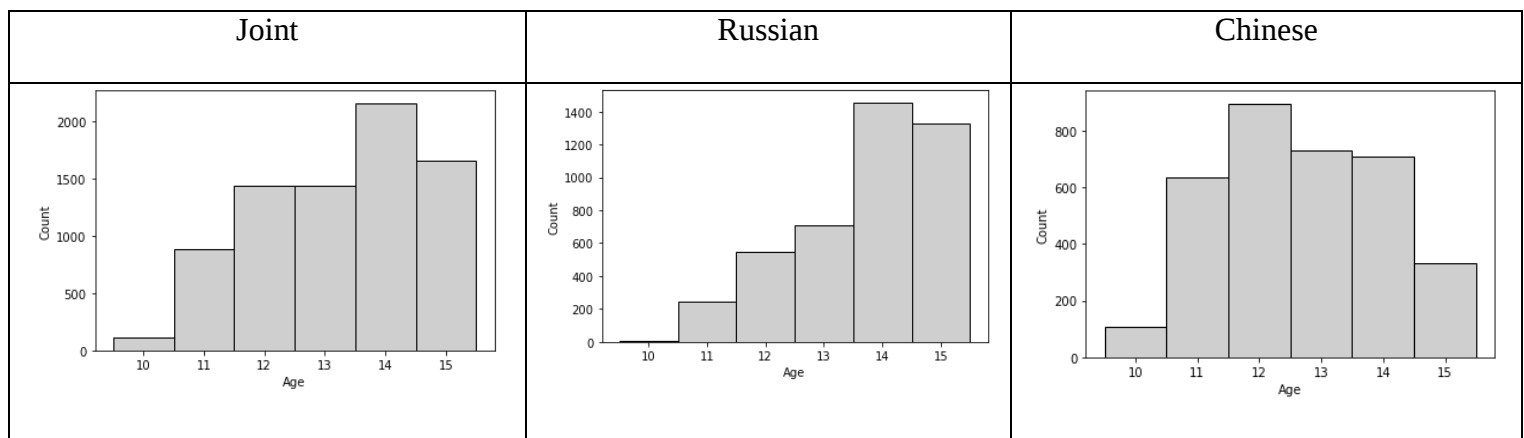


## Supplementary Material

**Table 1.** The description of the joint, Russian and Chinese samples

| Sample  | N    | Males      | Females    | Mean Age<br>+- SD | Median<br>Age | Min-max<br>age |
|---------|------|------------|------------|-------------------|---------------|----------------|
| Joint   | 7702 | 3737 (48%) | 3965 (52%) | 13.2 +-<br>1.36   | 13.0          | 10-15          |
| Russian | 4292 | 1994 (46%) | 2298 (54%) | 13.7+-1.21        | 14.0          | 10-15          |
| Chinese | 3410 | 1743 (51%) | 1667 (48%) | 12.7 +-<br>1.21   | 13.0          | 10-15          |



