Supplementary Material

Figure 1S. Averaged coherence values (not tresholded) of the 10 selected electrodes (F3, F4, C3, C4, P3, P4, T7, T8, O1, O2) for each Type of performance during each effort period in alpha band

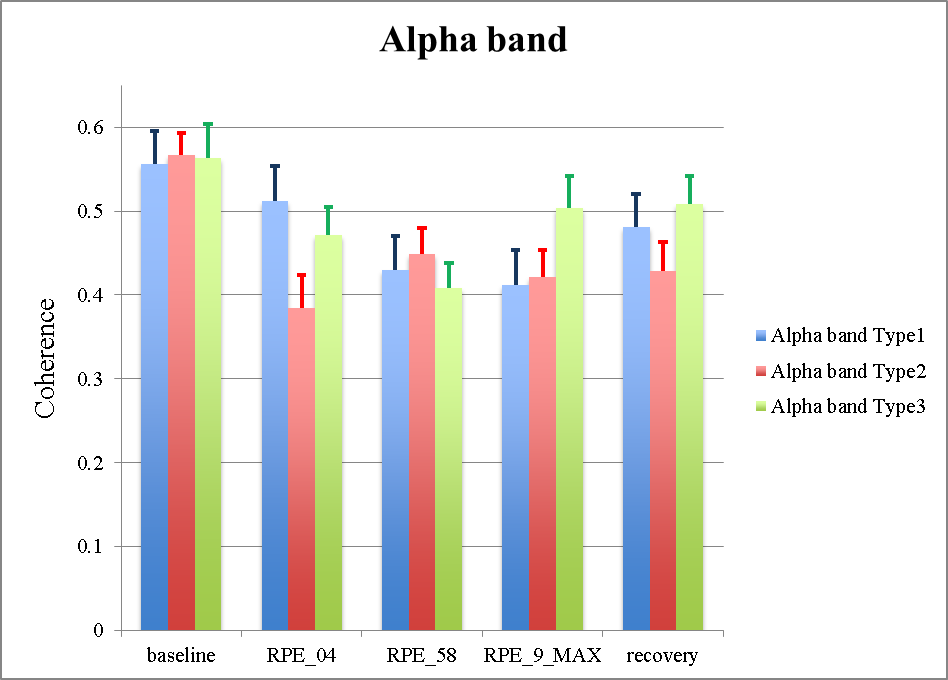


Figure 2S. Averaged coherence values (not tresholded) of the 10 selected electrodes (F3, F4, C3, C4, P3, P4, T7, T8, O1, O2) for each Type of performance during each effort period in beta 1 band

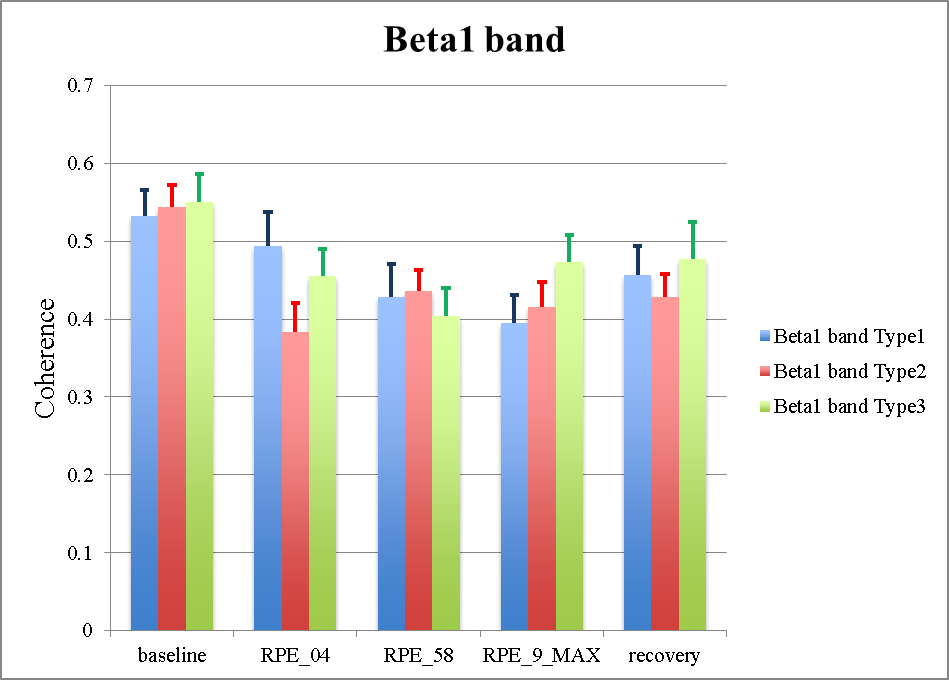
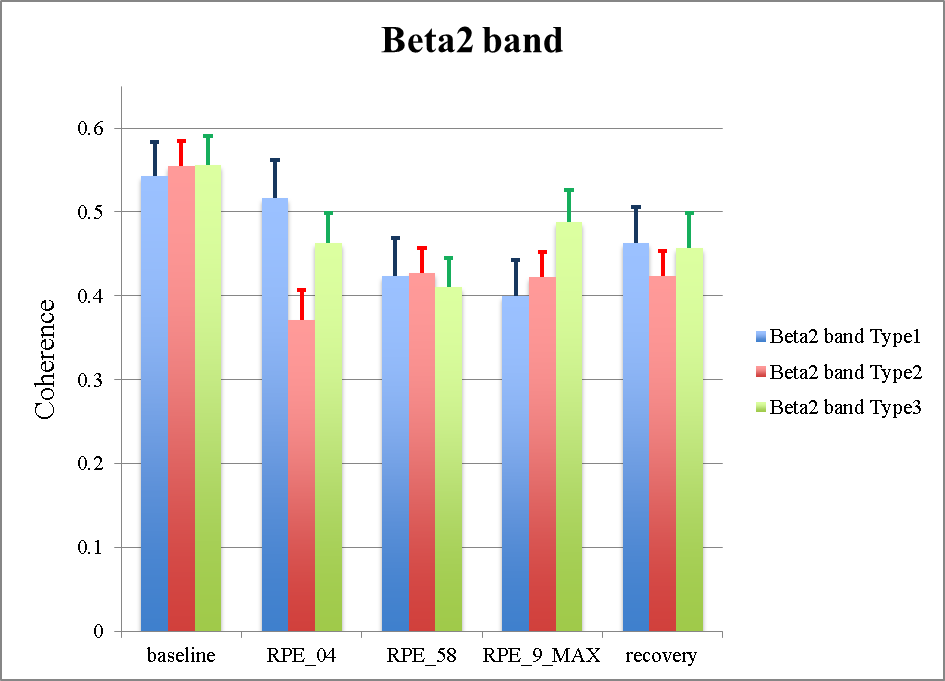


Figure 3S. Averaged coherence values (not tresholded) of the 10 selected electrodes (F3, F4, C3, C4, P3, P4, T7, T8, O1, O2) for each Type of performance during each effort period in beta 2 band



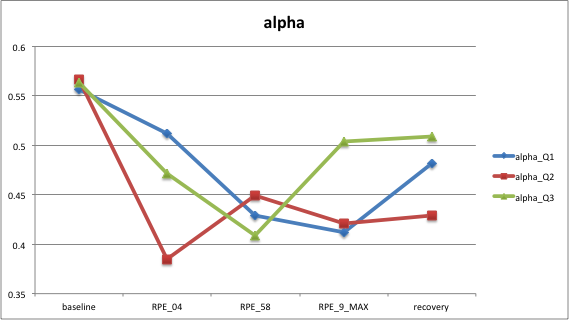
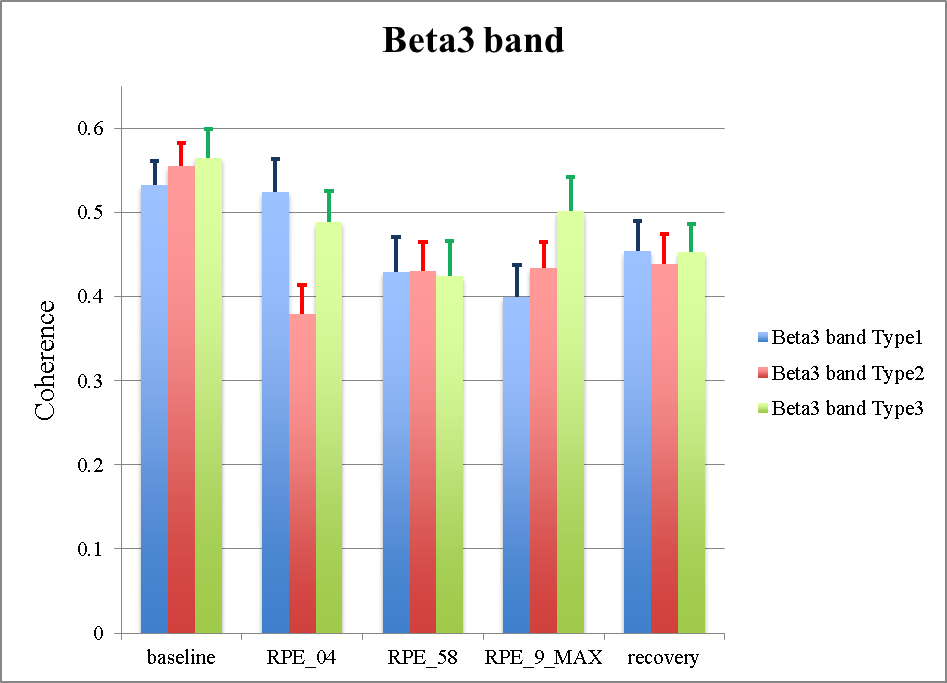


Figure 4S. Averaged coherence values (not tresholded) of the 10 selected electrodes (F3, F4, C3, C4, P3, P4, T7, T8, O1, O2) for each Type of performance during each effort period in beta 3 band



*Table 1S.* RM-ANOVA 3 (performance) × 5 (effort level) results for the alpha band using Greenhouse Geisser correction (\**p* < 0.05)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Electrode Pairs | | Factors | df | F | *p* | ηp2 | Power |
| F3-F4 | Performance | | 1,67 | 1.69 | 0.215 | 0.145 | 0.284 |
| F3-P3 |  | | 1,92 | 0.48 | 0.614 | 0.047 | 0.117 |
| F4-P4 |  | | 1,74 | 0.34 | 0.068 | 0.033 | 0.094 |
| T7-T8 |  | | 1,98 | 0.11 | 0.894 | 0.011 | 0.065 |
