Lebanon Year 1 (2016-2017) Measurement Report

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This document presents most of the features of the package **officedown**.

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## Data and Sample

This report presents descriptive and psychometric information of the measures used for Lebanon Year 1 (2016-2017).

## Method

TBD…

## Results

### Descriptive Statistics

see Table .

Table : Descriptive statistics

| **variable** | **n\_missing** | **complete\_rate** | **mean** | **sd** | ***p0*** | ***p25*** | ***p50*** | ***p75*** | ***p100*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HB1\_AB\_1 | 2442 | 0.469 | 0.432 | 0.495 | 0 | 0 | 0 | 1 | 1 |
| HB2\_AB\_1 | 2445 | 0.468 | 0.506 | 0.500 | 0 | 0 | 1 | 1 | 1 |
| HB3\_AB\_1 | 2444 | 0.468 | 0.430 | 0.495 | 0 | 0 | 0 | 1 | 1 |
| HB4\_AB\_1 | 2442 | 0.469 | 0.615 | 0.487 | 0 | 0 | 1 | 1 | 1 |
| HB5\_AB\_1 | 2446 | 0.468 | 0.553 | 0.497 | 0 | 0 | 1 | 1 | 1 |
| HB6\_AB\_1 | 2448 | 0.468 | 0.617 | 0.486 | 0 | 0 | 1 | 1 | 1 |
| HB1\_AD\_1 | 2441 | 0.469 | 1.678 | 1.314 | 1 | 1 | 1 | 2 | 5 |
| HB2\_AD\_1 | 2443 | 0.469 | 1.786 | 1.372 | 1 | 1 | 1 | 2 | 5 |
| HB3\_AD\_1 | 2442 | 0.469 | 1.681 | 1.320 | 1 | 1 | 1 | 2 | 5 |
| HB4\_AD\_1 | 2442 | 0.469 | 1.845 | 1.436 | 1 | 1 | 1 | 2 | 5 |
| HB5\_AD\_1 | 2447 | 0.468 | 1.730 | 1.350 | 1 | 1 | 1 | 2 | 5 |
| HB6\_AD\_1 | 2444 | 0.468 | 1.932 | 1.498 | 1 | 1 | 1 | 2 | 5 |
| HB1\_SD\_1 | 2442 | 0.469 | 1.848 | 1.411 | 1 | 1 | 1 | 2 | 5 |
| HB2\_SD\_1 | 2443 | 0.469 | 1.933 | 1.425 | 1 | 1 | 1 | 2 | 5 |
| HB3\_SD\_1 | 2442 | 0.469 | 1.718 | 1.313 | 1 | 1 | 1 | 2 | 5 |
| HB4\_SD\_1 | 2442 | 0.469 | 1.667 | 1.266 | 1 | 1 | 1 | 2 | 5 |
| HB5\_SD\_1 | 2445 | 0.468 | 1.667 | 1.265 | 1 | 1 | 1 | 2 | 5 |
| HB6\_SD\_1 | 2444 | 0.468 | 1.979 | 1.479 | 1 | 1 | 1 | 3 | 5 |
| HB1\_AR\_1 | 2443 | 0.469 | 1.239 | 0.638 | 1 | 1 | 1 | 1 | 3 |
| HB2\_AR\_1 | 2442 | 0.469 | 1.231 | 0.625 | 1 | 1 | 1 | 1 | 3 |
| HB3\_AR\_1 | 2444 | 0.468 | 1.183 | 0.561 | 1 | 1 | 1 | 1 | 3 |
| HB4\_AR\_1 | 2446 | 0.468 | 1.429 | 0.808 | 1 | 1 | 1 | 1 | 3 |
| HB5\_AR\_1 | 2444 | 0.468 | 1.151 | 0.512 | 1 | 1 | 1 | 1 | 3 |
| HB6\_AR\_1 | 2446 | 0.468 | 1.338 | 0.730 | 1 | 1 | 1 | 1 | 3 |
| HB1\_AB\_2 | 2818 | 0.387 | 0.355 | 0.479 | 0 | 0 | 0 | 1 | 1 |
| HB2\_AB\_2 | 2812 | 0.388 | 0.425 | 0.494 | 0 | 0 | 0 | 1 | 1 |
| HB3\_AB\_2 | 2812 | 0.388 | 0.370 | 0.483 | 0 | 0 | 0 | 1 | 1 |
| HB4\_AB\_2 | 2814 | 0.388 | 0.541 | 0.498 | 0 | 0 | 1 | 1 | 1 |
| HB5\_AB\_2 | 2812 | 0.388 | 0.507 | 0.500 | 0 | 0 | 1 | 1 | 1 |
| HB6\_AB\_2 | 2811 | 0.389 | 0.556 | 0.497 | 0 | 0 | 1 | 1 | 1 |
| HB1\_AD\_2 | 2811 | 0.389 | 1.509 | 1.132 | 1 | 1 | 1 | 1 | 5 |
