**Supplementary material**

**Supplementary methods**

***Latent Profile Analysis***

Latent Profile Analysis (LPA) was previously performed and described within the Generation R Study (Blok et al., 2021) and for the purpose of this study repeated within the ABCD-study. In brief, T-scores of all syndrome scales from the CBCL (Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-breaking Behavior and Aggressive Behavior) were used as indicators. The optimal number of profiles was determined based on five criteria: (1.) the Bayesian Information Criterion (lower value indicating a better fit), (2.) the Bootstrapped Likelihood Ratio Test (compares k classes versus k – 1 classes), (3.) the entropy of the models (values closer to 1 indicating better classification), (4.) all profiles should contain at least 1% of the participants, and (5.) all additional profiles should have a distinct severity or shape pattern based on visual inspection. Model fit indices for the ABCD-study are provided in Supplementary Table S4, and obtained LPA profiles for the ABCD-study are presented in Figure S1. LPA was performed in MPlus version 8.

**Supplementary Tables**

Table S1. Reliability of the Erasmus Index, by age and overall

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **average** |
| .93 | .92 | .93 | .93 | .93 | .92 | .95 | .93 | .94 | .94 | .95 | .93 |

Table S2. Erasmus Index Equivalents of Sums of Scaled Scores

| Sum of Scaled Scores | ERAI | Percentile  Rank | 90% Confidence Interval | 95% Confidence Interval |
| --- | --- | --- | --- | --- |
| **4** | **45** | <0.1 | 43–55 | 42–56 |
| **5** | **46** | <0.1 | 44–56 | 43–57 |
| **6** | **47** | <0.1 | 45–57 | 43–58 |
| **7** | **48** | <0.1 | 46–58 | 44–59 |
| **8** | **49** | <0.1 | 46–59 | 45–60 |
| **9** | **50** | <0.1 | 47–60 | 46–61 |
| **10** | **52** | 0.1 | 49–61 | 48–63 |
| **11** | **53** | 0.1 | 50–62 | 49–64 |
| **12** | **55** | 0.1 | 52–64 | 51–65 |
| **13** | **56** | 0.2 | 53–65 | 52–66 |
| **14** | **58** | 0.3 | 55–67 | 54–68 |
| **15** | **59** | 0.3 | 56–68 | 55–69 |
| **16** | **61** | 0.5 | 58–70 | 56–71 |
| **17** | **62** | 1 | 59–71 | 57–72 |
| **18** | **64** | 1 | 60–73 | 59–74 |
| **19** | **65** | 1 | 61–74 | 60–75 |
| **20** | **67** | 1 | 63–75 | 62–77 |
| **21** | **68** | 2 | 64–76 | 63–77 |
| **22** | **70** | 2 | 66–78 | 65–79 |
| **23** | **71** | 3 | 67–79 | 66–80 |
| **24** | **73** | 4 | 69–81 | 68–82 |
| **25** | **74** | 4 | 70–82 | 69–83 |
| **26** | **76** | 5 | 72–84 | 70–85 |
| **27** | **77** | 6 | 73–85 | 71–86 |
| **28** | **79** | 8 | 74–87 | 73–88 |
| **29** | **81** | 10 | 76–88 | 75–90 |
| **30** | **82** | 12 | 77–89 | 76–90 |
| **31** | **84** | 14 | 79–91 | 78–92 |
| **32** | **86** | 18 | 81–93 | 80–94 |
| **33** | **88** | 21 | 83–95 | 82–96 |
| **34** | **90** | 25 | 85–97 | 83–98 |
| **35** | **91** | 27 | 86–98 | 84–99 |
| **36** | **93** | 32 | 87–100 | 86–101 |
| **37** | **94** | 34 | 88–100 | 87–102 |
| **38** | **96** | 39 | 90–102 | 89–104 |
| **39** | **98** | 45 | 92–104 | 91–105 |
| **40** | **100** | 50 | 94–106 | 93–107 |
| **41** | **102** | 55 | 96–108 | 95–109 |
| **42** | **103** | 58 | 97–109 | 96–110 |
| **43** | **105** | 63 | 99–111 | 97–112 |
| **44** | **107** | 68 | 100–113 | 99–114 |
| **45** | **109** | 73 | 102–114 | 101–116 |
| **46** | **111** | 77 | 104–116 | 103–117 |
| **47** | **112** | 79 | 105–117 | 104–118 |
| **48** | **114** | 82 | 107–119 | 106–120 |
| **49** | **116** | 86 | 109–121 | 108–122 |
| **50** | **117** | 87 | 110–122 | 109–123 |
| **51** | **119** | 90 | 112–124 | 110–125 |
| **52** | **120** | 91 | 113–125 | 111–126 |
| **53** | **122** | 93 | 114–127 | 113–128 |
| **54** | **123** | 94 | 115–127 | 114–129 |
| **55** | **125** | 95 | 117–129 | 116–130 |
| **56** | **126** | 96 | 118–130 | 117–131 |
| **57** | **128** | 97 | 120–132 | 119–133 |
| **58** | **130** | 98 | 122–134 | 121–135 |
| **59** | **132** | 98 | 124–136 | 123–137 |
| **60** | **133** | 99 | 125–137 | 123–138 |
| **61** | **135** | 99 | 126–139 | 125–140 |
| **62** | **136** | 99 | 127–140 | 126–141 |
| **63** | **138** | 99 | 129–141 | 128–143 |
| **64** | **139** | 99.5 | 130–142 | 129–144 |
| **65** | **140** | 99.6 | 131–143 | 130–144 |
| **66** | **142** | 99.7 | 133–145 | 132–146 |
| **67** | **143** | 99.8 | 134–146 | 133–147 |
| **68** | **145** | 99.9 | 136–148 | 135–149 |
| **69** | **146** | 99.9 | 137–149 | 136–150 |
| **70** | **148** | 99.9 | 139–151 | 137–152 |
| **71** | **149** | 99.9 | 139–152 | 138–153 |
| **72** | **151** | >99.9 | 141–154 | 140–155 |
| **73** | **152** | >99.9 | 142–154 | 141–156 |
| **74** | **153** | >99.9 | 143–155 | 142–157 |
| **75** | **154** | >99.9 | 144–156 | 143–157 |
| **76** | **155** | >99.9 | 145–157 | 144–158 |

