**BJPO/2015/000166**
**Data supplement**

Table DS1: Intention to treat analyses based on LOCF for behavioural and cognitive measures

| | Pre-Intervention (t1) [A] | | Post-Intervention (t2) [A] | | One-Year Follow-Up (t3) [A] | | Adjusted Difference [99% CI] at One-Year Follow-Up (t3-t1) [B] | Adjusted Difference [99% CI] at One-Year Follow-Up (t3-t2) [B] | ANOVA Time (t1 to t3) [C] | | | ANOVA NFB+TAU & TAU Over Time (t1 to t3) [D] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NFB+TAU Mean (SD) | TAU Mean (SD) | NFB+TAU Mean (SD) | TAU Mean (SD) | NFB+TAU Mean (SD) | TAU Mean (SD) | | | F | $\eta_p^2$ | p | F | $\eta_p^2$ | p |
| **Behaviour[E]** | | | | | | | | | | | | | | |
| *MINI[F]* | | | | | | | | | *df (1,85)* | | | | | |
| Inattention | 5.46(2.51) | 5.77(2.64) | n/a | n/a | 4.48(2.68) | 4.90(2.64) | *-.93[-1.39 to -.47]* | n/a | 16.07 | .16 | *.000* | .06 | .00 | .81 |
| H/I | 4.16(2.51) | 3.71(2.27) | n/a | n/a | 3.23(2.33) | 3.39(2.46) | *-.63[-1.19 to -.06]* | n/a | 8.44 | .09 | *.005* | 1.98 | .02 | .163 |
| *ADHD-rating[G]* | | | | | | | | | *df (2,84)* | | | | | |
| Inattention | 4.43(2.44) | 5.10(2.14) | 3.14(2.38) | 3.52(2.38) | 3.04(2.41) | 4.13(2.62) | *-1.18[-1.79 to -.57]* | .25[-.45 to .96] | 17.50 | .29 | *.000* | 1.00 | .02 | .373 |
| H/I | 3.48(2.16) | 3.52(2.14) | 2.82(2.33) | 4.06(2.72) | 2.29(2.32) | 3.13(2.50) | *-.79[-1.36 to-.22]* | -.74[-1.39 to -.08] | 9.44 | .18 | *.000* | 2.33 | .05 | .104 |
| *YSR[H]* | | | | | | | | | *df (2,84)* | | | | | |
| Attention | 9.32(3.17) | 9.74(3.13) | 7.75(3.33) | 9.19(3.38) | 7.63(3.30) | 8.03(3.28) | *-1.70[-2.56 to -.85]* | -.64[-1.27 to-.01] | 14.02 | .25 | *.000* | 2.60 | .06 | .080 |
| Externalizing | 16.39(9.35) | 16.13(8.71) | 14.68(7.37) | 14.29(9.16) | 14.05(7.99) | 13.55(8.85) | *-2.46[-4.36 to -.56]* | -.68[-2.05 to .69] | 5.96 | .12 | *.004* | .01 | .00 | .986 |
| Total | 49.25(20.88) | 51.84(18.41) | 42.91(18.40) | 46.42(19.44) | 41.93(20.36) | 41.41(19.05) | *-8.87[-13.99 to -3.75]* | -2.99[-6.91 to .93] | 10.42 | .20 | *.000* | .91 | .02 | .408 |
| **Cognition[I]** | | | | | | | | | | | | | | |
| *D2[J]* | | | | | | | | | *df (2,84)* | | | | | |
| Total processed items | 408.98(71.17) | 428.87(72.94) | 450.34(78.78) | 459.29(74.94) | 466.95(75.79) | 474.81(72.94) | *51.91[35.39 to 68.52]* | 16.06[4.33 to 27.80] | 34.27 | .45 | *.000* | .56 | .01 | .573 |
| Total correct | 159.89(30.48) | 165.39(29.4 | 177.78(34.5 | 182.48(30.5 | 183.20(32.6 | 190.45(34.7 | *24.18[17.44 to* | 6.65[1.34 to11.95] | 47.15 | .53 | *.00* | .21 | .01 | .80 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| processed items | 1) | 3) | 7) | 7) | 0) | *30.93]* | | | | | *0* | | | 8 |
| **DSB^K** | | | | | | | | *df (2,84)* | | | | | | |
| Total score | 6.36(1.65) | 6.61(1.87) | 6.55(1.66) | 7.35(2.20) | 6.57(2.04) | 7.42(2.49) | .51[-.01 to 1.03] | .04[-.38 to .46] | | | .02 | 1.3 | | .25 |
| | | | | | | | | | 4.11 | .09 | 0 | 9 | .03 | 6 |
| Longest row | 4.63(.91) | 4.94(.96) | 4.70(.95) | 5.13(1.23) | 4.70(1.16) | 5.29(1.30) | .21[-.09 to .52] | .08[-.18 to .34] | | | .19 | .78 | | .46 |
| | | | | | | | | | 1.68 | .04 | 3 | 3 | .02 | 0 |
| **Stroop^L** | | | | | | | | *df (2,84)* | | | | | | |
| Color/word | 100.55(24.10) | 97.74(27.73) | 94.50(23.05) | 94.06(32.93) | 96.46(29.17) | 90.06(21.83) | -5.92[-11.80 to-.04] | -1.00[-6.57 to 4.57] | | | .01 | 1.0 | | .37 |
| | | | | | | | | | 4.57 | .10 | 3 | 0 | .02 | 1 |
| Interference | 35.48(16.09) | 33.71(17.59) | 32.02(15.34) | 29.84 (18.96) | 34.20(21.12) | 28.87(12.11) | -3.06[-8.45 to2.33] | .61[-4.44 to 5.65] | | | .06 | | | .65 |
| | | | | | | | | | 2.77 | .06 | 8 | .42 | .01 | 8 |
| **TOL^M** | | | | | | | | *df (2,84)* | | | | | | |
| Correct score | 3.61(1.99) | 3.71(1.62) | 3.41(2.08) | 4.26(2.03) | 3.52(2.34) | 4.42(2.35) | .31[-.35 to .97] | .13[-.36 to .62] | | | .47 | 1.7 | | .18 |
| | | | | | | | | | .76 | .02 | 0 | 2 | .04 | 6 |
| Move score | 31.68(15.50) | 31.90(14.94) | 31.61(15.80) | 28.32(16.26) | 32.48(18.41) | 24.00(13.60) | -3.55[-8.67 to1.57] | -1.72[-5.90 to 2.45] | | | .19 | 2.5 | | .08 |
| | | | | | | | | | 1.65 | .04 | 8 | 7 | .06 | 2 |
| Initiation time | 26.43(21.92) | 25.94(22.94) | 25.86(25.12) | 28.00(23.21) | 29.00(22.48) | 30.03(26.65) | 3.33[-.78 to 7.45] | 2.59[-1.54 to 6.72] | | | .10 | | | .60 |
| | | | | | | | | | 2.32 | .05 | 5 | .50 | .01 | 9 |
| Execution time | 178.68(69.21) | 177.00(58.89) | 154.68(48.83) | 159.13(61.65) | 155.13(58.51) | 144.35(57.32) | *-28.10[-46.10 to-10.10]* | -7.16[-22.14 to 7.81] | 8.73 | .17 | *.00 0* | .89 | .02 | .41 6 |
| Total time | 205.11(76.34) | 202.94(66.11) | 180.54(57.05) | 187(68.94) | 184.13(66.20) | 174.39(67.98) | *-24.77[-43.63 to -5.90]* | -4.58[-20.73 to 11.57] | 6.54 | .14 | *.00 2* | .89 | .02 | .41 5 |

