**Supplemental Materials**

**Table SM1: Cognitive Ability Standard Scores**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Males | Females | Main effect of sex |
| DAS-II GCA SS | 101.78 (18.66)  Range: 67-167 | 101.37 (19.87)  Range: 70-162 | *F*(1,143) = 0.02 |
| DAS-II NVR SS | 101.97 (17.93)  Range: 57-149 | 100.37 (18.60)  Range: 67-158 | *F*(1,143) = 0.28 |
| DAS-II Spatial SS | 99.94 (16.58)  Range: 58-159 | 98.89 (18.61)  Range: 58-154 | *F*(1,143) = 0.13 |

Note. \**p* < 0.05. \*\**p* < 0.01. \*\*\**p* < 0.001. For these measures, mean = 100, *SD* = 15. DAS-II = Differential Ability Scales, 2nd edition (Elliott, 2007).

**Table SM2: CELF-4 Language Subscales Included in the Core Language Score**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Subdomains | Core Language Scale  Administration Age | Males | Females | Main effect of sex |
| Concepts & Following Directions | 5-12 | *N* = 44  8.32 (3.54)  Range: 1-14 | *N* = 34  8.97 (3.33)  Range: 1-14 | *F*(1,76) = 0.69 |
| Word Structure | 5-8 | *N* = 8  8.62 (2.50)  Range: 4-12 | *N* = 7  8.86 (2.91)  Range: 5-13 | *F*(1,13) = 0.03 |
| Recalling Sentences | 5-21 | *N* = 80  8.21 (3.76)  Range: 1-17 | *N* = 65  9.38 (3.42)  Range: 2-16 | *F*(1,143) = 3.78 |
| Formulating Sentences | 5-21 | *N* = 79  8.38 (3.54)  Range: 1-14 | *N* = 65  9.52 (3.18)  Range: 2-16 | *F*(1,142) = 4.08\* |
| Word Class Total | 9-21 | *N* = 72  9.24 (3.98)  Range: 2-19 | *N* = 57  9.89 (3.08)  Range: 4-18 | *F*(1,127) = 1.06 |
| Word Class Expressive | 9-21 | *N* = 68  8.59 (3.78)  Range: 2-19 | *N* = 56  9.79 (2.91)  Range: 5-19 | *F*(1,122) = 3.78 |
| Word Class Receptive | 9-21 | *N* = 66  9.58 (3.99)  Range: 1-18 | *N* = 55  10.35 (3.35)  Range: 3-18 | *F*(1,119) = 1.29 |
| Word Definitions | 13-21 | *N* = 34  10.00 (3.91)  Range: 2-18 | *N* = 32  11.75 (2.98)  Range: 4-17 | *F*(1,64) = 4.14\* |

Note. \**p* < 0.05. \*\**p* < 0.01. \*\*\**p* < 0.001. For these measures, mean = 10, *SD* = 3. CELF-4 = Clinical Evaluation of Language Fundamentals, 4th edition (Semel et al. 2003).

**Table SM3: Correlations Between Communication Measures (Standard Scores) for the Full Sample and by Participant Sex**

|  |  |  |
| --- | --- | --- |
|  | **CELF-4**  **CLS** | **Vineland-II Communication** |
| **Full Sample (N=145)** |  |  |
| **DAS-II Verbal** | .77\*\*\* | .29\*\* |
| **CELF-4 CLS** | -- | .41\*\* |
| **Males with ASD (N=80)** |  |  |
| **DAS-II Verbal** | .81\*\*\* | .16 |
| **CELF-4 CLS** | -- | .33\*\* |
| **Vineland-II Communication** | -- | -- |
| **Females with ASD (N=65)** |  |  |
| **DAS-II Verbal** | .74\*\*\* | .41\*\* |
| **CELF-4 CLS** | -- | .47\*\*\* |
| **Vineland-II Communication** | -- | -- |

Note. \* *p* < 0.05. \*\* *p* < 0.01. \*\*\* *p* < 0.001. DAS-II = Differential Ability Scales, 2nd edition (Elliott, 2007). CELF-4 = Clinical Evaluation of Language Fundamentals, 4th edition (Semel et al. 2003).