| T7-P3 |  | | 1,59 | 1.73 | 0.209 | 0.148 | 0.283 |
| C3-C4 |  | | 1,89 | 1.72 | 0.206 | 0.147 | 0.309 |
| C3-P3 |  | | 3,52 | 1.36 | 0.211 | 0.135 | 0.405 |
| C4-P4 |  | | 1,43 | 0.68 | 0.473 | 0.064 | 0.132 |
| T8-P4 |  | | 1,25 | 0.04 | 0.879 | 0.005 | 0.055 |
| P3-P4 |  | | 1,73 | 0.03 | 0.965 | 0.004 | 0.055 |
| P3-O1 |  | | 1,98 | 0.04 | 0.955 | 0.005 | 0.056 |
| P4-O2 |  | | 1,71 | 0.89 | 0.412 | 0.082 | 0.171 |
| O1-O2 |  | | 1,62 | 1.39 | 0.271 | 0.123 | 0.238 |
| F3-F4 | Effort lev | | 3,02 | 3.17 | 0.038\* | 0.241 | 0.678 |
| F3-P3 |  | | 3,14 | 4.57 | 0.008\* | 0.314 | 0.855 |
| F4-P4 |  | | 2,47 | 4.97 | 0.011\* | 0.332 | 0.816 |
| T7-T8 |  | | 2,51 | 3.83 | 0.027\* | 0.277 | 0.706 |
| T7-P3 |  | | 2,19 | 4.55 | 0.020\* | 0.313 | 0.738 |
| C3-C4 |  | | 3,36 | 3.74 | 0.017\* | 0.272 | 0.792 |
| C3-P3 |  | | 2,58 | 4.81 | 0.011\* | 0.325 | 0.816 |
| C4-P4 |  | | 2,61 | 6.51 | 0.003\* | 0.394 | 0.924 |
| T8-P4 |  | | 2,88 | 3.15 | 0.041\* | 0.240 | 0.659 |
| P3-P4 |  | | 2,87 | 5.43 | 0.005\* | 0.352 | 0.893 |
| P3-O1 |  | | 2,92 | 2.66 | 0.068 | 0.210 | 0.582 |
| P4-O2 |  | | 2,68 | 4.80 | 0.010\* | 0.325 | 0.820 |
| O1-O2 |  | | 3,03 | 2.61 | 0.068 | 0.207 | 0.586 |
| F3-F4 | Perf × Effort lev | | 4,28 | 0.82 | 0.523 | 0.076 | 0.358 |
| F3-P3 |  | | 3,01 | 1.12 | 0.353 | 0.101 | 0.274 |
| F4-P4 |  | | 4,32 | 1.37 | 0.258 | 0.332 | 0.816 |
| T7-T8 |  | | 3,60 | 1.14 | 0.347 | 0.103 | 0.308 |
| T7-P3 |  | | 4,20 | 1.84 | 0.135 | 0.156 | 0.527 |