| HB2\_AD\_2 | 2807 | 0.390 | 1.584 | 1.214 | 1 | 1 | 1 | 1 | 5 |
| HB3\_AD\_2 | 2811 | 0.389 | 1.494 | 1.127 | 1 | 1 | 1 | 1 | 5 |
| HB4\_AD\_2 | 2808 | 0.389 | 1.635 | 1.270 | 1 | 1 | 1 | 2 | 5 |
| HB5\_AD\_2 | 2807 | 0.390 | 1.587 | 1.229 | 1 | 1 | 1 | 1 | 5 |
| HB6\_AD\_2 | 2809 | 0.389 | 1.715 | 1.346 | 1 | 1 | 1 | 2 | 5 |
| HB1\_SD\_2 | 2809 | 0.389 | 1.699 | 1.277 | 1 | 1 | 1 | 2 | 5 |
| HB2\_SD\_2 | 2808 | 0.389 | 1.784 | 1.340 | 1 | 1 | 1 | 2 | 5 |
| HB3\_SD\_2 | 2811 | 0.389 | 1.584 | 1.193 | 1 | 1 | 1 | 1 | 5 |
| HB4\_SD\_2 | 2809 | 0.389 | 1.679 | 1.274 | 1 | 1 | 1 | 2 | 5 |
| HB5\_SD\_2 | 2808 | 0.389 | 1.650 | 1.241 | 1 | 1 | 1 | 2 | 5 |
| HB6\_SD\_2 | 2808 | 0.389 | 1.802 | 1.358 | 1 | 1 | 1 | 2 | 5 |
| HB1\_AR\_2 | 2813 | 0.388 | 1.175 | 0.557 | 1 | 1 | 1 | 1 | 3 |
| HB2\_AR\_2 | 2811 | 0.389 | 1.147 | 0.514 | 1 | 1 | 1 | 1 | 3 |
| HB3\_AR\_2 | 2808 | 0.389 | 1.118 | 0.459 | 1 | 1 | 1 | 1 | 3 |
| HB4\_AR\_2 | 2809 | 0.389 | 1.258 | 0.655 | 1 | 1 | 1 | 1 | 3 |
| HB5\_AR\_2 | 2808 | 0.389 | 1.073 | 0.366 | 1 | 1 | 1 | 1 | 3 |
| HB6\_AR\_2 | 2808 | 0.389 | 1.204 | 0.597 | 1 | 1 | 1 | 1 | 3 |
| HB1\_AB\_3 | 2717 | 0.409 | 0.293 | 0.455 | 0 | 0 | 0 | 1 | 1 |
| HB2\_AB\_3 | 2717 | 0.409 | 0.320 | 0.467 | 0 | 0 | 0 | 1 | 1 |
| HB3\_AB\_3 | 2718 | 0.409 | 0.302 | 0.459 | 0 | 0 | 0 | 1 | 1 |
| HB4\_AB\_3 | 2719 | 0.409 | 0.432 | 0.495 | 0 | 0 | 0 | 1 | 1 |
| HB5\_AB\_3 | 2715 | 0.410 | 0.400 | 0.490 | 0 | 0 | 0 | 1 | 1 |
| HB6\_AB\_3 | 2715 | 0.410 | 0.462 | 0.499 | 0 | 0 | 0 | 1 | 1 |
| HB1\_AD\_3 | 2730 | 0.406 | 1.410 | 1.049 | 1 | 1 | 1 | 1 | 5 |
| HB2\_AD\_3 | 2733 | 0.406 | 1.457 | 1.108 | 1 | 1 | 1 | 1 | 5 |
| HB3\_AD\_3 | 2730 | 0.406 | 1.426 | 1.071 | 1 | 1 | 1 | 1 | 5 |
| HB4\_AD\_3 | 2731 | 0.406 | 1.487 | 1.132 | 1 | 1 | 1 | 1 | 5 |
| HB5\_AD\_3 | 2727 | 0.407 | 1.441 | 1.087 | 1 | 1 | 1 | 1 | 5 |
| HB6\_AD\_3 | 2726 | 0.407 | 1.585 | 1.245 | 1 | 1 | 1 | 1 | 5 |
| HB1\_SD\_3 | 2723 | 0.408 | 1.494 | 1.093 | 1 | 1 | 1 | 1 | 5 |
| HB2\_SD\_3 | 2720 | 0.408 | 1.540 | 1.140 | 1 | 1 | 1 | 1 | 5 |
| HB3\_SD\_3 | 2729 | 0.406 | 1.492 | 1.088 | 1 | 1 | 1 | 1 | 5 |
| HB4\_SD\_3 | 2723 | 0.408 | 1.516 | 1.134 | 1 | 1 | 1 | 1 | 5 |
| HB5\_SD\_3 | 2727 | 0.407 | 1.511 | 1.110 | 1 | 1 | 1 | 1 | 5 |
| HB6\_SD\_3 | 2727 | 0.407 | 1.622 | 1.218 | 1 | 1 | 1 | 2 | 5 |
| HB1\_AR\_3 | 2716 | 0.409 | 1.162 | 0.536 | 1 | 1 | 1 | 1 | 3 |
| HB2\_AR\_3 | 2714 | 0.410 | 1.144 | 0.506 | 1 | 1 | 1 | 1 | 3 |
| HB3\_AR\_3 | 2718 | 0.409 | 1.109 | 0.444 | 1 | 1 | 1 | 1 | 3 |
| HB4\_AR\_3 | 2716 | 0.409 | 1.233 | 0.629 | 1 | 1 | 1 | 1 | 3 |
| HB5\_AR\_3 | 2715 | 0.410 | 1.100 | 0.426 | 1 | 1 | 1 | 1 | 3 |
| HB6\_AR\_3 | 2717 | 0.409 | 1.203 | 0.589 | 1 | 1 | 1 | 1 | 3 |

