**Appendix**

**Table A1**

*Number and Percent of Missing Cases*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country** | UK | | Japan | |
| **Variable Name** | Missing Case | Missing Percent | Missing Case | Missing Percent |
| ST016Q01NA | 887 | 6.4% | 79 | 1.3% |
| AGE | 0 | 0 | 0 | 0 |
| ST004D01T | 0 | 0 | 0 | 0 |
| ESCS | 925 | 6.7% | 54 | 0.9% |
| ICTRES | 474 | 3.4% | 20 | 0.3% |
| BEINGBULLIED | 1669 | 12.1% | 195 | 3.2% |
| EMOSUPS | 1290 | 9.3% | 148 | 2.4% |
| TEACHSUP | 582 | 4.2% | 45 | 0.7% |
| ADAPTIVITY | 857 | 6.2% | 94 | 1.4% |
| BELONG | 1127 | 8.2% | 117 | 1.9% |
| PERFEED | 751 | 5.4% | 92 | 1.5% |
| TEACHINT | 751 | 5.4% | 80 | 1.3% |
| PERCOOP | 2026 | 14.7% | 258 | 4.2% |
| PERCOMP | 1606 | 11.6% | 187 | 3.1% |
| COMPETE | 904 | 6.5% | 89 | 1.5% |
| ST185Q01HA | 855 | 6.2% | 92 | 1.5% |
| MASTGOAL | 1089 | 7.9% | 113 | 1.8% |
| WORKMAST | 1197 | 8.7% | 110 | 1.8% |
| ATTLNACT | 796 | 5.8% | 72 | 1.2% |
| JOYREAD | 710 | 5.1% | 46 | 0.8% |
| RESILIENCE | 1103 | 8% | 100 | 1.6% |
| GFOFAIL | 980 | 7.1% | 101 | 1.7% |
| EUDMO | 1245 | 9.0% | 117 | 1.9% |
| SWBP | 1116 | 8.1% | 135 | 2.2% |
| DISCLIMA | 557 | 4.0% | 35 | 0.6% |
| DIRINS | 621 | 4.5% | 38 | 0.6% |
| STIMREAD | 829 | 6.0% | 64 | 1.0% |

**Table A2**

*Descriptive Statistics of Variables (UK)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country** | UK |  |  |  |
| **Variable Name** | Mean | Standard Deviation | Skewness | Kurtosis |
| ST016Q01NA | 6.31 | 2.647 | -0.618 | -0.398 |
| AGE | 15.764 | 0.283 | 0.024 | -1.137 |
| ST004D01T | 50.6% Female, 49.4% Male | | | |
| ESCS | 0.243 | 0.886 | -0.259 | -0.232 |
| ICTRES | 0.455 | 1.090 | 0.805 | 1.078 |
| BEINGBULLIED | 0.225 | 1.054 | 0.789 | 0.185 |
| EMOSUPS | 0.096 | 0.987 | -0.633 | -0.690 |
| TEACHSUP | 0.265 | 0.964 | -0.711 | 0.020 |
| ADAPTIVITY | 0.163 | 1.000 | -0.057 | -0.008 |
| BELONG | -0.213 | 0.867 | 1.015 | 2.997 |
| PERFEED | 0.456 | 0.957 | -0.115 | -0.450 |
| TEACHINT | 0.181 | 0.990 | -0.095 | -0.410 |
| PERCOOP | -0.121 | 0.919 | -0.003 | -0.666 |
| PERCOMP | 0.317 | 0.926 | -0.011 | -0.251 |
| COMPETE | 0.129 | 0.996 | 0.078 | -0.029 |
| ST185Q01HA | 2.610 | 0.859 | -0.207 | -0.584 |
| MASTGOAL | -0.109 | 0.997 | 0.074 | -0.156 |
| WORKMAST | -0.174 | 0.946 | 0.258 | 0.050 |
| ATTLNACT | 0.209 | 0.971 | -0.786 | 0.271 |
| JOYREAD | -0.280 | 1.101 | 0.115 | 0.292 |
| RESILIENCE | -0.159 | 0.938 | 0.643 | 1.063 |
| GFOFAIL | 0.281 | 1.030 | -0.110 | -0.554 |
| EUDMO | -0.225 | 0.999 | 0.093 | -0.320 |
| SWBP | -0.275 | 0.967 | -0.007 | -0.552 |
| DISCLIMA | 0.064 | 1.126 | -0.255 | -0.042 |
| DIRINS | 0.002 | 1.017 | -0.060 | 0.074 |
| STIMREAD | 0.090 | 0.952 | 0.024 | 0.151 |