**Figure 1.** The age distribution of the joint, Russian and Chinese samples

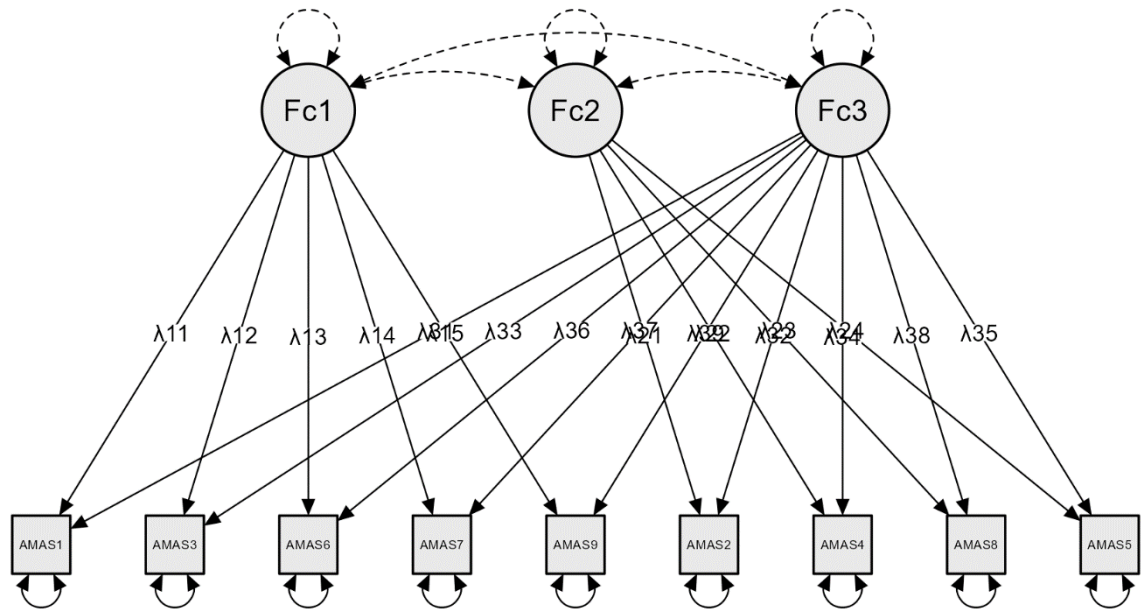
**Table 2.** Factor loadings in bi-factor model for Russian sample

|       | Learning math<br>anxiety | Math evaluation<br>anxiety | General math anxiety |
|-------|--------------------------|----------------------------|----------------------|
| AMAS1 | 0.236                    |                            | 0.476                |
| AMAS3 | 0.216                    |                            | 0.797                |
| AMAS6 | 0.527                    |                            | 0.604                |
| AMAS7 | 0.466                    |                            | 0.546                |
| AMAS9 | 0.265                    |                            | 0.734                |
| AMAS2 |                          | 0.659                      | 0.696                |
| AMAS4 |                          | 0.976                      | 0.540                |
| AMAS8 |                          | 0.897                      | 0.657                |
| AMAS5 |                          | 0.396                      | 0.799                |

**Table 3.** Factor loadings in bi-factor model for Chinese sample

|       | Learning math<br>anxiety | Math evaluation<br>anxiety | General math anxiety |
|-------|--------------------------|----------------------------|----------------------|
| AMAS1 | 0.174                    |                            | 0.432                |
| AMAS3 | 0.287                    |                            | 0.417                |
| AMAS6 | 0.194                    |                            | 0.409                |