| C3-C4 |  | | 3,53 | 1.92 | 0.135 | 0.161 | 0.492 |
| C3-P3 |  | | 3,52 | 1.36 | 0.211 | 0.135 | 0.405 |
| C4-P4 |  | | 4,47 | 0.88 | 0.491 | 0.081 | 0.272 |
| T8-P4 |  | | 4,76 | 1.24 | 0.303 | 0.111 | 0.393 |
| P3-P4 |  | | 4,28 | 1.04 | 0.403 | 0.094 | 0.308 |
| P3-O1 |  | | 3,38 | 1.64 | 0.193 | 0.141 | 0.415 |
| P4-O2 |  | | 4,38 | 1.07 | 0.382 | 0.097 | 0.325 |
| O1-O2 |  | | 4,52 | 1.38 | 0.251 | 0.122 | 0.421 |

*Table 2S*. RM-ANOVA 3 (performance) × 5 (effort level) results for the beta1 band using Greenhouse Geisser correction (\**p* < 0.05)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Electrode Pairs | | Factors | df | F | *p* | ηp2 | power |
| F3-F4 | Performance | | 1,85 | 0.42 | 0.645 | 0.041 | 0.107 |
| F3-P3 |  | | 1,57 | 0.27 | 0.714 | 0.026 | 0.083 |
| F4-P4 |  | | 1,90 | 0.84 | 0.441 | 0.078 | 0.170 |
| T7-T8 |  | | 1,92 | 0.01 | 0.985 | 0.001 | 0.052 |
| T7-P3 |  | | 1,51 | 0.43 | 0.602 | 0.041 | 0.102 |
| C3-C4 |  | | 1,67 | 1.39 | 0.273 | 0.122 | 0.240 |
| C3-P3 |  | | 1,77 | 2.50 | 0.110 | 0.204 | 0.422 |
| C4-P4 |  | | 1,47 | 0.09 | 0.850 | 0.010 | 0.061 |
| T8-P4 |  | | 1,51 | 0.07 | 0.885 | 0.007 | 0.058 |
| P3-P4 |  | | 1,85 | 0.11 | 0.880 | 0.011 | 0.064 |
| P3-O1 |  | | 1,39 | 0.11 | 0.829 | 0.011 | 0.062 |
| P4-O2 |  | | 1,58 | 1.40 | 0.270 | 0.123 | 0.235 |
| O1-O2 |  | | 1,57 | 1.05 | 0.356 | 0.095 | 0.186 |
| F3-F4 | Effort lev | | 2,92 | 3.78 | 0.021\* | 0.275 | 0.752 |
| F3-P3 |  | | 3,08 | 4.87 | 0.006\* | 0.328 | 0.873 |
