Table X.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Categories of Variables* | *Item Wording/Variable Label* | *Grade* | *N* | *M* | *SD* |
| Items | I enjoy math | Grade 7 | 3060 | 0.69 | 0.46 |
| Grade 10 | 2259 | 0.63 | 0.48 |
| Grade 12 | 1560 | 0.55 | 0.50 |
| Math is useful in everyday problems | Grade 7 | 3001 | 0.70 | 0.46 |
| Grade 10 | 2238 | 0.63 | 0.48 |
| Grade 12 | 1547 | 0.64 | 0.48 |
| Math helps a person think logically | Grade 7 | 2998 | 0.64 | 0.48 |
| Grade 10 | 2232 | 0.66 | 0.47 |
| Grade 12 | 1544 | 0.68 | 0.47 |
| It is important to know math to get a good job | Grade 7 | 3008 | 0.76 | 0.43 |
| Grade 10 | 2239 | 0.67 | 0.47 |
| Grade 12 | 1538 | 0.59 | 0.49 |
| I will use math in many ways as an adult | Grade 7 | 3010 | 0.74 | 0.44 |
| Grade 10 | 2248 | 0.65 | 0.48 |
| Grade 12 | 1540 | 0.64 | 0.48 |
| I enjoy science | Grade 7 | 3042 | 0.61 | 0.49 |
| Grade 10 | 2250 | 0.58 | 0.49 |
| Grade 12 | 1540 | 0.53 | 0.50 |
| Science is useful in everyday problems | Grade 7 | 2988 | 0.40 | 0.49 |
| Grade 10 | 2235 | 0.43 | 0.50 |
| Grade 12 | 1530 | 0.46 | 0.50 |
| Science helps a person think logically | Grade 7 | 2992 | 0.49 | 0.50 |
| Grade 10 | 2234 | 0.51 | 0.50 |
| Grade 12 | 1531 | 0.54 | 0.50 |
| It is important to know science to get a good job | Grade 7 | 3012 | 0.40 | 0.49 |
| Grade 10 | 2238 | 0.42 | 0.49 |
| Grade 12 | 1532 | 0.37 | 0.48 |
| I will use science in many ways as an adult | Grade 7 | 3043 | 0.46 | 0.50 |
| Grade 10 | 2250 | 0.42 | 0.49 |
| Grade 12 | 1539 | 0.42 | 0.49 |
| Covariates | Gender | N/A | 3116 | 0.48 | 0.50 |
| Ethnicity | N/A | 2958 | 0.23 | 0.42 |
| Distal outcomes | Summary math score | Grade 12 | 1168 | 68.74 | 15.00 |
| STEM career attainment | N/A | 1912 | 0.08 | 0.27 |
| Interest in social issues | Grade 12 | 1629 | 0.34 | 0.47 |
| Science opinions and knowledge | Grade 12 | 2317 | 0.53 | 0.50 |
| Interest in social issues & Science opinions and knowledge | Grade 12 | 2334 | 0.38 | 0.48 |

Table X. Latent Class Analysis Fit Statistics for Grades 7, 10, and 12.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Grade* | *Classes* | *Log Likelihood* | *# of Parameters* | *BIC* | *ABIC* | *VLMR p-value* | *BLRT*  *p-value* | *Entropy* |
| Grade 7 | 1 | -19319.6 | 10 | 38719.5 | 38687.7 | -- | -- | -- |
| 2 | -17198.4 | 21 | 34565.5 | 34498.7 | 0.0 | 0.0 | 0.796 |
| 3 | -16782.3 | 32 | 33821.4 | 33719.8 | 0.0 | 0.0 | 0.747 |
| 4 | -16587.9 | 43 | 33521.0 | 33384.4 | 0.0 | 0.0 | 0.686 |
| 5 | -16479.3 | 54 | 33392.2 | 33220.7 | 0.0 | 0.0 | 0.733 |
| Grade 10 | 1 | -14929.9 | 10 | 29937.1 | 29905.3 | -- | -- | -- |
| 2 | -12538.7 | 21 | 25239.5 | 25172.8 | 0.0 | 0.0 | 0.856 |
| 3 | -12014.1 | 32 | 24275.4 | 24173.7 | 0.0 | 0.0 | 0.832 |
| 4 | -11775.7 | 43 | 23883.5 | 23746.9 | 0.0 | 0.0 | 0.779 |
| 5 | -11694.4 | 54 | 23805.8 | 23634.3 | 0.0 | 0.0 | 0.785 |
| Grade 12 | 1 | -10339.0 | 10 | 20751.6 | 20719.8 | -- | -- | -- |
| 2 | -8392.7 | 21 | 16939.8 | 16873.1 | 0.00 | 0.00 | 0.864 |
| 3 | -7928.5 | 32 | 16092.4 | 15990.7 | 0.00 | 0.00 | 0.858 |
| 4 | -7742.2 | 43 | 15800.7 | 15664.1 | 0.00 | 0.00 | 0.812 |
| 5 | -7661.6 | 54 | 15720.2 | 15548.7 | 0.00 | 0.00 | 0.838 |