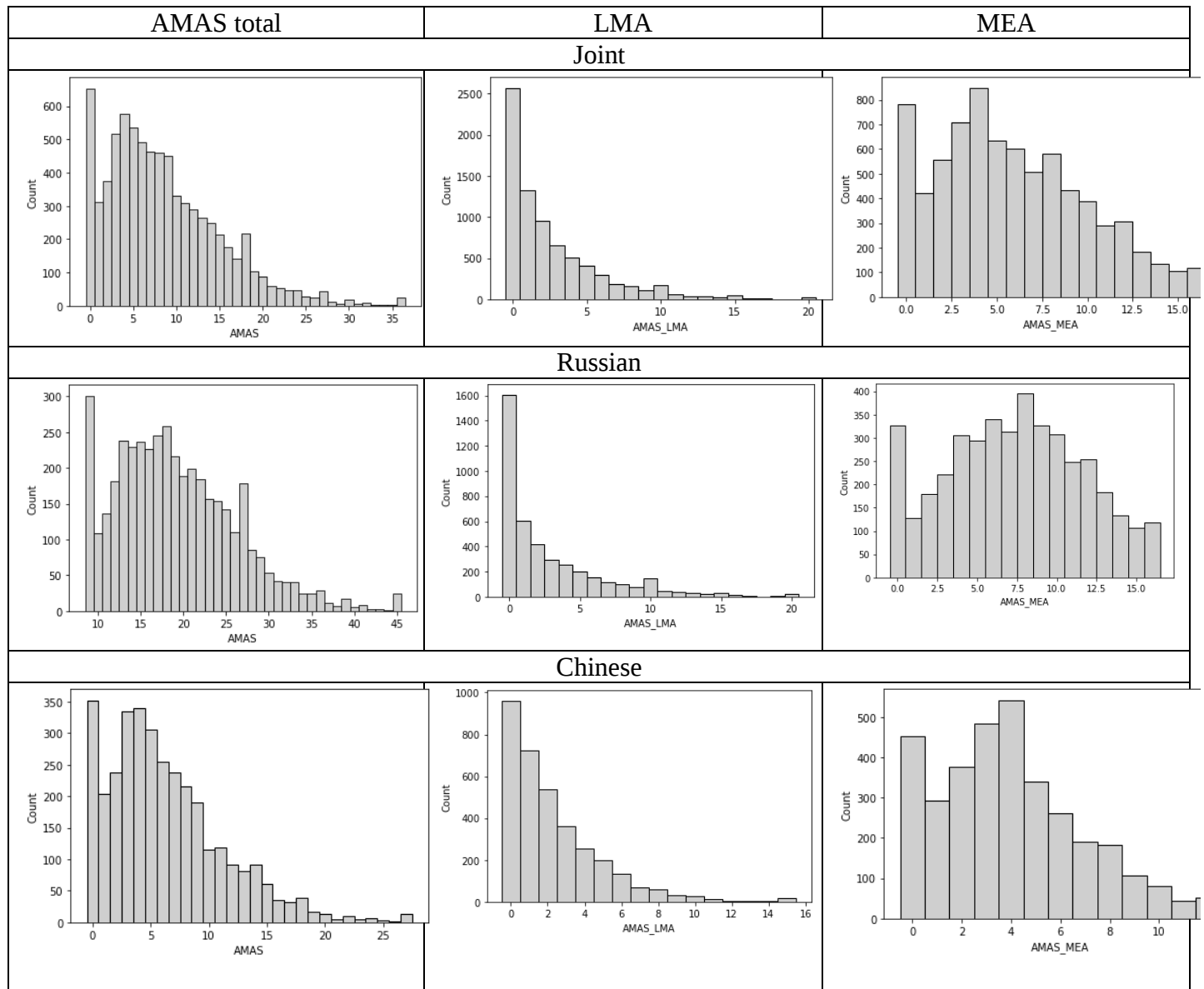
|       |       |        |       |
|-------|-------|--------|-------|
| AMAS7 | 0.312 |        | 0.292 |
| AMAS9 | 0.276 |        | 0.366 |
| AMAS2 |       | 0.407  | 0.613 |
| AMAS4 |       | 0.307  | 0.635 |
| AMAS8 |       | 0.147  | 0.703 |
| AMAS5 |       | -0.084 | 0.630 |



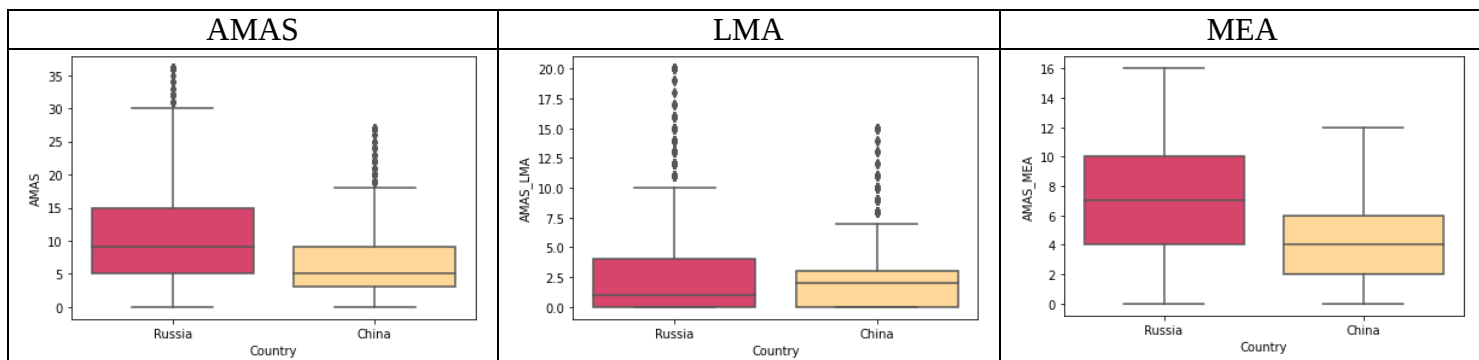
**Figure 2.** Model plot for factor structure of AMAS

