**Supplementary Table 1a.** Mean results from baseline and follow-up, and mean change between timepoints. Respective to each categorical moderator subgroup.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Subgroup | Variable | Baseline (SD) | Follow-up (SD) | Mean change | p |
| Boys (n = 451) |  |  |  |  |  |
| Total difficulties score (0-40) | 9.9 (5) | 10.5 (6.7) | 0.6 | .010 |
| Emotional problems (0-10) | 2.3 (1.8) | 2.5 (2.1) | 0.2 | .022 |
| Conduct problems (0-10) | 1.8 (1.6) | 1.9 (1.7) | 0.1 | .452 |
| Hyperactivity (0-10) | 4.0 (2.1) | 4.3 (2.2) | 0.3 | .006 |
| Peer problems (0-10) | 1.8 (1.7) | 1.9 (1.8) | 0.1 | .416 |
| Body mass index | 19.3 (2.8) | 20.1 (3.1) | 0.7 | <.001 |
| Standing broad jump (cm) | 181 (27) | 194 (27) | 13 | <.001 |
| Sit-ups (n/30 seconds) | 20 (4) | 21 (4) | 1 | <.001 |
| Handgrip strength (kg) | 32 (8.1) | 37 (9.3) | 5 | <.001 |
| Cardiorespiratory fitness (m) | 934 (98) | 962 (102) | 28 | <.001 |
| Girls (n = 474) |  |  |  |  |  |
| Total difficulties score (0-40) | 10.2 (5.1) | 10.6 (5.1) | 0.4 | .023 |
|  | Emotional problems (0-10) | 3.6 (2.8) | 3.9 (2.4) | 0.2 | .008 |
|  | Conduct problems (0-10) | 1.2 (1.3) | 1.2 (1.2) | 0 | >.999 |
|  | Hyperactivity (0-10) | 3.7 (2.1) | 3.9 (2.2) | 0.2 | .042 |
|  | Peer problems (0-10) | 1.6 (1.5) | 1.6 (1.6) | 0.1 | .662 |
|  | Body mass index | 20.2 (3) | 20.6 (3) | 0.4 | <.001 |
|  | Standing broad jump (cm) | 167 (21) | 168 (21) | 1 | .069 |
|  | Sit-ups (n/30 seconds) | 18 (4) | 19 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 29.1 (6) | 29.7 (6) | 0.6 | .002 |
|  | Cardiorespiratory fitness (m) | 886 (78) | 894 (88) | 8 | .007 |
| Immigrant (n = 74) |  |  |  |  |  |
| Total difficulties score (0-40) | 10.2 (5.3) | 10.7 (5) | 0.6 | .364 |
|  | Emotional problems (0-10) | 3.1 (2.1) | 3.1 (2.3) | 0.1 | .911 |
|  | Conduct problems (0-10) | 1.6 (1.5) | 1.6 (1.3) | 0.1 | .832 |
|  | Hyperactivity (0-10) | 3.7 (2) | 4.1 (2.1) | 0.5 | .042 |
|  | Peer problems (0-10) | 1.8 (1.6) | 2.0 (1.6) | 0.2 | .457 |
|  | Body mass index | 19.6 (3.1) | 20.1 (3.4) | 0.5 | <.001 |
|  | Standing broad jump (cm) | 175 (23) | 181 (27) | 7 | <.001 |
|  | Sit-ups (n/30 seconds) | 19 (4) | 20 (4) | 1 | .002 |
|  | Handgrip strength (kg) | 30.4 (7) | 32 (9) | 1.8 | .005 |
|  | Cardiorespiratory fitness (m) | 903 (82) | 927 (93) | 24 | .006 |
| Non-immigrant (n = 851) |  |  |  |  |  |
| Total difficulties score (0-40) | 10.1 (5) | 10.6 (5) | 0.5 | .001 |
| Emotional problems (0-10) | 2.9 (2.2) | 3.2 (2.4) | 0.3 | <.001 |
| Conduct problems (0-10) | 1.5 (1.4) | 1.6 (1.5) | 0.1 | .473 |
| Hyperactivity (0-10) | 3.9 (2.1) | 4.1 (2.2) | 0.2 | .004 |
| Peer problems (0-10) | 1.7 (1.6) | 1.7 (1.7) | 0.1 | .498 |
| Body mass index | 19.8 (3) | 20.3 (3) | 0.6 | <.001 |