| F4-P4 |  | | 2.32 | 3.24 | 0.050\* | 0.245 | 0.600 |
| T7-T8 |  | | 2,45 | 1.60 | 0.218 | 0.138 | 0.336 |
| T7-P3 |  | | 2,78 | 3.39 | 0.034\* | 0.254 | 0.682 |
| C3-C4 |  | | 2,47 | 2.67 | 0.115 | 0.185 | 0.461 |
| C3-T3 |  | | 2,25 | 5.10 | 0.012\* | 0.338 | 0.798 |
| C4-P4 |  | | 2,76 | 5.77 | 0.004\* | 0.366 | 0.902 |
| T8-P4 |  | | 2,91 | 2.68 | 0.060 | 0.212 | 0.585 |
| P3-P4 |  | | 2,54 | 4.85 | 0.011\* | 0.327 | 0.816 |
| P3-O1 |  | | 2,91 | 2.96 | 0.050\* | 0.228 | 0.631 |
| P4-O2 |  | | 2,47 | 3.95 | 0.025\* | 0.283 | 0.713 |
| O1-O2 |  | | 3,21 | 3.98 | 0.014\* | 0.285 | 0.805 |
| F3-F4 | Perf × Effort lev | | 3,20 | 1.06 | 0.380 | 0.097 | 0.274 |
| F3-P3 |  | | 3,62 | 0.90 | 0.418 | 0.090 | 0.269 |
| F4-P4 |  | | 3,77 | 1.54 | 0.211 | 0.134 | 0.419 |
| T7-T8 |  | | 4,86 | 1.25 | 0.300 | 0.111 | 0.400 |
| T7-P3 |  | | 4,61 | 1.29 | 0.285 | 0.114 | 0.339 |
| C3-C4 |  | | 4,56 | 1.56 | 0.193 | 0.135 | 0.476 |
| C3-P3 |  | | 4,40 | 1.03 | 0.403 | 0.094 | 0.314 |
| C4-P4 |  | | 4,15 | 1.72 | 0.160 | 0.147 | 0.492 |
| T8-P4 |  | | 3,96 | 2.34 | 0.072 | 0.190 | 0.623 |
| P3-P4 |  | | 4,51 | 0.85 | 0.514 | 0.078 | 0.262 |
| P3-O1 |  | | 3,61 | 1.55 | 0.212 | 0.134 | 0.409 |
| P4-O2 |  | | 4,98 | 1.61 | 0.175 | 0.139 | 0.514 |
| O1-O2 |  | | 4,63 | 1.02 | 0.409 | 0.093 | 0.321 |

*Table 3S*. RM-ANOVA 3 (performance) × 5 (effort level) results for the beta 2 band using Greenhouse Geisser correction (\**p* < 0.05)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Electrode Pairs | | Factors | df | F | *p* | ηp2 | power |