**Table 4.** Descriptive statistics for AMAS, LMA, MEA across the samples

|            | Joint        | Russian       | Chinese      |
|------------|--------------|---------------|--------------|
| AMAS total |              |               |              |
| Mean +-SD  | 8.47 +- 6.53 | 10.24 +- 7.08 | 6.30 +- 5.0  |
| Median     | 7.0          | 9.0           | 5.0          |
| Range      | 0-36         | 0-36          | 0-36         |
| LMA        |              |               |              |
| Mean +-SD  | 2.62 +- 3.34 | 2.88 + 3.84   | 2.30 +- 2.56 |
| Median     | 1.0          | 1.0           | 2.0          |
| Range      | 0-20         | 0-20          | 0-20         |
| MEA        |              |               |              |
| Mean +-SD  | 5.85 +- 4.09 | 7.36+4.28     | 4.0 +-2.9    |
| Median     | 5.0          | 7.0           | 4.0          |
| Range      | 0-16         | 0-16          | 0-16         |



**Figure 3.** Score distribution for AMAS, LMA, MEA across the samples

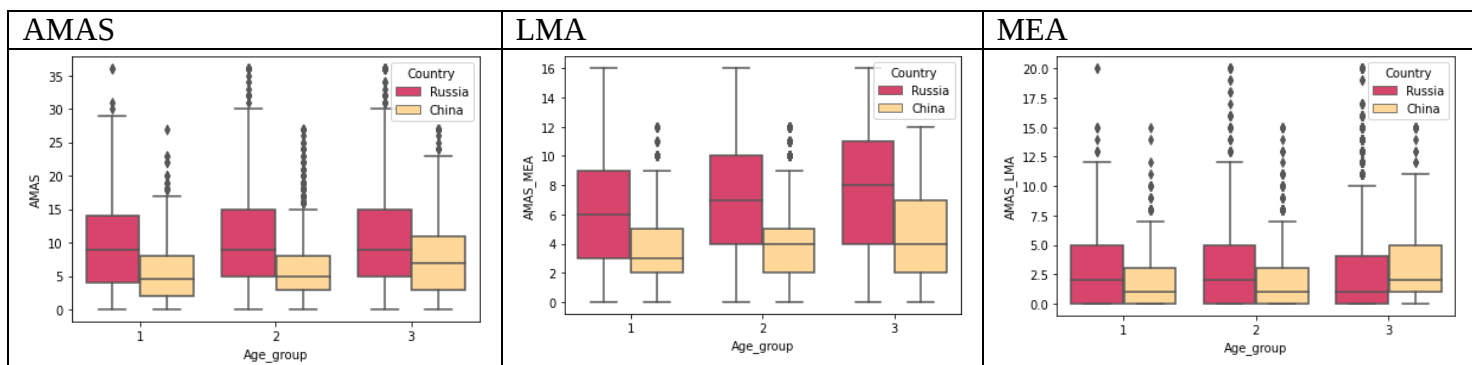


**Figure 4.** Boxplots of AMAS, LMA and MEA scores for Russian and Chinese schoolchildren

**Table 5** Comparison of AMAS, LMA and MEA mean scores between Russian and Chinese schoolchildren in different age groups

