**Supplementary Online Content**

**Supplementary Table 1.** Baseline characteristics of participants

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Variable** | **VRS group**(n = 21) | **WL group**(n = 20) | **Test** | **p-value** |  |
|  | Gender, male/female1 | 8 / 13 | 7 / 13 | χ2 = 0.04 | 0.84 |  |
|  | Age, years2 | 23.6 (2.8) | 23.5 (2.2) | T39 = 0.16 | 0.88 |  |
|  | IQ2 | 113.6 (15.8) | 109.7 (13.6) | T39 = 0.85 | 0.40 |  |
|  | LSAS total score2 | 73.9 (23.7) | 72.1 (20.2) | T39 = 0.26 | 0.80 |  |
|  |  Anxiety subscale | 39.6 (11.1) | 37.5 (9.9) | T39 = 0.64 | 0.52 |  |
|  |  Avoidance subscale | 34.3 (13.4) | 34.7 (11.5) | T39 = 0.08 | 0.94 |  |
|  | HADS anxiety score | 10.1 (4.5) | 9.1 (3.1) | T39 = 0.86 | 0.39 |  |
|  | HADS depression score | 8.2 (4.9) | 8.8 (3.8) | T39 = -0.44 | 0.66 |  |

1 χ2-test for a categorical variable

2 Independent t-test for mean (standard deviation) of a continuous variable.

VRS, virtual reality self-training; WL, waiting list; IQ, intelligence quotient; LSAS, Liebowitz Social Anxiety Scale; HADS, Hospital Anxiety and Depression Scale.

**Supplementary Table 2.** Association of changes in the Liebowitz Social Anxiety Scale total scores with changes in behavioral and neural variables in the virtual reality self-training group

|  |  |  |
| --- | --- | --- |
| **Variable****: Changes in …** | **Univariate regression** | **Multivariate regression** |
| **Standardized ß** | **Sig** | **Standardized ß** | **Sig** | **VIF** |
| Distress index | 0.44 | 0.07\* | 0.49 | 0.01 | 1 |
| Negative evaluation index for the self | 0.28 | 0.22 |  |  |  |
| Negative evaluation index for the other | 0.08 | 0.74 |  |  |  |
| Right premotor cortex activity | -0.18 | 0.45 |  |  |  |
| Right dorsomedial prefrontal cortex activity | -0.1 | 0.67 |  |  |  |
| Left dorsomedial prefrontal cortex activity | 0.05 | 0.85 |  |  |  |
| Right supramarginal gyrus activity | -0.24 | 0.31 |  |  |  |
| Right lateral occipital gyrus activity | -0.53 | 0.02\* | -0.60 | <0.01 | 1 |
| Left lateral occipital gyrus activity | -0.38 | 0.10\* |  |  |  |
| Right lingual gyrus (14/-72/14) activity | -0.17 | 0.49 |  |  |  |
| Right lingual gyrus (20/-88/0) activity | -0.16 | 0.49 |  |  |  |
| Left lingual gyrus activity | -0.28 | 0.23 |  |  |  |
| Right anterior insula activity | -0.23 | 0.33 |  |  |  |
| Left anterior insula activity | -0.08 | 0.72 |  |  |  |
| Right thalamus activity | -0.34 | 0.15\* |  |  |  |
| Left thalamus (-20/-28/-2) activity | -0.27 | 0.23 |  |  |  |
| Left thalamus (-10/-14/10) activity | -0.27 | 0.24 |  |  |  |
| Right anterior cingulate cortex activity | 0.14 | 0.55 |  |  |  |
| Left anterior cingulate cortex activity | 0.04 | 0.87 |  |  |  |

Variables with a p-value <0.2 (\*) were entered to multivariate linear regression.

Sig, significance; VIF, Variance Inflation Factor