Repeated measures ANOVA analyses were conducted on various behavioral parameters, as summarized below in Table 1.

Table 1. The summary table of statistical results

|  |  |  |
| --- | --- | --- |
| Threshold intensity | SP | *F*(2,48) = 0.716, *p* = 0.494, ηp2 = 0.029 |
| AM | *F*(1,24) = 26.505, *p* < 0.001, ηp2 = 0.525 \*\*\* |
|  | SP × AM | *F*(2,48) = 0.653, *p* = 0.525, ηp2 = 0.026 |
| Reaction time | SP | *F*(2,48) = 3.797, *p* = 0.029, ηp2 = 0.137 \* |
| AM | *F*(1,24) = 26.715, *p* < 0.001, ηp2 = 0.527 \*\*\* |
| IT | *F*(1,24) =47.562, *p* < 0.001, ηp2 = 0.665 \*\*\* |
| SP × AM | *F*(2,48) = 0.531, *p* = 0.591, ηp2 = 0.022 |
| SP × IT | *F*(2,48) = 0.905, *p* = 0.411, ηp2 = 0.036 |
| AM × IT | *F*(1,24) = 1.041, *p* = 0.318, ηp2 = 0.042 |
| SP × AM × IT | *F*(1.5,36.1) = 1.853, *p* = 0.179, ηp2 = 0.072 |
| Flash brightness rating | SP | *F*(1.5,36.9) = 5.111, *p* = 0.017, ηp2 = 0.176 \* |
| AM | *F*(1,24) = 1.954, *p* = 0.175, ηp2 = 0.075 |
| IT | *F*(1,24) = 18.038, *p* < 0.001, ηp2 =0.429 \*\*\* |
| SP × AM | *F*(2,48) = 1.336, *p* = 0.272, ηp2 = 0.053 |
| SP × IT | *F*(2,48) = 2.278, *p* = 0.113, ηp2 = 0.087 |
| AM × IT | *F*(1,24) = 1.567, *p* = 0.223, ηp2 = 0.061 |
| SP × AM × IT | *F*(2,48) =0.992, *p* = 0.378, ηp2 = 0.040 |
| Flash rate scoring | SP | *F*(2,48) = 0.256, *p* = 0.775, ηp2 = 0.011 |
| AM | *F*(1,24) = 8.487, p = 0.008, ηp2 = 0.261 \*\* |
| IT | *F*(1,24) = 3.446, *p* = 0.076, ηp2 = 0.126 |
| SP × AM | F(1.5,35.6) = 0.580, p = 0.516, ηp2 = 0.024 |
| SP × IT | *F*(2,48) = 2.885, *p* = 0.066, ηp2 = 0.107 |
| AM × IT | *F*(1,24) = 0.508, *p* = 0.483, ηp2 = 0.021 |
| SP × AM × IT | *F*(2,48) = 1.009, *p* = 0.372, ηp2 = 0.040 |
| Confidence of flash rate scoring | SP | *F*(1.4,34.5) = 0.403, *p* = 0.604, ηp2 = 0.017 |
| AM | *F*(1,24) = 0.011, *p* = 0.919, ηp2 = 0.000 |
| IT | *F*(1,24) = 11.613, *p* = 0.002, ηp2 = 0.326 \*\* |
| SP × AM | *F*(2,48) = 2.059, *p* = 0.139, ηp2 = 0.079 |
| SP × IT | *F*(2,48) = 2.715, *p* = 0.076, ηp2 = 0.102 |
| AM × IT | *F*(1,24) = 0.006, *p* = 0.939, ηp2 = 0.000 |
| SP × AM × IT | *F*(2,48) = 4.224, *p* = 0.020, ηp2 = 0.150 \* |
| Phosphene size | SP | *F*(1.5,34.8) = 0.329, *p* = 0.652, ηp2 = 0.014 |
| AM | *F*(1,24) = 4.113, *p* = 0.054, ηp2 = 0.146 |
| IT | *F*(1,24) = 15.518, *p* < 0.001, ηp2 = 0.393 \*\*\* |
| SP × AM | *F*(2,48) = 0.781, *p* = 0.464, ηp2 = 0.032 |
| SP × IT | *F*(2,48) = 2.534, *p* = 0.090, ηp2 = 0.096 |
| AM × IT | *F*(1,24) = 0.252, *p* = 0.621, ηp2 = 0.010 |
| SP × AM × IT | *F*(1.5,37.1) = 1.282, *p* = 0.283, ηp2 = 0.051 |
| *Note*. Stimulation polarity (SP), AM conditions (AM), and Intensity (IT). \*: *p*<0.05, \*\*: *p*<0.01. \*\*\*: *p*<0.001 | | |

Table 2. Summary of all effects in each index. The polarity effect indicates whether the current polarity is positive (anodal otDCS), negative (cathodal otDCS), or switching (tACS). AM indicates whether the current is a sinusoidal (18 Hz) or an amplitude-modulated (2 AM 18 Hz) waveform. Intensity indicates the stimulation is at its threshold (100%) or suprathreshold (120%) amplitude. Mark “O” indicates significant main effects or interactions were found, although the paired contrast may not be significant in the polarity factor. Mark “X” indicates there were null results in the statistical tests.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Threshold | RT | Brightness | Flash Rate | Confidence |
| Polarity  AM  Intensity | X  O  --- | O  O  O | O  X  O | X  O  X | X  X  O |
| Interaction | X | X | X | Polarity\*Intensity  (marginal) | Polarity\*AM\*Intensity |