|             | Russian | Chinese | Difference | T-statistic | p-value   |
|-------------|---------|---------|------------|-------------|-----------|
| 10-11 years |         |         |            |             |           |
| AMAS        | 9.79    | 5.54    | 4.25       | 10.76       | <0.001**  |
| LMA         | 3.54    | 1.92    | 1.62       | 8.02        | <0.001**  |
| MEA         | 6.25    | 3.62    | 2.63       | 9.70        | <0.001**  |
| 12-13 years |         |         |            |             |           |
| AMAS        | 10.30   | 5.87    | 4.43       | 19.79       | < 0.001** |
| LMA         | 3.08    | 1.99    | 1.09       | 9.33        | < 0.001** |
| MEA         | 7.21    | 3.87    | 3.34       | 24.5        | < 0.001** |
| 14-15 years |         |         |            |             |           |
| AMAS        | 10.26   | 7.52    | 2.74       | 11.34       | < 0.001** |
| LMA         | 2.73    | 3.04    | -0.31      | -2.44       | 0.014*    |
| MEA         | 7.53    | 4.47    | 3.06       | 21.34       | <0.001**  |

Note:



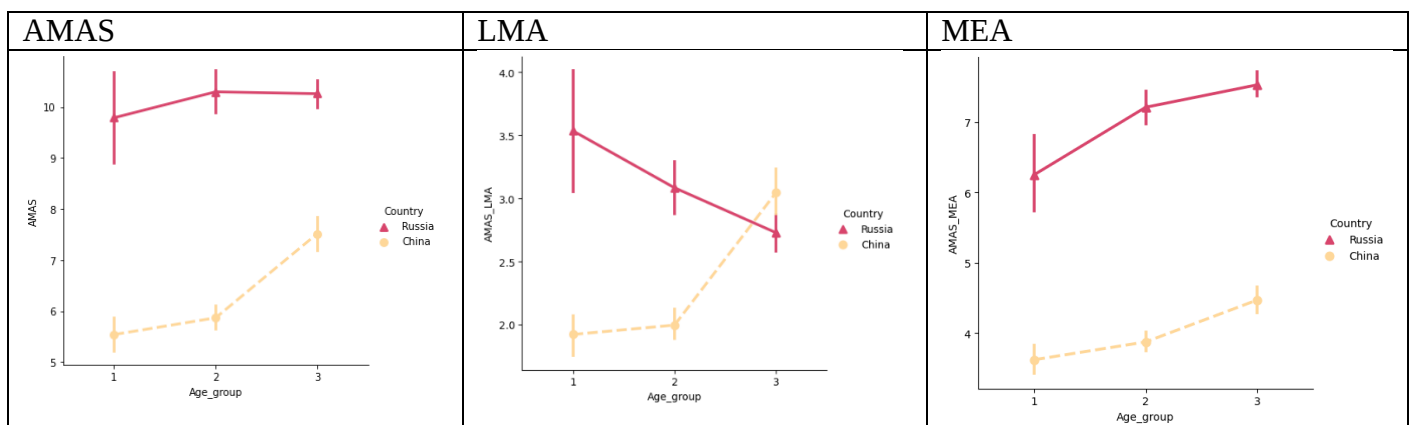
**Figure 5.** Boxplots of AMAS, LMA and MEA scores for Russian and Chinese schoolchildren in different ages. Note: 1 – 10-11 years old, 2 – 12-13 years old, 3 – 14-15 years old

**Table 6.** Comparison of AMAS, LMA and MEA mean scores between different age groups in Russian schoolchildren

|                 | Mean younger group | Mean older group | Difference | T-statistic | p-value   |
|-----------------|--------------------|------------------|------------|-------------|-----------|
| AMAS            |                    |                  |            |             |           |
| 10-11 and 12-13 | 9.79               | 10.30            | -0.51      | -1.01       | 0.31      |
| 12-13 and 14-15 | 10.30              | 10.26            | 0.04       | 0.15        | 0.87      |
| 10-11 and 14-15 | 9.79               | 10.26            | -0.47      | -1.015      | 0.31      |
| LMA             |                    |                  |            |             |           |
| 10-11 and 12-13 | 3.54               | 3.08             | 0.46       | 1.68        | 0.09      |
| 12-13 and 14-15 | 3.08               | 2.73             | 0.35       | 2.70        | 0.006**   |
| 10-11 and 14-15 | 3.54               | 2.73             | 0.81       | 3.20        | 0.001**   |
| MEA             |                    |                  |            |             |           |
| 10-11 and 12-13 | 6.25               | 7.21             | -0.96      | -3.17       | 0.002**   |
| 12-13 and 14-15 | 7.21               | 7.53             | -0.32      | -2.17       | 0.03*     |
| 10-11 and 14-15 | 6.25               | 7.53             | -1.28      | -4.58       | < 0.001** |