| Standing broad jump (cm) | 174 (25) | 181 (28) | 7 | <.001 |
| Sit-ups (n/30 seconds) | 19 (4) | 20 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 30.6 (7) | 33.4 (9) | 2.8 | <.001 |
|  | Cardiorespiratory fitness (m) | 910 (92) | 927 (101) | 17 | <.001 |
| SES group 1 (n = 43) |  |  |  |  |  |
| Total difficulties score (0-40) | 11.1 (5) | 11.7 (6) | 0.6 | .509 |
|  | Emotional problems (0-10) | 3.1 (2.2) | 3.2 (2.4) | 0.1 | .717 |
|  | Conduct problems (0-10) | 1.7 (1.3) | 2.0 (1.9) | 0.3 | .313 |
|  | Hyperactivity (0-10) | 4.1 (1.8) | 4.5 (2.0) | 0.4 | .138 |
|  | Peer problems (0-10) | 2.2 (1.8) | 2.0 (1.6) | -0.3 | .377 |
|  | Body mass index | 20 (3) | 20.4 (3) | 0.4 | .023 |
|  | Standing broad jump (cm) | 171 (24) | 177 (26) | 6 | .014 |
|  | Sit-ups (n/30 seconds) | 18 (4) | 19 (3) | 1 | .070 |
|  | Handgrip strength (kg) | 29.6 (7) | 32.7 (8) | 3 | .001 |
|  | Cardiorespiratory fitness (m) | 884 (88) | 908 (105) | 25 | .002 |
| SES group 2 (n = 246) |  |  |  |  |  |
| Total difficulties score (0-40) | 10.8 (5) | 11.7 (5) | 0.9 | .004 |
|  | Emotional problems (0-10) | 2.9 (2.1) | 3.2 (2.3) | 0.3 | .038 |
|  | Conduct problems (0-10) | 1.7 (1.6) | 1.9 (1.5) | 0.2 | .085 |
|  | Hyperactivity (0-10) | 4.4 (2.1) | 4.7 (2.1) | 0.3 | .008 |
|  | Peer problems (0-10) | 1.8 (1.6) | 1.9 (1.8) | 0.1 | .304 |
|  | Body mass index | 20.1 (4) | 20.7 (4) | 0.6 | <.001 |
|  | Standing broad jump (cm) | 174 (25) | 181 (28) | 6 | <.001 |
|  | Sit-ups (n/30 seconds) | 19 (4) | 19 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 30.8 (8) | 33.5 (9) | 2.7 | <.001 |
|  | Cardiorespiratory fitness (m) | 904 (92) | 917 (103) | 13 | .007 |
| SES group 3 (n = 374) |  |  |  |  |  |
| Total difficulties score (0-40) | 9.9 (5) | 9.9 (5) | 0 | .980 |
|  | Emotional problems (0-10) | 2.9 (2.2) | 3.1 (2.3) | 0.1 | .210 |
|  | Conduct problems (0-10) | 1.4 (1.4) | 1.4 (1.4) | 0.1 | .216 |
|  | Hyperactivity (0-10) | 3.8 (2) | 3.9 (2.2) | 0.1 | .599 |
|  | Peer problems (0-10) | 1.7 (1.6) | 1.6 (1.7) | 0.1 | .406 |
|  | Body mass index | 20 (3) | 20 (3) | 0.5 | <.001 |
|  | Standing broad jump (cm) | 174 (25) | 181 (27) | 7 | <.001 |
|  | Sit-ups (n/30 seconds) | 19 (4) | 20 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 30.5 (7) | 33.1 (8) | 2.5 | <.001 |
|  | Cardiorespiratory fitness (m) | 912 (94) | 939 (102) | 18 | <.001 |
| SES group 4 (n = 262) |  |  |  |  |  |
| Total difficulties score (0-40) | 9.4 (5) | 10.3 (5) | 0.9 | .002 |
|  | Emotional problems (0-10) | 3.0 (2.2) | 3.4 (2.4) | 0.4 | .005 |
|  | Conduct problems (0-10) | 1.4 (1.4) | 1.5 (1.4) | 0.1 | .696 |
|  | Hyperactivity (0-10) | 3.4 (2.1) | 3.6 (2.2) | 0.3 | .015 |
|  | Peer problems (0-10) | 1.6 (1.6) | 1.8 (1.7) | 0.2 | .051 |
|  | Body mass index | 19 (3) | 20 (3) | 0.5 | <.001 |
