**Supplementary information**

**Figure 1**

Conditional Scatterplots for all Continuous Variables Included in Model 2



*Note.* Each plot reflects the relationship between the named predictor and mathematical reasoning after accounting for all other predictors included in Model 2.

**Figure 2**

Conditional Scatterplots for all Continuous Variables Included in Model 3



*Note.* Each plot reflects the relationship between the named predictor and mathematical reasoning after accounting for all other predictors included in Model 3.

**Table 1**

*Quantile Regression Results with Only Number Line as Predictor*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 10th percentile | 25th percentile | 50th percentile | 75th percentile | 90th percentile |
|  | Estimate | *SE* | Estimate | *SE* | Estimate | *SE* | Estimate | *SE* | Estimate | *SE* |
| **For 0-10 number range**  |  |  |  |  |  |  |  |  |  |  |
| Intercept | -1.420\*\*\* | .161 | -.640\*\*\* | .083 | .107 | .072 | .730\*\*\* | .064 | 1.153\*\*\* | .070 |
| Number Line 0-10 | -.246\* | .109 | -.477\*\*\* | .087 | -.314\*\*\* | .082 | -.283\*\*\* | .074 | -.200\* | .081 |
| AIC | 1137.70 | 1007.35 | 925.84 | 907.10 | 931.21 |
|  |  |  |  |  |  |  |  |  |  |  |
| **For 0-100 number range**  |  |  |  |  |  |  |  |  |  |  |
| Intercept | -1.229\*\*\* | .119 | -.572\*\*\* | .075 | .123 | .069 | .633\*\*\* | .056 | 1.020\*\*\* | .043 |
| Number line 0-100 | -.665\*\*\* | .112 | -.570\*\*\* | .072 | -.572\*\*\* | .070 | -.482\*\*\* | .059 | -.405\*\*\* | .045 |
| AIC | 1055.16 | 940.17 | 858.28 | 828.77 | 848.77 |
| *Note*. Number line was entered as z scores and smaller values represent better performance. \**p* < .05. \*\**p* < .01. \*\*\**p* < .001. |