**Table 7.** Comparison of AMAS, LMA and MEA mean scores between different age groups in Chinese schoolchildren

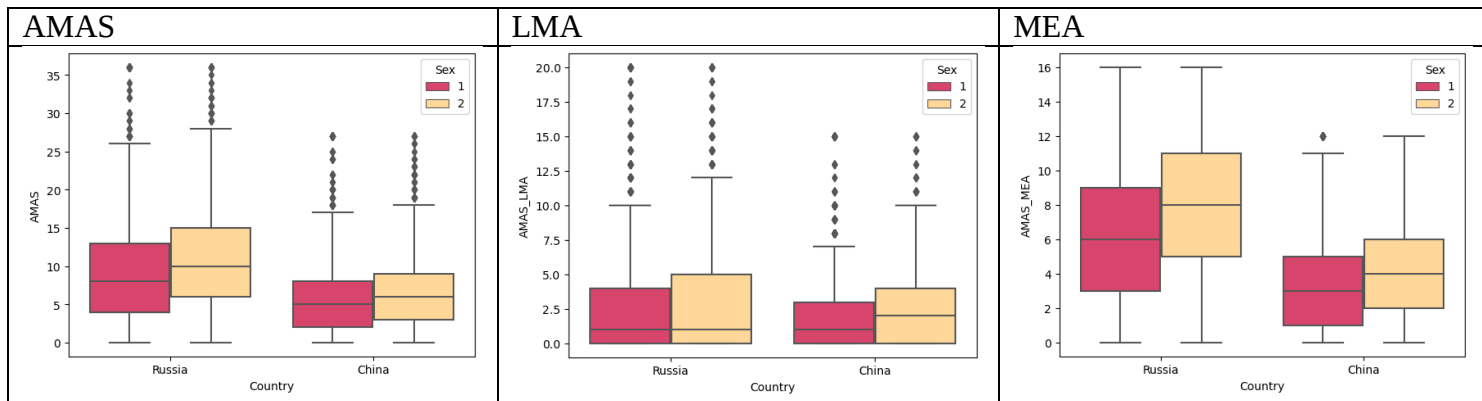
|                 | Mean younger group | Mean older group | Difference | T-statistic | p-value   |
|-----------------|--------------------|------------------|------------|-------------|-----------|
| AMAS            |                    |                  |            |             |           |
| 10-11 and 12-13 | 5.54               | 5.87             | -0.24      | -1.60       | 0.111     |
| 12-13 and 14-15 | 5.87               | 7.52             | -1.67      | -8.24       | <0.001**  |
| 10-11 and 14-15 | 5.54               | 7.52             | -1.98      | -8.01       | < 0.001** |
| LMA             |                    |                  |            |             |           |
| 10-11 and 12-13 | 1.92               | 1.99             | -0.07      | -0.73       | 0.46      |
| 12-13 and 14-15 | 1.99               | 3.04             | -1.05      | -10.25      | < 0.001** |
| 10-11 and 14-15 | 1.92               | 3.04             | -1.12      | -8.73       | < 0.001** |
| MEA             |                    |                  |            |             |           |
| 10-11 and 12-13 | 3.62               | 3.87             | -0.25      | -2.03       | 0.043*    |
| 12-13 and 14-15 | 3.87               | 4.47             | -0.60      | -5.10       | <0.001**  |
| 10-11 and 14-15 | 3.62               | 4.47             | -0.85      | -6.03       | <0.001**  |



**Figure 6.** The change of AMAS, LMA, MEA scores as a function of age for Russian and Chinese schoolchildren. Note: 1 – 10-11 years old, 2 – 12-13 years old, 3 – 14-15 years old