|  |  |  |
| --- | --- | --- |
| **Supplementary Table 3. Crohnbach's alphas for broad CBCL scales** | | |
|  | ABCD-study | Generation R |
| Internalizing | 0.87 | 0.88 |
| Externalizing | 0.89 | 0.88 |
| Dysregulation Profile | 0.93 | 0.91 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S4. Model fit LPA ABCD-study** | | | |  |  |
| Cohort | Classes | N | BIC | Entropy | VLMR p-value |
| ABCD Study | 2 | 9,981 | 471,070.817 | 0.973 | 0 |
| ABCD Study | 3 | 9,981 | 462,143.864 | 0.952 | 0 |
| ABCD Study | 4 | 9,981 | 457,674.831 | 0.962 | 0 |
| ABCD Study | 5 | 9,981 | 454,403.722 | 0.945 | 0.0035 |
| ABCD Study | 6 | 9,981 | 452,066.816 | 0.948 | 0.2941 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplementary Table S5. Associations between continuous symptoms of psychopathology for syndrome scales underlying broad CBCL scales and cognitive performance** | | | | | | | | | | |
|  |  | Anxious/Depressed | | | Withdrawn/Depressed | | | Somatic Complaints | | |
| Sample | Measure | ß | S.E. | p-value | ß | S.E. | p-value | ß | S.E. | p-value |
| ABCD-study | Picture Vocabulary | 0.00 | 0.00 | 1.57E-01 | 0.00 | 0.01 | 7.79E-01 | 0.01 | 0.00 | 2.53E-01 |
| Oral Reading | 0.00 | 0.00 | 5.65E-01 | -0.01 | 0.01 | 1.33E-01 | -0.01 | 0.01 | 2.32E-01 |
| Fluid Reasoning | 0.00 | 0.00 | 4.63E-01 | -0.01 | 0.01 | 2.98E-01 | -0.01 | 0.01 | 1.02E-01 |
| Working Memory | -0.01 | 0.00 | **3.25E-02** | -0.02 | 0.01 | **8.88E-03** | -0.01 | 0.01 | 1.86E-01 |
| Processing Speed | -0.01 | 0.00 | **2.88E-03** | 0.00 | 0.01 | 7.49E-01 | -0.01 | 0.01 | 2.93E-01 |
| Cognitive composite score | -0.01 | 0.00 | **3.72E-04** | -0.02 | 0.01 | **2.72E-04** | -0.01 | 0.00 | 8.03E-02 |
|  | Attention Problems | | | Rule-breaking Behavior | | | Aggressive Behavior | | |
|  | ß | S.E. | p-value | ß | S.E. | p-value | ß | S.E. | p-value |
| Picture Vocabulary | -0.02 | 0.00 | **7.99E-15** | -0.03 | 0.01 | **2.45E-10** | -0.01 | 0.00 | **2.29E-07** |
| Oral Reading | -0.05 | 0.00 | **0.00E+00** | -0.04 | 0.01 | **4.94E-12** | -0.01 | 0.00 | **6.50E-10** |
| Fluid Reasoning | -0.03 | 0.00 | **0.00E+00** | -0.04 | 0.01 | **9.81E-14** | -0.02 | 0.00 | **7.47E-11** |
| Working Memory | -0.04 | 0.00 | **0.00E+00** | -0.04 | 0.01 | **1.75E-12** | -0.02 | 0.00 | **1.29E-12** |
| Processing Speed | -0.03 | 0.00 | **0.00E+00** | -0.01 | 0.01 | 2.00E-01 | -0.01 | 0.00 | **1.11E-02** |
| Cognitive composite score | -0.05 | 0.00 | **0.00E+00** | -0.05 | 0.01 | **0.00E+00** | -0.02 | 0.00 | **0.00E+00** |
|  |  | Anxious/Depressed | | | Withdrawn/Depressed | | | Somatic Complaints | | |
| Sample | Measure | ß | S.E. | p-value | ß | S.E. | p-value | ß | S.E. | p-value |
| Generation R | Vocabulary | 0.03 | 0.01 | **1.93E-02** | 0.07 | 0.01 | **1.21E-05** | 0.00 | 0.02 | 8.79E-01 |
| Fluid Reasoning | 0.00 | 0.02 | 8.55E-01 | 0.02 | 0.02 | 2.94E-01 | -0.04 | 0.02 | **1.81E-02** |
