**Supplemental Information**

**Table S1**

*Coding examples of the same utterance presented in English, Spanish, and Bilingual transcripts.*

|  |  |
| --- | --- |
| Language | Application of dimension and shape spatial language codes |
| English | now I need one small*#dimension* triangle*#shape* |
| Spanish | ahora necesito un triangulo*#shape* pequeño*#dimension* |
| Bilingual | now I need one pequeño*#dimension* triangle*#shape* |

**Table S2**

*The range, mean, and standard deviation before and after Winsorization for data that contained outliers more than 3 SD above/below the mean.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variables | Before Winsorization | | | After Winsorization | | |
|  | *Range* | *M* | *SD* | *Range* | *M* | *SD* |
| Parent Prosocial Talk | 0-67 | 10.43 | 10.40 | 0.5-21.5 | 9.49 | 6.57 |
| Parent Negations | 0-35 | 10.22 | 8.05 | 1-26 | 9.93 | 7.14 |
| Child General Positive Statements | 5-174 | 74.08 | 31.16 | 30.5-128.5 | 73.18 | 26.28 |
| Child Negations | 0-10 | 2.10 | 2.44 | 0-6.5 | 2.01 | 2.21 |
| Child Spatial Tokens | 1-70 | 22.24 | 15.33 | 5-52.5 | 21.66 | 13.41 |

**Table S3**

*Descriptive statistics for all parent and child variables.*

|  | *M* | *SD* | *Range* |
| --- | --- | --- | --- |
| Parent Variables |  |  |  |
| Behavior description | 1.24 | 1.77 | 0 – 8 |
| Praise | 7.88 | 8.01 | 0 – 48 |
| Reflective statement | 1.25 | 1.87 | 0 – 10 |
| Composite parent prosocial talk\* | 9.49 | 6.75 | 0.5 – 21.5 |
| Negations\* | 9.93 | 7.14 | 1 – 26.5 |
| Spatial types | 19.67 | 6.86 | 5 – 34 |
| Spatial tokens | 70.80 | 33.42 | 14 – 125 |
| Non-spatial types | 153.47 | 34.76 | 79 – 234 |
| Non-spatial tokens | 678.02 | 259.37 | 245 – 1234 |
| Spanish Types | 25.45 | 50.52 | 0 – 196 |
| Spanish Tokens\* | 60.12 | 126.35 | 0 – 419 |
| Child Variables |  |  |  |
| General Positive Statements\* | 73.18 | 26.28 | 30.5 – 128.5 |
| Negations\* | 2.01 | 2.21 | 0 – 6.5 |
| Spatial types | 8.43 | 4.51 | 1 – 20 |
| Spatial tokens\* | 21.66 | 13.41 | 5 – 52.5 |
| Non-spatial types | 82.47 | 31.87 | 13 – 161 |
| Non-spatial tokens | 228.96 | 119.76 | 18 – 554 |
| Spanish Types | 9.92 | 27.67 | 0 – 124 |
| Spanish Tokens\* | 16.37 | 44.89 | 0 – 178 |

*Note.* \*Descriptive statistics are based on winsorized values.

**Table S4**

*Independent Samples t test of child gender differences.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Boys | | Girls | |  |  |  |
|  | *M* | *SD* | *M* | *SD* | *df* | *t* | *p* |
| Child Spatial Types | 7.77 | 4.20 | 9.12 | 4.80 | 49 | -1.07 | 0.29 |
| Child Spatial Tokens | 19.38 | 12.0 | 24.02 | 14.6 | 49 | -1.24 | 0.22 |
| Child General Positive Statements | 68.04 | 27.4 | 78.52 | 24.4 | 49 | -1.44 | 0.16 |
| Child Negations | 2.23 | 2.35 | 1.78 | 2.07 | 49 | 0.73 | **0.47** |
| Parent Spatial Types | 20.77 | 6.75 | 18.52 | 6.92 | 49 | 1.17 | 0.25 |
| Parent Spatial Tokens | 77.04 | 32.4 | 64.12 | 32.9 | 49 | 1.41 | 0.16 |
| Parent Prosocial Talk | 9.73 | 7.38 | 9.24 | 5.75 | 49 | 0.27 | 0.79 |
| Parent Negations | 10.50 | 7.65 | 9.34 | 6.68 | 49 | 0.58 | 0.57 |