**Table 8.** Gender differences in AMAS, LMA, MEA mean scores in the joint, Russian and Chinese samples

|         | Males | Females | Difference | T-statistic | p-value  |
|---------|-------|---------|------------|-------------|----------|
| Joint   |       |         |            |             |          |
| AMAS    | 7.56  | 9.32    | -1.76      | -11.8       | <0.001** |
| MEA     | 5.06  | 6.60    | -1.54      | -16.6       | <0.001** |
| LMA     | 2.51  | 2.72    | -0.21      | -2.82       | 0.004**  |
| Russian |       |         |            |             |          |
| AMAS    | 9.13  | 11.2    | -2.07      | -9.54       | <0.001** |
| MEA     | 6.35  | 8.23    | -1.88      | -14.5       | <0.001** |
| LMA     | 2.78  | 2.97    | -0.19      | -1.6        | 0.109    |
| Chinese |       |         |            |             |          |
| AMAS    | 5.83  | 6.79    | -0.96      | -5.57       | <0.001** |
| MEA     | 3.63  | 4.39    | -0.67      | -7.71       | <0.001** |
| LMA     | 2.21  | 2.39    | -0.18      | -2.11       | 0.034    |



**Figure 7.** Boxplots of AMAS, LMA and MEA scores for Russian and Chinese schoolchildren in males and females. Note: 1 – males, 2 – females

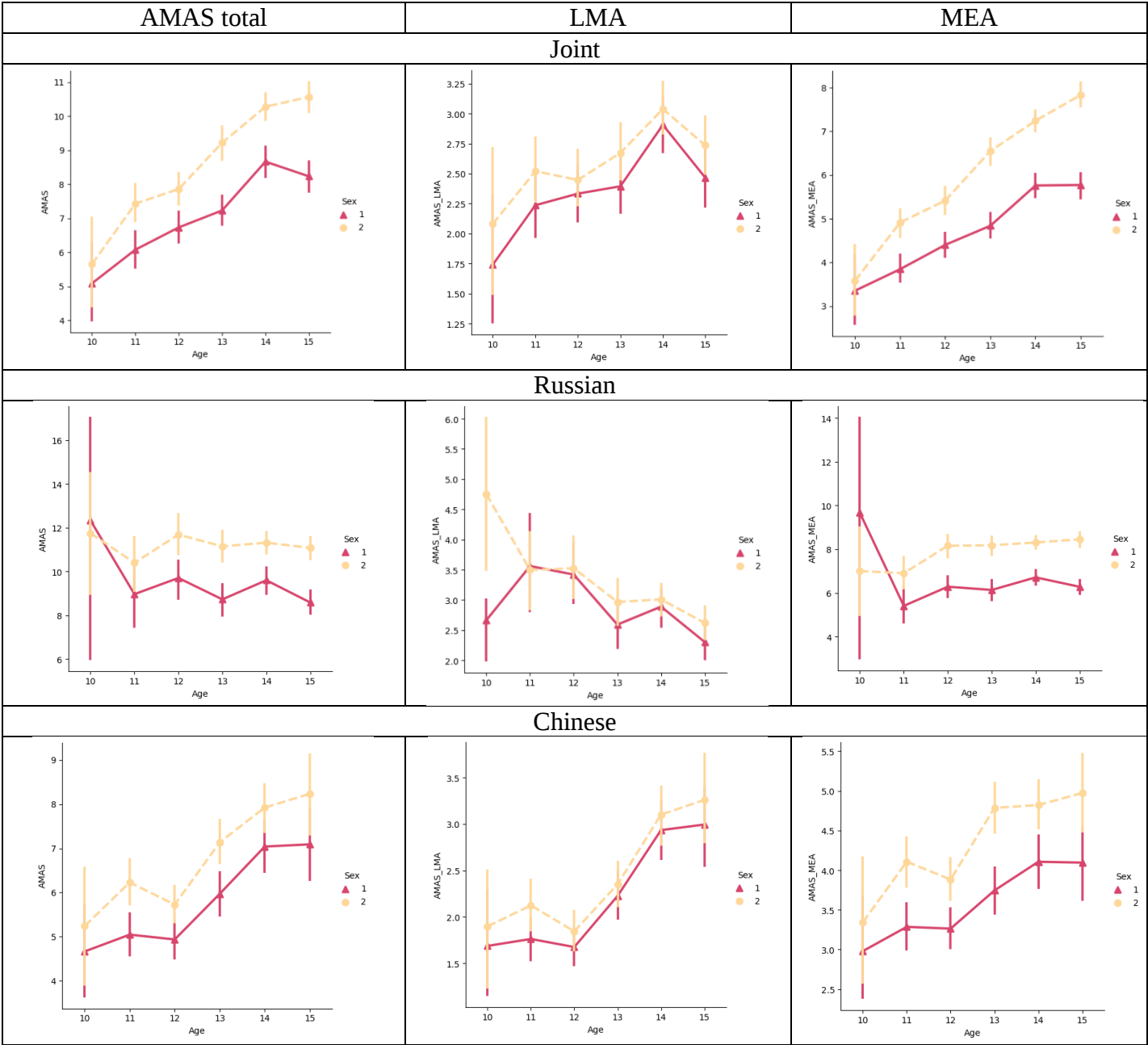
**Table 9.** Gender differences in AMAS, LMA, MEA mean scores in different ages in Russian schoolchildren