| Working Memory | -0.04 | 0.02 | **4.61E-03** | -0.02 | 0.02 | 1.96E-01 | -0.03 | 0.02 | **3.51E-02** |
| Processing Speed | -0.06 | 0.02 | **2.82E-05** | -0.02 | 0.02 | 1.89E-01 | -0.06 | 0.02 | **3.18E-04** |
| FSIQ | -0.03 | 0.02 | **4.30E-02** | 0.01 | 0.02 | 3.26E-01 | -0.05 | 0.02 | **1.48E-03** |
|  | Attention Problems | | | Rule-breaking Behavior | | | Aggressive Behavior | | |
|  | ß | S.E. | p-value | ß | S.E. | p-value | ß | S.E. | p-value |
| Vocabulary | -0.06 | 0.01 | **5.65E-05** | -0.03 | 0.01 | **2.20E-02** | -0.04 | 0.01 | **1.66E-02** |
| Fluid Reasoning | -0.09 | 0.02 | **2.02E-09** | -0.07 | 0.02 | **1.29E-05** | -0.07 | 0.02 | **1.94E-05** |
| Working Memory | -0.15 | 0.02 | **0.00E+00** | -0.08 | 0.02 | **2.30E-07** | -0.08 | 0.02 | **3.18E-07** |
| Processing Speed | -0.21 | 0.02 | **0.00E+00** | -0.07 | 0.02 | **8.62E-07** | -0.09 | 0.02 | **1.72E-09** |
| FSIQ | -0.19 | 0.01 | **0.00E+00** | -0.09 | 0.01 | **4.46E-10** | -0.10 | 0.01 | **2.00E-11** |
| Models were corrected for child sex and age at assessment, child national origin/race, socioeconomic status and parental psychopathology. | | | | | | | | | | |
| Psychopathology and cognitive performance measures were standardized to obtain ß coefficients. | | | | | | | | | | |
| Results that are significant at p <0.05 are shown in bold | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S6. Associations between categorical subgroups of psychopathology and cognitive performance, with the internalizing subgroup as reference category** | | | | | | | | | |
|  |  |  | Externalizing | | | Dysregulation Profile | | |
| Sample | Measure | Model | B | S.E. | p-value | B | S.E. | p-value |
| ABCD-study | Picture Vocabulary | model 1 | -2.34 | 0.39 | **1.46E-09** | -2.46 | 0.46 | **7.45E-08** |
| model 2 | -0.97 | 0.34 | **4.29E-03** | -0.99 | 0.40 | **1.43E-02** |
| Oral Reading | model 1 | -1.53 | 0.33 | **3.56E-06** | -2.33 | 0.39 | **2.29E-09** |
| model 2 | -0.59 | 0.31 | 5.63E-02 | -1.29 | 0.37 | **4.36E-04** |
| Fluid Reasoning | model 1 | -0.69 | 0.14 | **4.78E-07** | -1.03 | 0.16 | **3.07E-10** |
| model 2 | -0.34 | 0.13 | **9.08E-03** | -0.64 | 0.16 | **3.51E-05** |
| Working Memory | model 1 | -2.49 | 0.58 | **2.09E-05** | -4.34 | 0.69 | **3.51E-10** |
| model 2 | -0.91 | 0.55 | 9.77E-02 | -2.72 | 0.65 | **3.14E-05** |
| Processing Speed | model 1 | -0.80 | 0.70 | 2.48E-01 | -1.93 | 0.82 | **1.91E-02** |
| model 2 | 0.09 | 0.69 | 9.00E-01 | -0.91 | 0.82 | 2.67E-01 |
| Cognitive composite score | model 1 | -3.63 | 0.64 | **1.19E-08** | -5.32 | 0.75 | **1.80E-12** |
| model 2 | -1.16 | 0.56 | **3.84E-02** | -2.70 | 0.66 | **4.69E-05** |
| Generation R | Vocabulary | model 1 | -0.48 | 0.21 | **2.20E-02** | -0.34 | 0.31 | 2.73E-01 |
| model 2 | -0.43 | 0.20 | **2.85E-02** | -0.15 | 0.29 | 6.11E-01 |
| Fluid Reasoning | model 1 | -0.35 | 0.19 | 6.29E-02 | -0.96 | 0.28 | **5.76E-04** |