| F3-F4 | Performance | | 1,63 | 2.74 | 0.102 | 0.215 | 0.426 |
| F3-P3 |  | | 1,76 | 3.33 | 0.064 | 0.250 | 0.524 |
| F4-P4 |  | | 1,97 | 0.40 | 0.668 | 0.039 | 0.106 |
| T7-T8 |  | | 1,73 | 0.19 | 0.801 | 0.018 | 0.073 |
| T7-P3 |  | | 1,13 | 0.19 | 0.801 | 0.018 | 0.073 |
| C3-C4 |  | | 1,69 | 2.17 | 0.150 | 0.179 | 0.355 |
| C3-P3 |  | | 1,94 | 2.19 | 0.139 | 0.180 | 0.388 |
| C4-P4 |  | | 1,65 | 0.89 | 0.408 | 0.083 | 0.168 |
| T8-P4 |  | | 1,54 | 0.04 | 0.918 | 0.005 | 0.056 |
| P3-P4 |  | | 1,75 | 0.01 | 0.975 | 0.002 | 0.052 |
| P3-O1 |  | | 1,72 | 0.76 | 0.463 | 0.071 | 0.152 |
| P4-O2 |  | | 1,34 | 0.70 | 0.458 | 0.066 | 0.131 |
| O1-O2 |  | | 1,50 | 1.15 | 0.320 | 0.104 | 0.196 |
| F3-F4 | Effort lev | | 2,57 | 4.95 | 0.010\* | 0.331 | 0.828 |
| F3-P3 |  | | 2,72 | 6.36 | 0.003\* | 0.389 | 0.926 |
| F4-P4 |  | | 2,08 | 4.17 | 0.029\* | 0.294 | 0.68 |
| T7-T8 |  | | 2,52 | 2.25 | 0.116 | 0.184 | 0.463 |
| T7-P3 |  | | 2,61 | 2.94 | 0.058 | 0.227 | 0.592 |
| C3-C4 |  | | 2,59 | 5.76 | 0.005\* | 0.336 | 0.886 |
| C3-T3 |  | | 2,51 | 5.94 | 0.005\* | 0.373 | 0.888 |
| C4-P4 |  | | 2,53 | 4.70 | 0.013\* | 0.320 | 0.800 |
| T8-P4 |  | | 2,60 | 4.32 | 0.017\* | 0.302 | 0.773 |
| P3-P4 |  | | 2,88 | 4.31 | 0.013\* | 0.301 | 0.805 |
| P3-O1 |  | | 3,21 | 3.58 | 0.022\* | 0.264 | 0.758 |
| P4-O2 |  | | 2,72 | 3.11 | 0.047\* | 0.238 | 0.634 |
| O1-O2 |  | | 3,23 | 2.66 | 0.061 | 0.210 | 0.616 |