**Table A3**

*Descriptive Statistics of Variables (Japan)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country** | Japan |  |  |  |
| **Variable Name** | Mean | Standard Deviation | Skewness | Kurtosis |
| ST016Q01NA | 6.190 | 2.599 | -0.458 | -0.480 |
| AGE | 15.781 | 0.289 | -0.040 | -1.156 |
| ST004D01T | 51.1% Female, 48.9% Male | | | |
| ESCS | -0.107 | 0.730 | -0.168 | -0.038 |
| ICTRES | -0.525 | 0.831 | 0.799 | 3.541 |
| BEINGBULLIED | -0.287 | 0.863 | 1.734 | 2.803 |
| EMOSUPS | -0.265 | 1.024 | -0.090 | -1.056 |
| TEACHSUP | 0.070 | 0.966 | -0.568 | 0.227 |
| ADAPTIVITY | -0.097 | 0.940 | -0.047 | 0.454 |
| BELONG | 0.013 | 0.932 | 1.050 | 1.968 |
| PERFEED | -3.000 | 0.977 | 0.484 | -0.439 |
| TEACHINT | -0.235 | 0.988 | 0.211 | -0.195 |
| PERCOOP | 0.113 | 1.051 | -0.197 | -0.867 |
| PERCOMP | -0.364 | 1.002 | 0.383 | -0.011 |
| COMPETE | -0.198 | 1.016 | 0.048 | 0.127 |
| ST185Q01HA | 2.610 | 0.859 | -0.207 | -0.584 |
| MASTGOAL | -0.304 | 0.974 | 0.218 | 0.147 |
| WORKMAST | -0.114 | 1.051 | 0.143 | -0.238 |
| ATTLNACT | 0.177 | 0.960 | -0.648 | -0.466 |
| JOYREAD | 0.298 | 1.084 | 0.044 | 0.202 |
| RESILIENCE | -0.618 | 0.950 | 0.832 | 1.914 |
| GFOFAIL | 0.380 | 0.957 | -0.216 | -0.232 |
| EUDMO | -0.401 | 0.981 | 0.470 | -0.086 |
| SWBP | -0.132 | 0.956 | -0.247 | -0.403 |
| DISCLIMA | 0.785 | 0.970 | -0.517 | -0.074 |
| DIRINS | 0.166 | 1.014 | -0.180 | 0.296 |
| STIMREAD | 0.131 | 1.014 | -0.039 | 0.013 |

**Table A4**

*Mean Validation and Testing Performance Across Five Outer Folds (UK)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Metrics | Validation | | | | | Testing |
| RF |  |  |  |  |  |  |
| Outer | 1 | 2 | 3 | 4 | 5 | Mean |
| MSE | 0.203 | 0.205 | 0.203 | 0.202 | 0.203 | 0.203 |
| RMSE | 0.450 | 0.452 | 0.451 | 0.450 | 0.450 | 0.451 |
| MAE | 0.408 | 0.411 | 0.409 | 0.407 | 0.409 | 0.408 |
| R2 | 0.189 | 0.181 | 0.186 | 0.190 | 0.188 | 0.187 |
| KNN |  |  |  |  |  |  |
| Outer | 1 | 2 | 3 | 4 | 5 | Mean |
| MSE | 0.225 | 0.227 | 0.225 | 0.223 | 0.225 | 0.224 |
| RMSE | 0.474 | 0.477 | 0.474 | 0.473 | 0.474 | 0.474 |
| MAE | 0.433 | 0.437 | 0.433 | 0.431 | 0.433 | 0.433 |
| R2 | 0.101 | 0.091 | 0.101 | 0.106 | 0.100 | 0.103 |

**Table A5**

*Mean Validation and Testing Performance Across Five Outer Folds (Japan)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Metrics | Validation | | | | | Testing |
| RF |  |  |  |  |  |  |
| Outer | 1 | 2 | 3 | 4 | 5 | Mean |
| MSE | 0.213 | 0.215 | 0.215 | 0.215 | 0.212 | 0.215 |
| RMSE | 0.461 | 0.463 | 0.463 | 0.463 | 0.461 | 0.464 |
| MAE | 0.430 | 0.433 | 0.433 | 0.434 | 0.431 | 0.434 |
| R2 | 0.148 | 0.140 | 0.141 | 0.140 | 0.150 | 0.138 |
| KNN |  |  |  |  |  |  |
| Outer | 1 | 2 | 3 | 4 | 5 | Mean |
| MSE | 0.232 | 0.234 | 0.237 | 0.240 | 0.233 | 0.236 |
| RMSE | 0.481 | 0.483 | 0.486 | 0.490 | 0.483 | 0.486 |
| MAE | 0.446 | 0.448 | 0.450 | 0.456 | 0.447 | 0.451 |
| R2 | 0.072 | 0.064 | 0.053 | 0.039 | 0.066 | 0.055 |

A graph of a number of blue bars

Description automatically generatedFigure A1. Ranking for feature importance (UK)

A graph of a number of blue bars

Description automatically generated

Figure A2. Ranking for feature importance (Japan)