| model 2 | -0.33 | 0.19 | 7.21E-02 | -0.84 | 0.27 | **2.13E-03** |
| Working Memory | model 1 | -0.14 | 0.20 | 4.73E-01 | -0.68 | 0.29 | **1.90E-02** |
| model 2 | -0.13 | 0.19 | 5.05E-01 | -0.55 | 0.28 | 5.30E-02 |
| Processing Speed | model 1 | 0.02 | 0.23 | 9.20E-01 | -0.43 | 0.34 | 2.04E-01 |
| model 2 | 0.02 | 0.23 | 9.24E-01 | -0.40 | 0.34 | 2.40E-01 |
| FSIQ | model 1 | -1.57 | 0.95 | 9.93E-02 | -4.07 | 1.41 | **3.78E-03** |
| model 2 | -1.44 | 0.91 | 1.14E-01 | -3.26 | 1.35 | **1.57E-02** |
| Model 1 was corrected for child sex and age at assessment, model 2 was additionally corrected for child national origin/race and socioeconomic status. | | | | | | | | | |
| Results that are significant at p <0.05 are shown in bold | | | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S7. Associations between categorical subgroups of psychopathology and cognitive performance, with the externalizing subgroup as reference category** | | | | | |
|  |  |  | Dysregulation Profile | | |
| Sample | Measure | Model | B | S.E. | p-value |
| ABCD-study | Picture Vocabulary | model 1 | -0.12 | 0.49 | 8.00E-01 |
| model 2 | -0.02 | 0.43 | 9.68E-01 |
| Oral Reading | model 1 | -0.81 | 0.42 | 5.26E-02 |
| model 2 | -0.70 | 0.39 | 7.30E-02 |
| Fluid Reasoning | model 1 | -0.33 | 0.17 | 5.45E-02 |
| model 2 | -0.30 | 0.17 | 6.85E-02 |
| Working Memory | model 1 | -1.86 | 0.74 | **1.17E-02** |
| model 2 | -1.81 | 0.70 | **9.26E-03** |
| Processing Speed | model 1 | -1.13 | 0.88 | 1.99E-01 |
| model 2 | -1.00 | 0.87 | 2.53E-01 |
| Cognitive composite score | model 1 | -1.69 | 0.80 | **3.55E-02** |
| model 2 | -1.54 | 0.71 | **2.88E-02** |
| Generation R | Vocabulary | model 1 | 0.14 | 0.30 | 6.45E-01 |
| model 2 | 0.28 | 0.29 | 3.21E-01 |
| Fluid Reasoning | model 1 | -0.61 | 0.27 | **2.58E-02** |
| model 2 | -0.51 | 0.27 | 5.86E-02 |
| Working Memory | model 1 | -0.54 | 0.28 | 5.78E-02 |
| model 2 | -0.42 | 0.28 | 1.30E-01 |
| Processing Speed | model 1 | -0.45 | 0.33 | 1.73E-01 |
| model 2 | -0.42 | 0.33 | 2.06E-01 |
| FSIQ | model 1 | -2.51 | 1.38 | 6.92E-02 |
| model 2 | -1.82 | 1.32 | 1.69E-01 |
| Model 1 was corrected for child sex and age at assessment, model 2 was additionally corrected for child national origin/race and socioeconomic status. | | | | | |
| Results that are significant at p <0.05 are shown in bold | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S8. Sensitivity analyses of the associations between continuous symptoms of psychopathology and cognitive performance (additionally adjusted for maternal IQ)** | | | | | | | | | | |
|  | Internalizing | | | Externalizing | | | Dysregulation Profile | | |  |
| Measure | ß | S.E. | p-value | ß | S.E. | p-value | ß | S.E. | p-value |  |
| Vocabulary | 0.04 | 0.02 | **1.39E-02** | -0.03 | 0.01 | **2.12E-02** | -0.03 | 0.01 | **4.27E-02** |  |
