality (CS = 0.67; Supplemental Figure 3).

**Bifactor modeling results for the 4-factor QLS.**

**Bifactor analysis**. Factor loadings for the 4-factor scale are in Supplemental Table 1. The model adequately fit the data (CFI = 0.956; TLI = 0.942; RMSEA = 0.055, *χ*2 (144, *N* = 404) = 321.682, *p* < 0.001). Despite adequate fit, numerous anomalous item loadings were observed on the general factor (i.e., low or negative loadings). All specific factor ladings were > 0.30.

**Reliability**. ω*H* for the general factor was 0.059, well below recommended cutoffs and an indication of a non-existent general factor. ω*HS* for Interpersonal functioning, Instrumental functioning, Intrapsychic foundations, and Commonplace objects and activities was 0.873, 0.942, 0.841, and 0.778, respectfully.

**Explained Common Variance**. Explained common variance (*ECV*) for the general factor was 0.092, once suggesting evidence of a non-existent general factor. *ECV\_S* for Interpersonal functioning (0.332), Instrumental functioning (0.224), Intrapsychic foundations (0.270), and Commonplace objects and activities (0.082) were all below recommended cutoffs. In sum, bifactor results of the 4-factor scale, along with previous CFA findings showing poor model fit, suggest that the 4-factor structure does not appropriately reflect the QLS’s data structure.

**Chart

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Supplemental Figure 1. Network centrality measures.

**Timeline

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Supplemental Figure 2. Strength measures of the revised QLS items. Black boxes indicate significantly different values from other items. Gray boxes indicate non-significant differences.

Supplemental Figure 3. Network strength correlation stability.

**Table

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Supplemental Table 1. Standardized factor loadings of the bifactor model with four specific factors of the QLS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| QLS items | QLS total  (General) | Interpersonal  functioning  (S1) | Instrumental functioning  (S2) | Intrapsychic  foundations  (S3) | Commonplace objects  and activities  (S4) |
| 1. Intimate relationships with household members | 0.38 | 0.39 |  |  |  |
| 2. Intimate interactions | 0.24 | 0.64 |  |  |  |
| 3. Active acquaintances | -0.02 | 0.58 |  |  |  |
| 4. Level of social activity | 0.10 | 0.82 |  |  |  |
| 5. Involved social network | 0.32 | 0.70 |  |  |  |
| 6. Social initiatives | -0.05 | 0.87 |  |  |  |
| 7. Social withdrawal | -0.08 | 0.81 |  |  |  |
| 8. Socio-sexual relations | 0.07 | 0.41 |  |  |  |
| 9. Extent of occupational role functioning | -0.19 |  | 0.89 |  |  |
| 10. Level of accomplishment | -0.18 |  | 0.91 |  |  |
| 11. Degree of underemployment | -0.17 |  | 0.91 |  |  |
| 13. Sense of purpose | 0.17 |  |  | 0.67 |  |
| 14. Degree of motivation | -0.03 |  |  | 0.83 |  |
| 15. Curiosity | 0.20 |  | - | 0.62 |  |
| 16. Anhedonia | 0.06 |  |  | 0.64 |  |
| 17. Time utilization | -0.13 |  |  | 0.71 |  |
| 18. Commonplace object | 0.27 |  |  |  | 0.50 |
| 19. Commonplace activities | 0.16 |  |  |  | 0.80 |
| 20. Capacity for empathy | 0.53 |  |  | 0.57 |  |
| 21. Capacity for engagement | 0.34 |  |  | 0.45 |  |

*Note*. QLS = Quality of Life Scale.