

## Supplemental materials

Table 1. The effect of acute mental stress on neurotransmitter precursor amino acid levels.

|                           | T0                    | T1                    | T2                    | T3                    | p-value       |
|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------|
| PHE ( $\mu\text{mol/l}$ ) | 79.8<br>(77.2 – 82.3) | 76.0<br>(73.5 – 78.5) | 72.6<br>(70 – 75.1)   | 68.6<br>(66.1 – 71.1) | $p < 0.001^*$ |
| TYR ( $\mu\text{mol/l}$ ) | 75.3<br>(70.9 – 79.6) | 71.1<br>(67.0 – 75.8) | 67.3<br>(63.1 – 71.9) | 62.4<br>(58.0 – 66.7) | $p < 0.001^*$ |
| KYN ( $\mu\text{mol/l}$ ) | 2.09<br>(1.97 – 2.20) | 2.06<br>(1.95 – 2.17) | 2.03<br>(1.92 – 2.14) | 2.02<br>(1.91 – 2.13) | $p = 0.181^2$ |
| TRP ( $\mu\text{mol/l}$ ) | 76.0<br>(74.2 – 77.9) | 73.8<br>(71.9 – 75.6) | 71.2<br>(69.3 – 73.0) | 68.9<br>(67.0 – 70.7) | $p < 0.00^*$  |

Results are given as mean (95% confidence interval) for n=53 participants. A linear mixed model including the factors “acute mental stress” and “chronic mental stress” with co-variables was used for analysis. Statistically significant p-values are indicated by an asterisk. The interaction of acute and chronic mental stress was not significant in any of the analyses. <sup>2</sup> adjusted for International Physical Activity Questionnaire (IPAQ). T0 = baseline. T1 = immediately following acute mental stress test. T2 = 30 minutes following acute mental stress test. T3 = 60 minutes following acute mental stress test.

Table S2. The effect of chronic mental stress on neurotransmitter precursor amino acid levels.

|                           | Chronic mental stress  | No chronic mental stress | p-value          |
|---------------------------|------------------------|--------------------------|------------------|
| PHE ( $\mu\text{mol/l}$ ) | 70.5<br>(67.8 – 73.2)  | 77.4<br>(74.7 – 80.1)    | $p < 0.001^*$    |
| TYR ( $\mu\text{mol/l}$ ) | 69.2<br>(64.45 – 73.6) | 69<br>(64.5 – 73.6)      | $p = 0.923$      |
| KYN ( $\mu\text{mol/l}$ ) | 2.10<br>(1.98 – 2.22)  | 2.00<br>(1.88 – 2.11)    | $p = 0.024^{*2}$ |
| TRP ( $\mu\text{mol/l}$ ) | 74.6<br>(72.7 – 76.5)  | 70.6<br>(68.4 – 72.3)    | $p < 0.001^*$    |

Results are given as mean (95% confidence interval) for n=53 participants. A linear mixed model including the factors “acute mental stress” and “chronic mental stress” with co-variables was used for analysis. Statistically significant p-values are indicated by an asterisk. The interaction of acute and chronic mental stress was not significant in any of the analyses. <sup>2</sup> adjusted for International Physical Activity Questionnaire (IPAQ).