| F3-F4 | Perf × Effort lev | | 4,12 | 1.04 | 0.398 | 0.094 | 0.304 |
| F3-P3 |  | | 4,36 | 2.18 | 0.081 | 0.179 | 0.62 |
| F4-P4 |  | | 3,19 | 1.67 | 0.191 | 0.143 | 0.407 |
| T7-T8 |  | | 4,69 | 1.43 | 0.232 | 0.125 | 0.445 |
| T7-P3 |  | | 3,17 | 1.30 | 0.289 | 0.116 | 0.323 |
| C3-C4 |  | | 4,53 | 1.56 | 0.194 | 0.135 | 0.473 |
| C3-P3 |  | | 3,99 | 1.02 | 0.406 | 0.093 | 0.293 |
| C4-P4 |  | | 4,54 | 2.45 | 0.063 | 0.197 | 0.686 |
| T8-P4 |  | | 5,02 | 1.51 | 0.347 | 0.103 | 0.375 |
| P3-P4 |  | | 4,4 | 0.43 | 0.799 | 0.042 | 0.147 |
| P3-O1 |  | | 4,00 | 0.51 | 0.724 | 0.049 | 0.160 |
| P4-O2 |  | | 4,43 | 1.91 | 0.118 | 0.161 | 0.561 |
| O1-O2 |  | | 4,28 | 1.22 | 0.310 | 0.109 | 0.364 |

*Table 4S*. RM-ANOVA 3 (performance) × 5 (effort level) results in beta 3 band using Greenhouse Geisser correction (\**p* < 0.05)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Electrode Pairs | Factors | df | F | *p* | ηp2 | power |
| F3-F4 | Performance | 1,6 | 1.86 | 0.191 | 0.157 | 0.301 |
| F3-P3 |  | 1,9 | 2.25 | 0.134 | 0.184 | 0.393 |
| F4-P4 |  | 1,98 | 0.56 | 0.578 | 0.053 | 0.130 |
| T7-T8 |  | 1,98 | 0.20 | 0.815 | 0.020 | 0.077 |
| T7-P3 |  | 1,14 | 0.75 | 0.421 | 0.070 | 0.129 |
| C3-C4 |  | 1,87 | 0.70 | 0.499 | 0.066 | 0.148 |
| C3-P3 |  | 1,94 | 1.98 | 0.165 | 0.166 | 0.356 |
| C4-P4 |  | 1,56 | 0.142 | 0.819 | 0.014 | 0.067 |
| T8-P4 |  | 1,60 | 0.090 | 0.869 | 0.010 | 0.061 |
| P3-P4 |  | 1,52 | 0.91 | 0.396 | 0.084 | 0.165 |
| P3-O1 |  | 1,83 | 1.47 | 0.254 | 0.128 | 0.264 |