|                 | Males | Females | Difference | T-statistic | p-value   |
|-----------------|-------|---------|------------|-------------|-----------|
| 10-11 years old |       |         |            |             |           |
| N               | 117   | 133     | -          | -           | -         |
| AMAS            | 9.05  | 10.44   | -1.39      | -1.48       | 0.140     |
| MEA             | 5.51  | 6.90    | -1.39      | -2.59       | 0.010*    |
| LMA             | 3.54  | 3.53    | 0.01       | 0.009       | 0.99      |
| 12-13 years old |       |         |            |             |           |
| N               | 595   | 628     | -          | -           | -         |
| AMAS            | 9.17  | 11.36   | -2.19      | -5.35       | < 0.001** |
| MEA             | 6.20  | 8.17    | -1.97      | -8.04       | < 0.001** |
| LMA             | 2.97  | 3.19    | -0.22      | -0.97       | 0.32      |
| 14-15 years old |       |         |            |             |           |
| N               | 1224  | 1490    | -          | -           | -         |
| AMAS            | 9.11  | 11.20   | -2.09      | -7.84       | < 0.001** |
| MEA             | 6.50  | 8.38    | -1.88      | -11.8       | <0.001**  |
| LMA             | 2.61  | 2.82    | -0.21      | -1.46       | 0.14      |

**Table 10.** Gender differences in AMAS, LMA, MEA mean scores in different ages in Chinese schoolchildren

|                 | Males | Females | Difference | T-statistic | p-value   |
|-----------------|-------|---------|------------|-------------|-----------|
| 10-11 years old |       |         |            |             |           |
| N               | 369   | 375     | -          | -           | -         |
| AMAS            | 4.99  | 6.08    | -1.09      | -3.27       | < 0.001** |
| MEA             | 3.24  | 3.99    | -0.75      | -3.74       | < 0.001** |
| LMA             | 1.75  | 2.09    | -0.34      | -2.04       | 0.041*    |
| 12-13 years old |       |         |            |             |           |
| N               | 832   | 795     | -          | -           | -         |
| AMAS            | 5.41  | 6.35    | -0.94      | -4.04       | < 0.001** |
| MEA             | 3.48  | 4.28    | -0.80      | -5.65       | < 0.001** |
| LMA             | 1.93  | 2.07    | -0.14      | -1.22       | 0.22      |

| 14-15 years old |      |      |       |       |          |
|-----------------|------|------|-------|-------|----------|
| N               | 542  | 497  | -     | -     | -        |
| AMAS            | 7.06 | 8.02 | -0.96 | -2.81 | 0.005**  |
| MEA             | 4.10 | 4.87 | -0.77 | -4.06 | <0.001** |
| LMA             | 2.95 | 3.15 | -0.20 | -1.07 | 0.28     |



**Figure 8.** Interactions between age and gender for AMAS, LMA, MEA in the joint, Russian and Chinese samples