^A Data are means (SD); ^B Adjusted difference (AD) and 99% confidence interval [99%CI], between one-year follow-up minus pre-intervention are displayed for the total group (NFB+TAU and TAU); ^C GLM ANOVA with time (pre-intervention (t1) to direct post-intervention (t2) to one-year follow-up (t3)) as within factor; ^D GLM ANOVA with time (t1-t2-t3) as within factor and treatment group (NFB+TAU or TAU) as between factor.

^E Behavioural measures NFB+TAU (*n*=56) and TAU (*n*=31): ^F MINI Inattention and H/I were only reported at pre-intervention (T1) and at one-year follow-up (T3); ^G ADHD-rating scale self-reported current symptoms for Inattention and Hyperactive/Impulsive (H/I); ^H YSR scales: Attention problems, Externalizing problems and Total problems ^I Cognitive measures NFB+TAU (*n*=56) and TAU (*n*=31): ^J d2 attention test, ^K DSB=Digit Span Backwards, ^L Stroop is measured in time in seconds, due to administrative problems Stroop-results at pre-intervention (t1) were missing in the NFB+TAU group for one participant, these missing results were imputed by Last Observation Carried Backwards (LOCB) ,^M TOL=Tower of London, due to administrative problems TOL-results at pre-intervention (t1) were missing in the TAU group for one participant, these missing results were imputed by LOCB.