**Table SM4: Child Behavior Checklist Domain Scores Related to Externalizing**

|  |  |  |  |
| --- | --- | --- | --- |
| Standard Scores | Males  Mean (*SD*)  Range  % in Borderline or Clinical range | Females  Mean (*SD*)  Range  % in Borderline or Clinical range | Main effect of sex |
|  |  |  |  |
| Externalizinga | 55.10 (10.73)  Range: 33-77  37.5% | 56.74 (10.95)  Range: 34-82  40.0% | *F*(1,143)=0.82  *χ*2=0.10 |
| Aggressive Behaviorb | 58.50 (8.52)  Range: 50-81  21.3% | 60.03 (9.86)  Range: 50-94  27.7% | *F*(1,143)=1.01  *χ2*=0.81 |
| Rule Breaking Behaviorb | 55.91 (6.48)  Range: 50-76  8.8% | 56.63 (5.96)  Range: 50-74  10.8% | *F*(1,143)=0.47  *χ2*=0.17 |
| Attention Problemsb | 64.66 (9.42)  Range: 50-88  41.3% | 69.37 (11.87)  Range: 50-97  60.0% | *F*(1,143)=7.09\*\*  *χ*2=5.04\* |
| ADHD Problemsc | 61.64 (7.84)  Range: 50-80  40.0% | 63.86 (8.74)  Range: 50-80  47.7% | *F*(1,143)=2.61  *χ*2=0.86 |
| Oppositional Defiant Problemsc | 58.93 (8.13)  Range: 50-80  26.3% | 58.77 (8.03)  Range: 50-80  26.2% | F(1,143)=0.01  *χ*2=0.00 |
| Conduct Problemsc | 56.44 (7.41)  Range: 50-77  18.8% | 57.68 (8.25)  Range: 50-82  18.5% | F(1,143)=0.91  *χ*2=0.00 |

Note. \**p*<0.05. \*\**p*<0.01. \*\*\**p*<0.001. aBroadband scale; Borderline clinical range corresponds to standard scores ≥60. **b**Empirically-based syndrome scales; Borderline clinical range corresponds to standard scores ≥65. cDSM-oriented scales; Borderline clinical range corresponds to standard scores ≥65. CBCL = Child Behavior Checklist (Achenbach & Rescorla, 2001).

**Table SM5: Unstandardized Model Results for Aggressive Behavior**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Full  sample | | | Males  with ASD | | | Females  with ASD | | | |
|  | **B** | **SE** | | **B** | **SE** | | | **B** | **SE** | |
| Level 1: Child Demographic Factors | | | |  | | | |  | | |
| Age | -0.06 | | 0.02 | -0.10 | | 0.03 | | -0.03 | | 0.04 |
| Race | -0.72 | | 1.87 | -0.55 | | 2.11 | | -0.33 | | 3.48 |
| Level 2: Family Factors |  | |  |  | |  | |  | |  |
| Household Annual Income ϯ |  | |  |  | |  | |  | |  |
| * 100 to 170% of median | -1.24 | | 2.25 | -2.60 | | 2.80 | | 1.99 | | 3.93 |
| * Over 170% of median | -4.92 | | 2.16 | -3.24 | | 2.75 | | -5.99 | | 3.72 |
| Maternal Education ϯϯ |  | |  |  | |  | |  | |  |
| * Bachelor’s degree | 0.63 | | 2.03 | 0.39 | | 2.35 | | 0.25 | | 4.08 |
| * More than bachelor’s degree | -2.75 | | 1.99 | -3.34 | | 2.50 | | -3.77 | | 3.37 |
| Paternal Education ϯϯ |  | |  |  | |  | |  | |  |
| * Bachelor’s degree | 1.71 | | 2.20 | 1.37 | | 2.60 | | 2.21 | | 4.01 |
| * More than bachelor’s degree | 4.58 | | 2.02 | 4.14 | | 2.37 | | 5.47 | | 3.86 |
| Level 3: Child Communication Skills |  | |  |  | |  | |  | |  |
| DAS-II Verbal | -0.07 | | 0.06 | -0.10 | | 0.08 | | -0.01 | | 0.12 |
| CELF-4 Core language | 0.08 | | 0.07 | 0.07 | | 0.09 | | 0.04 | | 0.14 |
| Vineland-II Communication | -0.27 | | 0.08 | -0.41 | | 0.11 | | -0.22 | | 0.13 |

Note. ϯRelative to income below median. ϯϯRelative to less than college degree. DAS-II = Differential Ability Scales, 2nd edition (Elliott, 2007). CELF-4 = Clinical Evaluation of Language Fundamentals, 4th edition (Semel et al. 2003).