| Fluid Reasoning | -0.01 | 0.02 | 4.17E-01 | -0.07 | 0.02 | **4.82E-06** | -0.07 | 0.02 | **3.74E-06** |  |
| Working Memory | -0.05 | 0.02 | **2.40E-03** | -0.09 | 0.02 | **1.60E-08** | -0.13 | 0.02 | **4.44E-16** |  |
| Processing Speed | -0.06 | 0.02 | **5.31E-05** | -0.09 | 0.02 | **3.81E-10** | -0.16 | 0.02 | **2.00E-16** |  |
| FSIQ | -0.03 | 0.02 | **2.79E-02** | -0.10 | 0.01 | **1.10E-12** | -0.14 | 0.01 | **2.00E-16** |  |
| Psychopathology and cognitive performance measures were standardized to obtain ß coefficients. | | | | | | | | | | |
| Results that are significant at p <0.05 are shown in bold | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S9. Sensitivity analyses of the associations between categorical subgroups of psychopathology and cognitive performance (additionally adjusted for maternal IQ)** | | | | | | | | | |
|  | Internalizing | | | Externalizing | | | Dysregulation Profile | | |
| Measure | B | S.E. | p-value | B | S.E. | p-value | B | S.E. | p-value |
| Vocabulary | 0.19 | 0.15 | 2.09E-01 | -0.24 | 0.14 | 8.78E-02 | 0.07 | 0.26 | 7.96E-01 |
| Fluid Reasoning | -0.03 | 0.14 | 8.37E-01 | -0.37 | 0.13 | **5.94E-03** | -0.85 | 0.24 | **4.59E-04** |
| Working Memory | -0.40 | 0.15 | **7.16E-03** | -0.53 | 0.14 | **1.07E-04** | -0.92 | 0.25 | **2.18E-04** |
| Processing Speed | -0.82 | 0.18 | **5.18E-06** | -0.80 | 0.17 | **1.43E-06** | -1.19 | 0.30 | **7.28E-05** |
| FSIQ | -1.79 | 0.71 | **1.15E-02** | -3.26 | 0.65 | **5.90E-07** | -4.90 | 1.19 | **3.69E-05** |
| Results that are significant at p <0.05 are shown in bold | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplementary Table S10. Associations between continuous symptoms of psychopathology and cognitive performance, excluding those children in the lowest 25% of the FSIQ/CCS** | | | | | | | | | | |
|  |  | Internalizing | | | Externalizing | | | Dysregulation Profile | | |
| Sample | Measure | ß | S.E. | p-value | ß | S.E. | p-value | ß | S.E. | p-value |
| ABCD-study | Picture Vocabulary | 0.05 | 0.01 | **1.38E-05** | -0.02 | 0.01 | 5.18E-02 | 0.01 | 0.01 | 5.29E-01 |
| Oral Reading | 0.03 | 0.01 | **1.07E-02** | -0.03 | 0.01 | **1.48E-02** | -0.04 | 0.01 | **1.46E-03** |
| Fluid Reasoning | 0.00 | 0.01 | 9.96E-01 | -0.04 | 0.01 | **3.81E-03** | -0.03 | 0.01 | **2.33E-02** |
| Working Memory | -0.01 | 0.01 | 3.79E-01 | -0.05 | 0.01 | **4.50E-06** | -0.05 | 0.01 | **6.16E-05** |
| Processing Speed | 0.00 | 0.01 | 8.99E-01 | 0.02 | 0.01 | 2.25E-01 | -0.02 | 0.01 | 1.10E-01 |
| Cognitive composite score | 0.00 | 0.01 | 8.40E-01 | -0.04 | 0.01 | **2.62E-06** | -0.05 | 0.01 | **2.37E-09** |
| Generation R | Vocabulary | 0.06 | 0.02 | **7.45E-04** | -0.01 | 0.02 | 6.80E-01 | 0.01 | 0.02 | 5.20E-01 |
| Fluid Reasoning | 0.00 | 0.02 | 9.21E-01 | -0.04 | 0.02 | **1.53E-02** | -0.03 | 0.02 | 5.01E-02 |