Table DS2: Intention to treat analyses based on Expectation Maximization for behavioural and cognitive measures

| | Pre-Intervention (t1) [A] | | Post-Intervention (t2) [A] | | One-Year Follow-Up (t3) [A] | | Adjusted Difference [99% CI] at One-Year Follow-Up (t3-t1) [B] | Adjusted Difference [99% CI] at One-Year Follow-Up (t3-t2) [B] | ANOVA Time (t1 to t3) [C] | | | ANOVA NFB+TAU & TAU Over Time (t1 to t3) [D] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NFB+TAU Mean (SD) | TAU Mean (SD) | NFB+TAU Mean (SD) | TAU Mean (SD) | NFB+TAU Mean (SD) | TAU Mean (SD) | | | F | $\eta_p^2$ | p | F | $\eta_p^2$ | p |
| **Behaviour [E]** | | | | | | | | | | | | | | |
| *MINI [F]* | | | | | | | | | df (1,85) | | | | | |
| Inattention | 5.46(2.51) | 5.77(2.64) | n/a | n/a | 3.98(2.34) | 4.51(2.32) | *-1.37[-2.02 to-.71]* | n/a | 30.35 | .26 | .000 | .19 | .04 | .66 |
| H/I | 4.16(2.51) | 3.71(2.27) | n/a | n/a | 2.81(2.09) | 2.82(1.95) | *-1.11[-1.73 to -.51]* | n/a | 23.36 | .22 | .000 | 1.01 | .01 | .317 |
| *ADHD-rating [G]* | | | | | | | | | df (2,84) | | | | | |
| Inattention | 4.43(2.44) | 5.10(2.14) | 2.84(2.42) | 3.46(2.30) | 2.55(2.21) | 3.51(2.56) | *-1.73[-2.32 to -1.15]* | -.12[-.59 to .35] | 31.82 | .43 | .000 | .54 | .01 | .582 |
| H/I | 3.48(2.16) | 3.52(2.14) | 2.36(2.02) | 2.45(2.02) | 1.96(2.03) | 2.39(1.91) | *-1.33[-1.93 to -.72]* | -.23[-.68 to .22] | 16.96 | .29 | .000 | .70 | .02 | .502 |
| *YSR [H]* | | | | | | | | | df (2,84) | | | | | |
| Attention | 9.32(3.17) | 9.74(3.13) | 7.46(3.20) | 8.95(3.37) | 7.13(3.18) | 7.48(3.13) | *-2.23[-3.03 to -1.42]* | -.90[-1.53 to -.27] | 27.93 | .40 | .000 | 3.02 | .07 | .054 |
| Externalizing | 16.39(9.35) | 16.13(8.71) | 14.02(6.81) | 13.57(7.81) | 13.06(7.24) | 12.21(6.61) | *-3.62[[-5.56 to-1.69]* | -1.16[-2.54 to .22] | 12.15 | .22 | .000 | .10 | .00 | .907 |
| Total | 49.25(20.88) | 51.84(18.41) | 41.17(16.79) | 45.46(18.88) | 39.67(18.46) | 39.20(16.41) | *-11.11[-16.05 to -6.17]* | -3.88[-7.84 to .08] | 17.46 | .29 | .000 | 1.24 | .03 | .296 |
| **Cognition [I]** | | | | | | | | | | | | | | |
| *D2 [J]* | | | | | | | | | df (2,84) | | | | | |
| Total processed items | 408.98(71.17) | 428.87(72.94) | 459.50(77.70) | 465.67(75.70) | 481.39(69.15) | 485.57(71.43) | *64.56[50.21 to 78.91]* | *20.90[9.19 to 32.61]* | 70.62 | .63 | .000 | 1.20 | .03 | .306 |
| Total correct processed items | 159.89(30.48) | 165.39(29.41) | 182.52(33.74) | 185.81(31.01) | 189.99(32.06) | 195.58(35.15) | *30.15[24.74 to 35.55]* | *8.62[3.36 to 13.89]* | 114.55 | .73 | .000 | .22 | .01 | .805 |
| *DSB [K]* | | | | | | | | | df (2,84) | | | | | |
| Total score | 6.36(1.65) | 6.61(1.87) | 6.70(1.49) | 7.47(2.11) | 6.74(1.91) | 7.48(2.31) | *.63[.13 to 1.13]* | .03[-.40 to .44] | 6.69 | .14 | .002 | 1.11 | .03 | .334 |
| Longest row | 4.63(.91) | 4.94(.96) | 4.80(.85) | 5.16(1.18) | 4.80(1.08) | 5.30(1.14) | *.27[-.01 to .56]* | .07[-.20 to .35] | 3.18 | .07 | .047 | .44 | .01 | .647 |

