Paul Funk et al. Wireless high-resolution surface facial electromyography analysis with adhesive electrode array foils for discrimination of standardized facial expressions in healthy adults: A prospective observational study

Legends

Supplementary Figure S1. Overview of the standardized facial movements (page 2)

Supplementary Figures S2-12. Average sEMG activation of all subjects of the different facial electrodes (channels) shown for each exercise separately (pages 3-13). The upper graph always shows meant amplitude values of the sEMG (rms values in μ V). The lower graph always shows relative values normalized to the maximum (separately per run). Statistically significant differences between runs are symbolized with dots (R1 vs. R2), rectangles (R1 vs. R3), and triangles (R2 vs. R3).

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Abbreviations for the 11 exercises in sequence of presentation:

R at rest

WF wrinkling of the forehead CEN closing the eyes normally closing the eyes forcefully

WN wrinkling of the nose
CMS closed mouth smiling
OMS open mouth smiling

LP lip puckering

BC blowing-out the cheeks

S snarling

DLL depressing lower lips

The standardized exercises



Face at rest (R)



Wrinkling of the forehead
(WF)



Closing the eyes normally (CEN)



closing the eyes forcefully (CEF)



Wrinkling of the nose (WN)



Closed mouth smiling (CMS)



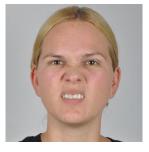
Open mouth smiling (OMS)



Lip puckering (LP)



Blowing-out the cheeks
(BC)

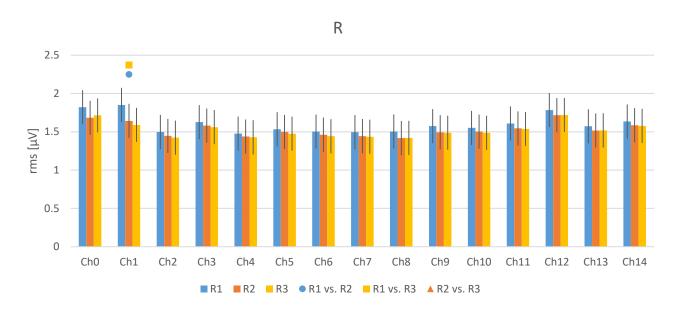


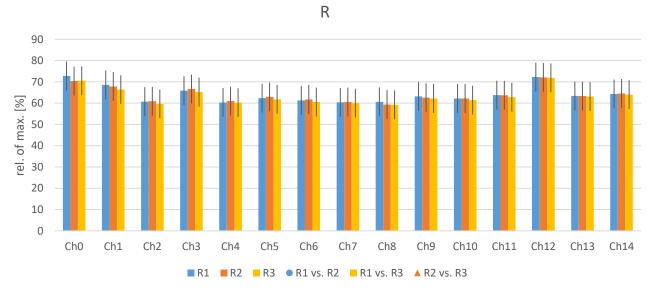
Snarling
(S)



Depressing lower lips (DLL)

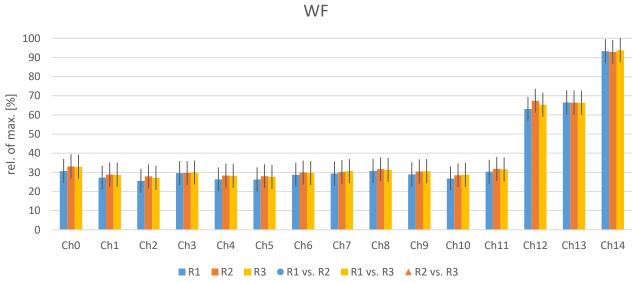
Exercise At rest (R)



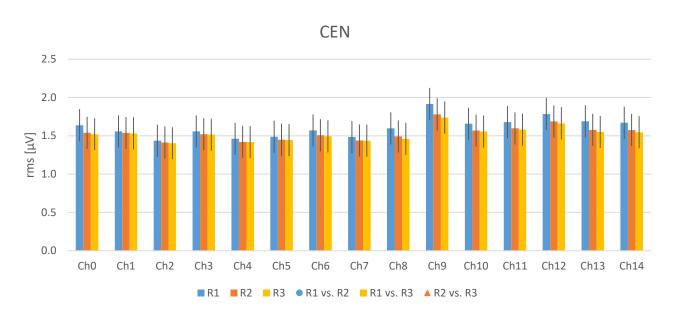


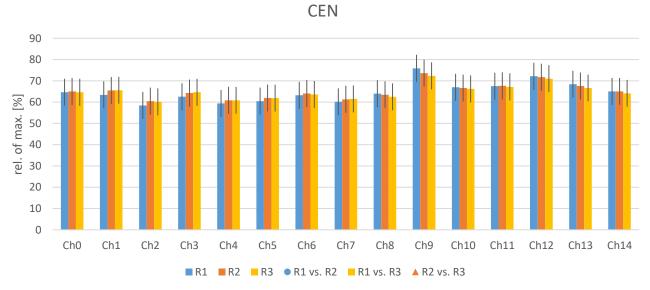
Exercise Wrinkling of the forehead (WF)