**Table S5**

*Zero-order correlations with confidence intervals for all variables.*

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Parent Prosocial Talk | -- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Parent Negations | .16  [-.12, .42] |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Parent Spatial Types | .61\*\*  [.40, .76] | .07  [-.21, .34] |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Parent Spatial Tokens | .67\*\*  [.48, .80] | .26  [-.02, .50] | .83\*\*  [.72, .90] |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Parent Non-spatial Types | .51\*\*  [.27, .69] | .10  [-.18, .36] | .66\*\*  [.47, .79] | .53\*\*  [.29, .70] |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Parent Non-spatial Tokens | .65\*\*  [.45, .78] | .27  [-.01, .51] | .69\*\*  [.51, .81] | .82\*\*  [.70, .89] | .73\*\*  [.57, .84] |  |  |  |  |  |  |  |  |  |  |  |
| 7. Parent Spanish Types | -.21  [-.46, .07] | -.07  [-.34, .21] | -.08  [-.35, .20] | -.21  [-.46, .07] | .21  [-.07, .46] | -.25  [-.50, .02] |  |  |  |  |  |  |  |  |  |  |
| 8. Parent Spanish Tokens | -.19  [-.44, .09] | -.08  [-.35, .20] | -.06  [-.33, .22] | -.18  [-.44, .10] | .18  [-.10, .44] | -.26  [-.50, .02] | .99\*\*  [.98, .99] |  |  |  |  |  |  |  |  |  |
| 9. Child Gender | -.04  [-.31, .24] | -.08  [-.35, .20] | -.17  [-.42, .12] | -.20  [-.45, .08] | -.13  [-.40, .15] | -.16  [-.42, .12] | -.18  [-.43, .10] | -.20  [-.45, .08] |  |  |  |  |  |  |  |  |
| 10. Child General Positive Statements | .16  [-.12, .42] | .09  [-.19, .36] | .06  [-.22, .33] | .02  [-.26, .29] | .14  [-.14, .40] | .07  [-.21, .34] | .01  [-.26, .29] | .02  [-.26, .29] | .20  [-.08, .45] |  |  |  |  |  |  |  |
| 11. Child Negations | .08  [-.20, .35] | .24  [-.04, .48] | -.01  [-.29, .27] | .08  [-.20, .35] | .14  [-.14, .40] | .15  [-.13, .41] | -.01  [-.29, .26] | -.00  [-.28, .27] | -.10  [-.37, .18] | .25  [-.03, .49] |  |  |  |  |  |  |
| 12. Child Spatial Types | .00  [-.27, .28] | -.07  [-.34, .21] | .04  [-.24, .31] | -.09  [-.36, .19] | -.02  [-.29, .26] | -.10  [-.37, .18] | .03  [-.25, .30] | .02  [-.26, .29] | .15  [-.13, .41] | .62\*\*  [.41, .76] | .08  [-.20, .35] |  |  |  |  |  |
| 13. Child Spatial Tokens | .01  [-.26, .29] | -.03  [-.31, .24] | -.04  [-.32, .23] | -.09  [-.36, .19] | -.12  [-.38, .16] | -.13  [-.39, .15] | .01  [-.26, .29] | .01  [-.27, .28] | .17  [-.11, .43] | .75\*\*  [.60, .85] | .17  [-.11, .42] | .78\*\*  [.65, .87] |  |  |  |  |
| 14. Child Non-spatial Types | .02  [-.25, .30] | .02  [-.26, .29] | .01  [-.27, .28] | -.11  [-.38, .17] | .20  [-.08, .45] | -.02  [-.29, .26] | .11  [-.17, .38] | .12  [-.16, .38] | .13  [-.15, .39] | .81\*\*  [.68, .89] | .42\*\*  [.16, .62] | .63\*\*  [.42, .77] | .62\*\*  [.42, .76] |  |  |  |
| 15. Child Non-spatial Tokens | .00  [-.27, .28] | .06  [-.22, .33] | -.08  [-.35, .20] | -.11  [-.37, .17] | .04  [-.24, .31] | -.08  [-.35, .20] | .03  [-.25, .31] | .04  [-.24, .31] | .20  [-.08, .45] | .86\*\*  [.77, .92] | .38\*\*  [.12, .59] | .67\*\*  [.48, .80] | .71\*\*  [.55, .83] | .93\*\*  [.88, .96] |  | |
| 16. Child Spanish Types | -.11  [-.38, .17] | -.17  [-.43, .11] | -.04  [-.31, .24] | -.19  [-.44, .09] | .16  [-.12, .42] | -.23  [-.48, .04] | .81\*\*  [.69, .89] | .84\*\*  [.74, .91] | -.07  [-.34, .21] | .24  [-.04, .48] | .04  [-.24, .31] | .20  [-.08, .45] | .19  [-.10, .44] | .38\*\*  [.12, .59] | .26  [-.01, .50] |  |
| 17. Child Spanish Tokens | -.05 [-.32, .23] | -.16  [-.41, .13] | -.03  [-.30, .25] | -.16  [-.42, .12] | .20  [-.08, .45] | -.20  [-.45, .08] | .82\*\*  [.70, .89] | .85\*\*  [.75, .91] | -.07  [-.34, .21] | .24  [-.04, .49] | .04  [-.24, .31] | .22  [-.06, .46] | .21  [-.07, .45] | .35\*  [.08, .57] | .24  [-.04, .48] | .98\*\*  [.96, .99] |

*Note.* Correlations are based on winsorized values. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). \* indicates *p* < .05. \*\* indicates *p* < .01.

**Table S6**

*Means, standard deviations, and correlations with confidence intervals of disaggregated parent prosocial talk variables.*

| Parent Variable | *M* | *SD* | 1 | 2 |
| --- | --- | --- | --- | --- |
| 1. Behavior Descriptions | 1.24 | 1.77 |  |  |
| 2. Praise | 7.88 | 8.01 | .50\*\* [.26, .68] |  |
| 3. Reflective Statements | 1.25 | 1.87 | .47\*\* [.22, .66] | .59\*\* [.38, .75] |

**Figure S1**

*Added variable plots depicting the relations between the predictor and outcome while controlling for other variables. Plots are residualized and not based on raw data and the shaded areas indicate the confidence intervals.*



D. Child General Positive Statements and Spatial Tokens

C. Child General Positive Statements and Spatial Types

Child General Positive Statements

Child General Positive Statements