| | | | | | | | | | df (2,84) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Stroop^L*** | | | | | | | | | | | | | | |
| Color/word | 100.51(24.08) | 97.74(27.73) | 93.08(21.47) | 93.67(32.42) | 94.98(27.79) | 90.70(20.05) | *-6.28[-12.34 to -.230]* | -.54[-6.16 to 5.09] | 5.47 | .12 | .006 | .77 | .02 | .468 |
| Interference | 35.42(16.06) | 33.71(17.59) | 30.87(12.48) | 29.86(18.69) | 33.59(19.06) | 30.10(11.65) | *19.36[13.08 to 25.65]* | *23.58[17.91 to 29.25]* | 3.20 | .07 | .046 | .19 | .01 | .824 |
| ***TOL^M*** | | | | | | | | | df (2,84) | | | | | |
| Correct score | 3.61(1.99) | 3.66(1.57) | 3.42(1.88) | 4.31(1.98) | 3.63(2.02) | 4.37(2.15) | .369[-.29 to 1.03] | .13[-.38 to .65] | 1.09 | .03 | .342 | 1.94 | .04 | .150 |
| Move score | 31.68(15.50) | 32.18(14.60) | 30.61(15.55) | 27.54(15.19) | 32.12(16.67) | 24.60(10.81) | -3.57[-8.89 to 1.74] | -.72[-5.43 to 4.01] | 1.91 | .04 | .154 | 1.95 | .04 | .149 |
| Initiation time | 26.43(21.92) | 25.35(22.29) | 25.64(24.75) | 27.74(22.66) | 29.72(22.31) | 31.22(25.13) | *4.48[.61 to 8.54]* | 3.78[-.44 to 7.99] | 4.73 | .10 | .011 | .80 | .02 | .454 |
| Execution time | 178.68(69.21) | 178.16(57.79) | 146.38(37.23) | 150.22(48.15) | 146.81(49.55) | 135.74(32.01) | *-37.15[-56.07 to -18.23]* | -7.03[-23.10 to 9.05] | 14.51 | .26 | .000 | .75 | .02 | .476 |
| Total time | 205.11(76.34) | 203.51(65.85) | 172.03(45.36) | 177.96(51.88) | 176.53(60.75) | 166.95(45.50) | *-32.57[-52.53 to-12.61]* | -3.25[-20.50 to 14.00] | 11.01 | .21 | .000 | .70 | .02 | .501 |

[A] Data are means (SD); [B]Adjusted difference (AD) and 99% confidence interval [99%CI], between one-year follow-up minus pre-intervention are displayed for the total group (NFB+TAU and TAU); [C] GLM ANOVA with time (pre-intervention (t1) to direct post-intervention (t2) to one-year follow-up (t3)) as within factor; [D] GLM ANOVA with time (t1-t2-t3) as within factor and treatment group (NFB+TAU or TAU) as between factor.

[E]Behavioural measures NFB+TAU (*n*=56) and TAU (*n*=31): [F]MINI Inattention and H/I were only reported at pre-intervention (T1) and at one-year follow-up (T3); [G]ADHD-rating scale self-reported current symptoms for Inattention and Hyperactive/Impulsive (H/I); [H]YSR scales: Attention problems, Externalizing problems and Total problems [I]Cognitive measures NFB+TAU (*n*=56) and TAU (*n*=31): [J]d2 attention test, [K]DSB=Digit Span Backwards, [L]Stroop is measured in time in seconds, [M]TOL=Tower of London

Imputation based on Expectation Maximization (EM) was applied for the [E]behavioural attention subscales (MINI inattention +ADHD-rating inattention +YSR attention; Little MCAR test: $\chi^2$=21.35, *df*=23, p=.560), the behavioural H/I subscales (MINI H/I + ADHD-rating H/I; Little MCAR test: $\chi^2$=10.86, *df*=9, p=.285) and the behavioural externalizing and total problems on the YSR (Little MCAR test: $\chi^2$=5.51, *df*=6, p=.480) and the[I]cognitivemeasuresseparately (D2: Little MCAR test: $\chi^2$=16.29, *df*=10, p=.092; DSB: Little MCAR test: $\chi^2$=4.21, DF=6, p=.649;Stroop: Little MCAR test: $\chi^2$=6.82, *df*=12, p=.870; TOL: Little MCAR test: $\chi^2$=13.41, *df*=25, p=.971).