|  | Standing broad jump (cm) | 174 (25) | 182 (27) | 8 | <.001 |
|  | Sit-ups (n/30 seconds) | 20 (4) | 20 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 30.5 (7) | 33.6 (9) | 3 | <.001 |
|  | Cardiorespiratory fitness (m) | 914 (87) | 936 (95) | 22 | <.001 |
| Intervention group 1 (n = 386) |  |  |  |  |  |
| Total difficulties score (0-40) | 10.3 (5) | 10.6 (5) | 0.3 | .150 |
|  | Emotional problems (0-10) | 2.9 (2.1) | 3.1 (3) | 0.2 | .021 |
|  | Conduct problems (0-10) | 1.6 (1.4) | 1.5 (1.3) | 0.1 | .215 |
|  | Hyperactivity (0-10) | 3.9 (2.1) | 4.1 (2.2) | 0.2 | .014 |
|  | Peer problems (0-10) | 1.9 (1.7) | 1.8 (1.7) | 0.1 | .598 |
|  | Body mass index | 20 (3) | 20 (3) | 0.6 | <.001 |
|  | Standing broad jump (cm) | 170 (26) | 179 (26) | 8 | <.001 |
|  | Sit-ups (n/30 seconds) | 18 (3) | 20 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 30.4 (6) | 32.9 (8) | 2.5 | <.001 |
|  | Cardiorespiratory fitness (m) | 900 (98) | 931 (113) | 31 | <.001 |
| Intervention group 2 (n = 230) |  |  |  |  |  |
| Total difficulties score (0-40) | 10.2 (5) | 10.7 (5) | 0.5 | .081 |
|  | Emotional problems (0-10) | 3.1 (2.2) | 3.2 (2.3) | 0.1 | .448 |
|  | Conduct problems (0-10) | 1.5 (1.5) | 1.7 (1.6) | 0.2 | .089 |
|  | Hyperactivity (0-10) | 3.9 (2.2) | 4.0 (2.2) | 0.1 | .793 |
|  | Peer problems (0-10) | 1.6 (1.5) | 1.8 (1.7) | 0.2 | .067 |
|  | Body mass index | 20 (3) | 20 (3) | 0.6 | <.001 |
|  | Standing broad jump (cm) | 176 (24) | 181 (29) | 5 | <.001 |
|  | Sit-ups (n/30 seconds) | 19 (4) | 20 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 30.9 (8) | 33.1 (9) | 2.2 | <.001 |
|  | Cardiorespiratory fitness (m) | 910 (85) | 912 (99) | 2 | .708 |
| Control group (n = 309) |  |  |  |  |  |
| Total difficulties score (0-40) | 9.7 (5) | 10.4 (6) | 0.8 | .005 |
|  | Emotional problems (0-10) | 2.9 (2.2) | 3.2 (2.5) | 0.3 | .007 |
|  | Conduct problems (0-10) | 1.4 (1.4) | 1.5 (1.6) | 0.1 | .375 |
|  | Hyperactivity (0-10) | 3.7 (2.1) | 4.0 (2.2) | 0.3 | .005 |
|  | Peer problems (0-10) | 1.6 (1.6) | 1.6 (1.7) | 0.1 | .531 |
|  | Body mass index | 20 (3) | 20 (3) | 0.5 | <.001 |
|  | Standing broad jump (cm) | 177 (23) | 184 (27) | 7 | <.001 |
|  | Sit-ups (n/30 seconds) | 20 (4) | 20 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 30.5 (7) | 33.9 (9) | 3.5 | <.001 |
|  | Cardiorespiratory fitness (m) | 920 (86) | 933 (84) | 13 | <.001 |
| Normal TDS at baseline (n = 799) |  |  |  |  |  |
| Total difficulties score (0-40) | 8.6 (4) | 9.6 (5) | 1 | <.001 |
|  | Emotional problems (0-10) | 2.5 (1.8) | 2.9 (2.2) | 0.4 | <.001 |
|  | Conduct problems (0-10) | 1.3 (1.2) | 1.4 (1.4) | 0.1 | .005 |
|  | Hyperactivity (0-10) | 3.5 (1.9) | 3.8 (2.1) | 0.3 | <.001 |
|  | Peer problems (0-10) | 1.4 (1.3) | 1.6 (1.6) | 0.2 | .002 |