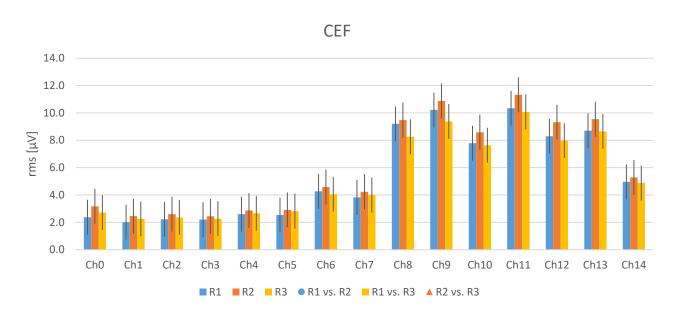


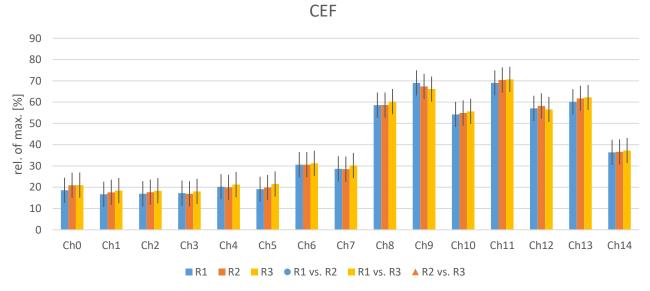
Exercise Closing the eyes normally (CEN)



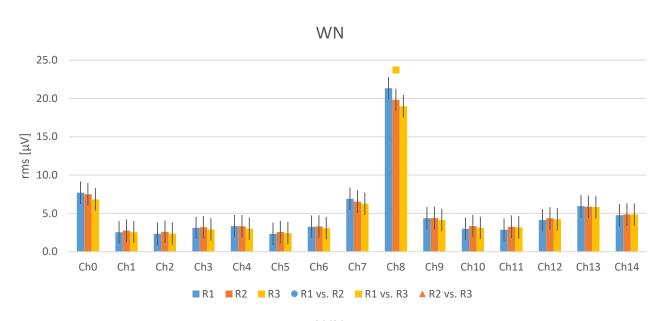


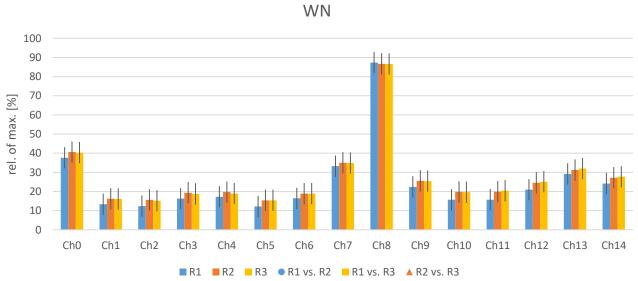
Exercise Closing the eyes forcefully (CEF)



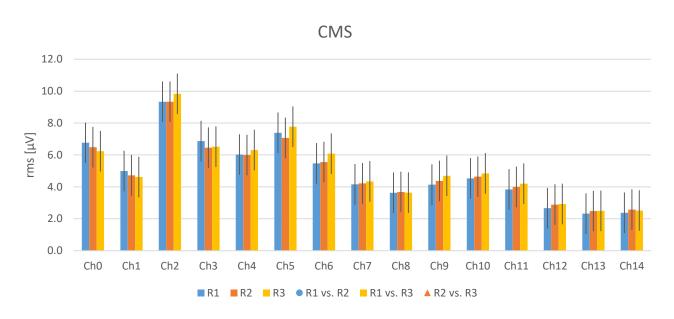


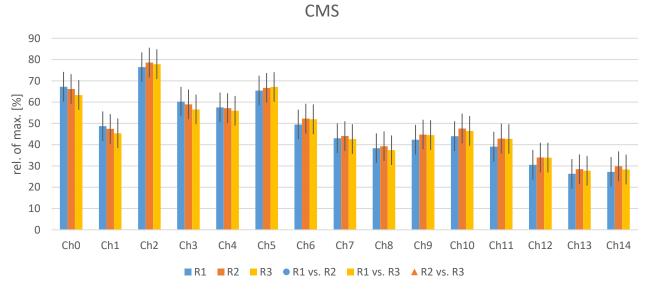
Exercise Wrinkling of the nose (WN)



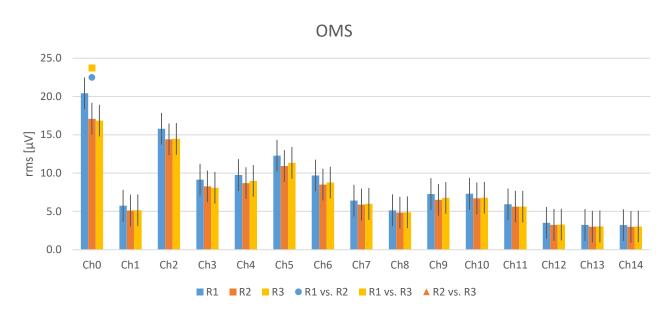


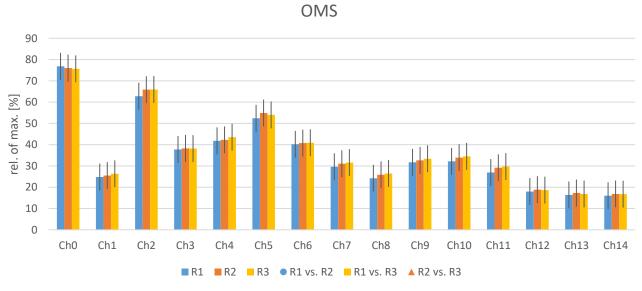
Exercise Closed mouth smiling (CMS)