| Working Memory | -0.04 | 0.02 | **2.06E-02** | -0.05 | 0.02 | **2.08E-03** | -0.07 | 0.02 | **6.89E-06** |
| Processing Speed | -0.06 | 0.02 | **4.92E-04** | -0.07 | 0.02 | **1.79E-05** | -0.11 | 0.02 | **8.56E-13** |
| FSIQ | -0.02 | 0.01 | 2.19E-01 | -0.06 | 0.01 | **4.27E-06** | -0.08 | 0.01 | **3.08E-09** |
| Models were corrected for child sex and age at assessment, child national origin/race, socioeconomic status and parental psychopathology. | | | | | | | | | | |
| Psychopathology and cognitive performance measures were standardized to obtain ß coefficients. | | | | | | | | | | |
| Results that are significant at p <0.05 are shown in bold | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplementary Table S11. Associations between categorical subgroups of psychopathology (dichotomized based on subclinical cut-off 80th percentile) and cognitive performance** | | | | | | | | | | |
|  |  | Internalizing | | | Externalizing | | | Dysregulation Profile | | |
| Sample | Measure | B | S.E. | p-value | B | S.E. | p-value | B | S.E. | p-value |
| Picture Vocabulary | 0.07 | 0.19 | 7.25E-01 | -1.06 | 0.19 | **2.37E-08** | -0.90 | 0.19 | **2.90E-06** |
| ABCD-study | Oral Reading | -0.27 | 0.18 | 1.31E-01 | -1.00 | 0.17 | **8.18E-09** | -1.42 | 0.17 | **4.44E-16** |
| Fluid Reasoning | -0.16 | 0.07 | **3.15E-02** | -0.45 | 0.07 | **6.52E-10** | -0.46 | 0.07 | **7.44E-10** |
| Working Memory | -0.66 | 0.31 | **3.48E-02** | -1.87 | 0.31 | **1.64E-09** | -2.43 | 0.31 | **7.11E-15** |
| Processing Speed | -0.51 | 0.39 | 1.97E-01 | -0.84 | 0.39 | **2.96E-02** | -2.23 | 0.39 | **1.09E-08** |
| Cognitive composite score | -1.17 | 0.32 | **2.70E-04** | -2.67 | 0.31 | **0.00E+00** | -3.75 | 0.32 | **0.00E+00** |
| Vocabulary | 0.31 | 0.11 | **3.57E-03** | -0.22 | 0.10 | **3.10E-02** | -0.02 | 0.11 | 8.37E-01 |
| Generation R | Fluid Reasoning | -0.16 | 0.10 | 1.18E-01 | -0.33 | 0.10 | **6.90E-04** | -0.29 | 0.10 | **3.54E-03** |
| Working Memory | -0.42 | 0.12 | **7.31E-04** | -0.41 | 0.10 | **4.98E-05** | -0.52 | 0.10 | **5.38E-07** |
| Processing Speed | -0.04 | 0.10 | 7.20E-01 | -0.64 | 0.12 | **9.41E-08** | -0.93 | 0.12 | **4.49E-14** |
| FSIQ | -0.54 | 0.49 | 2.76E-01 | -2.68 | 0.48 | **2.28E-08** | -2.98 | 0.49 | **1.50E-09** |
| Model was corrected for child sex and age at assessment, child national origin/race, socioeconomic status and parental psychopathology. | | | | | | | | | | |
| Results that are significant at p <0.05 are shown in bold. | | | | | | | | | | |

**Supplementary Figures**

Figure S1. Mean T-scores of the Child Behavior Checklist (CBCL) syndrome scales for Latent Profile Analysis in the ABCD-study.

**References**

Blok, E., de Mol, C. L., van der Ende, J., Hillegers, M. H. J., Althoff, R. R., Shaw, P., & White, T. (2021). Stability and Change of Psychopathology Symptoms Throughout Childhood and Adolescence. *Child Psychiatry & Human Development*, 1-10.