|  | Body mass index | 20 (3) | 20 (3) | 0.6 | <.001 |
|  | Standing broad jump (cm) | 174 (25) | 182 (28) | 7 | <.001 |
|  | Sit-ups (n/30 seconds) | 19 (4) | 20 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 30.7 (7) | 33.3 (9) | 2.6 | <.001 |
|  | Cardiorespiratory fitness (m) | 911 (91) | 930 (100) | 19 | <.001 |
| Borderline TDS at baseline (n = 84) |  |  |  |  |  |
| Total difficulties score (0-40) | 17.1 (1) | 15.3 (5) | -1.8 | .002 |
|  | Emotional problems (0-10) | 5.2 (1.9) | 4.8 (2.5) | -0.4 | .135 |
|  | Conduct problems (0-10) | 2.8 (1.7) | 2.5 (1.7) | -0.3 | .117 |
|  | Hyperactivity (0-10) | 6.0 (2) | 5.5 (2.1) | -0.5 | .033 |
|  | Peer problems (0-10) | 3.1 (1.6) | 2.6 (2) | -0.5 | .029 |
|  | Body mass index | 20 (3) | 20 (3) | 0.6 | <.001 |
|  | Standing broad jump (cm) | 170 (22) | 175 (26) | 15 | .001 |
|  | Sit-ups (n/30 seconds) | 18 (4) | 19 (4) | 1 | .048 |
|  | Handgrip strength (kg) | 29.5 (7) | 32.7 (8) | 3.2 | <.001 |
|  | Cardiorespiratory fitness (m) | 893 (95) | 908 (97) | 15 | .061 |
| Abnormal TDS at baseline (n = 42) |  |  |  |  |  |
| Total difficulties score (0-40) | 22.9 (3) | 18.9 (6) | -4 | <.001 |
|  | Emotional problems (0-10) | 6.9 (2) | 6.0 (2.4) | -0.9 | .035 |
|  | Conduct problems (0-10) | 4.2 (1.6) | 2.9 (1.8) | -1.3 | <.001 |
|  | Hyperactivity (0-10) | 6.9 (1.7) | 6.2 (2.1) | -0.6 | .039 |
|  | Peer problems (0-10) | 4.9 (2) | 3.8 (2) | -1.1 | .004 |
|  | Body mass index | 20 (4) | 21 (4) | 0.3 | .179 |
|  | Standing broad jump (cm) | 172 (28) | 177 (30) | 5 | .058 |
|  | Sit-ups (n/30 seconds) | 18 (4) | 19 (4) | 0.4 | .437 |
|  | Handgrip strength (kg) | 30.8 (8) | 34.6 (10) | 3.8 | <.001 |
|  | Cardiorespiratory fitness (m) | 904 (86) | 912 (111) | 8 | .439 |
| Girls in SES group 4 (n = 135) |  |  |  |  |  |
| Total difficulties score (0-40) | 9.7 (5) | 10.4 (5) | 0.7 | .071 |
|  | Emotional problems (0-10) | 3.7 (2.3) | 4.2 (2.3) | 0.4 | .026 |
|  | Conduct problems (0-10) | 1.1 (1.2) | 1.2 (1.2) | 0.1 | .773 |
|  | Hyperactivity (0-10) | 3.3 (2.1) | 3.4 (2.1) | 0.1 | .433 |
|  | Peer problems (0-10) | 1.5 (1.4) | 1.6 (1.6) | 0.1 | .387 |
|  | Body mass index | 20 (3) | 20 (3) | 0.3 | .001 |
|  | Standing broad jump (cm) | 169 (20) | 169 (21) | 0.2 | .884 |
|  | Sit-ups (n/30 seconds) | 18 (4) | 19 (4) | 1 | <.001 |
|  | Handgrip strength (kg) | 29.5 (5) | 30.3 (6) | 0.8 | .038 |
|  | Cardiorespiratory fitness (m) | 889 (73) | 906 (81) | 17 | .001 |

*Note.* SES = Socioeconomic status expressed as the parent with highest education. SES-group 1 = lower secondary school; SES-group 2 = upper secondary school; SES-group 3 = <4 years university education; SES-group 4 = >4years university education. TDS = Total Difficulties Score; Normal, Borderline, Abnormal TDS = 0-15, 16-19, 20-40