| P4-O2 |  | 1,59 | 0.63 | 0.508 | 0.060 | 0.130 |
| O1-O2 |  | 1,31 | 0.88 | 0.393 | 0.081 | 0.152 |
| F3-F4 | Effort lev | 2,81 | 4.85 | 0.009\* | 0.327 | 0.486 |
| F3-P3 |  | 2,76 | 11.30 | 0.001\* | 0.531 | 0.997 |
| F4-P4 |  | 2,19 | 2.64 | 0.089 | 0.209 | 0.491 |
| T7-T8 |  | 2,64 | 3.11 | 0.048\* | 0.238 | 0.624 |
| T7-P3 |  | 2,80 | 3.35 | 0.036\* | 0.251 | 0.678 |
| C3-C4 |  | 2,24 | 4.07 | 0.027\* | 0.289 | 0.694 |
| C3-P3 |  | 1,87 | 3.83 | 0.043\* | 0.277 | 0.605 |
| C4-P4 |  | 2,61 | 6.02 | 0.004\* | 0.376 | 0.901 |
| T8-P4 |  | 1,87 | 4.44 | 0.028\* | 0.308 | 0.674 |
| P3-P4 |  | 2,13 | 3.04 | 0.066 | 0.233 | 0.544 |
| P3-O1 |  | 2,45 | 2.88 | 0.066 | 0.224 | 0.562 |
| P4-O2 |  | 2,50 | 3.88 | 0.026\* | 0.280 | 0.710 |
| O1-O2 |  | 2,77 | 3.97 | 0.020\* | 0.285 | 0.757 |
| F3-F4 | Perf × Effort lev | 4,01 | 1.14 | 0.352 | 0.102 | 0.325 |
| F3-P3 |  | 4,29 | 1.72 | 0.158 | 0.147 | 0.501 |
| F4-P4 |  | 3,65 | 0.99 | 0.415 | 0.091 | 0.273 |
| T7-T8 |  | 4,81 | 1.18 | 0.330 | 0.106 | 0.377 |
| T7-P3 |  | 3,84 | 0.91 | 0.462 | 0.084 | 0.258 |
| C3-C4 |  | 4,77 | 2.62 | 0.038\* | 0.208 | 0.742 |
| C3-P3 |  | 3,32 | 1.24 | 0.311 | 0.110 | 0.316 |
| C4-P4 |  | 4,81 | 1.89 | 0.115 | 0.159 | 0.582 |
| T8-P4 |  | 3,67 | 1.75 | 0.164 | 0.149 | 0.463 |
| P3-P4 |  | 4,55 | 0.65 | 0.649 | 0.061 | 0.207 |
| P3-O1 |  | 4,83 | 1.07 | 0.387 | 0.097 | 0.342 |
| P4-O2 |  | 4,72 | 2.70 | 0.064 | 0.213 | 0.754 |
| O1-O2 |  | 3,86 | 1.13 | 0.356 | 0.102 | 0.316 |