Exercise Open mouth smiling (OMS)





10

Ch0

Ch1

Ch2

Ch3

Ch5

Ch6

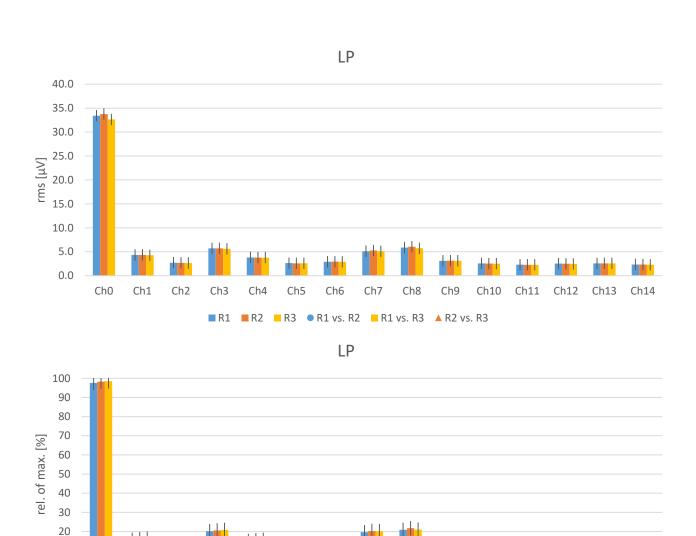
■R1 ■R2 ■R3 ●R1 vs. R2 ■R1 vs. R3 ▲ R2 vs. R3

Ch8

Ch9

Ch10

Exercise Lip puckering (LP)



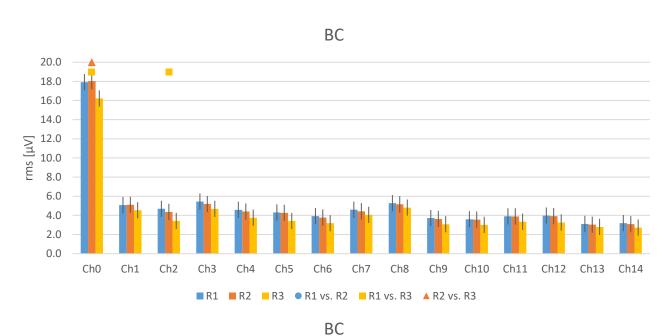
Ch11

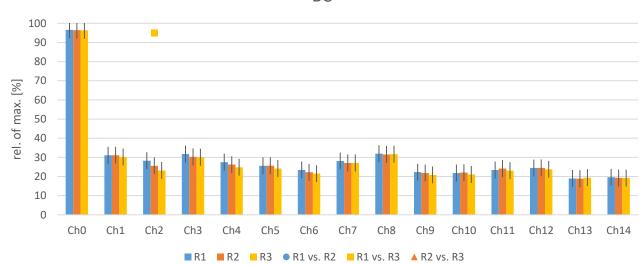
Ch12

Ch13

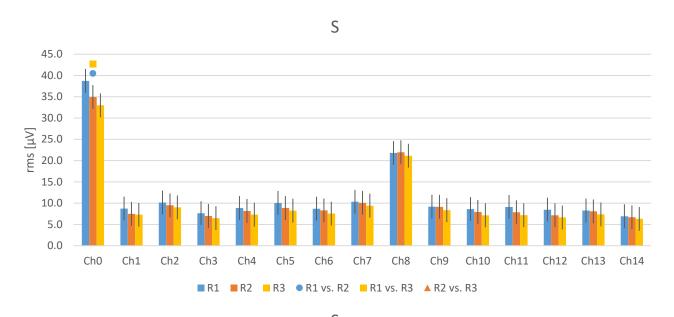
Ch14

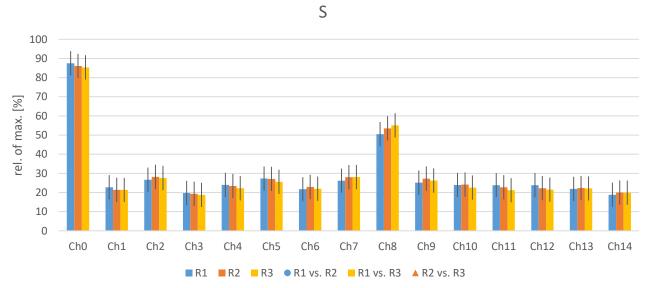
Exercise Blowing-out the cheeks (BC)





Exercise Snarling (S)





Exercise Depressing the lower lips (DLL)