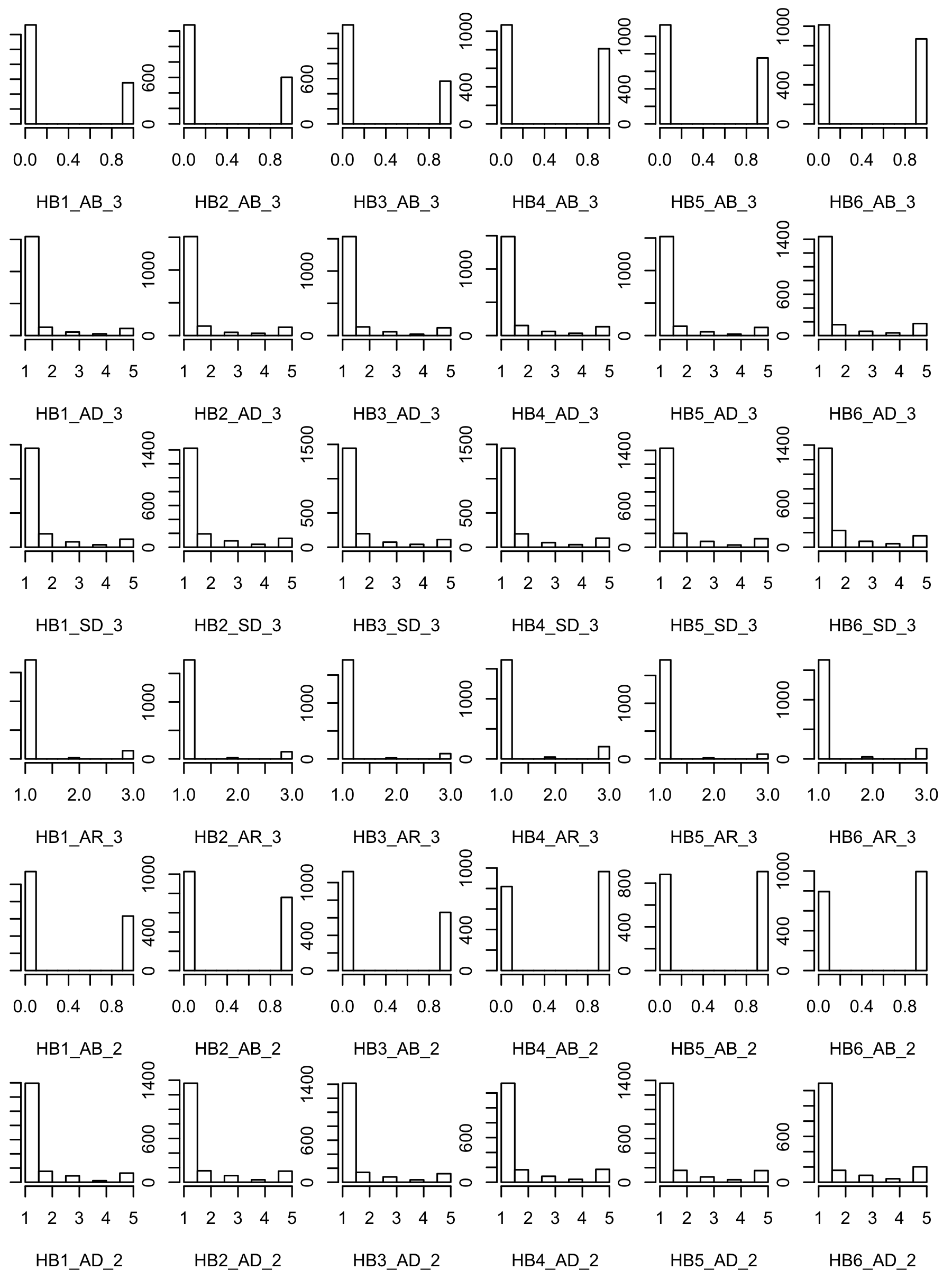


Figure : Item distribution

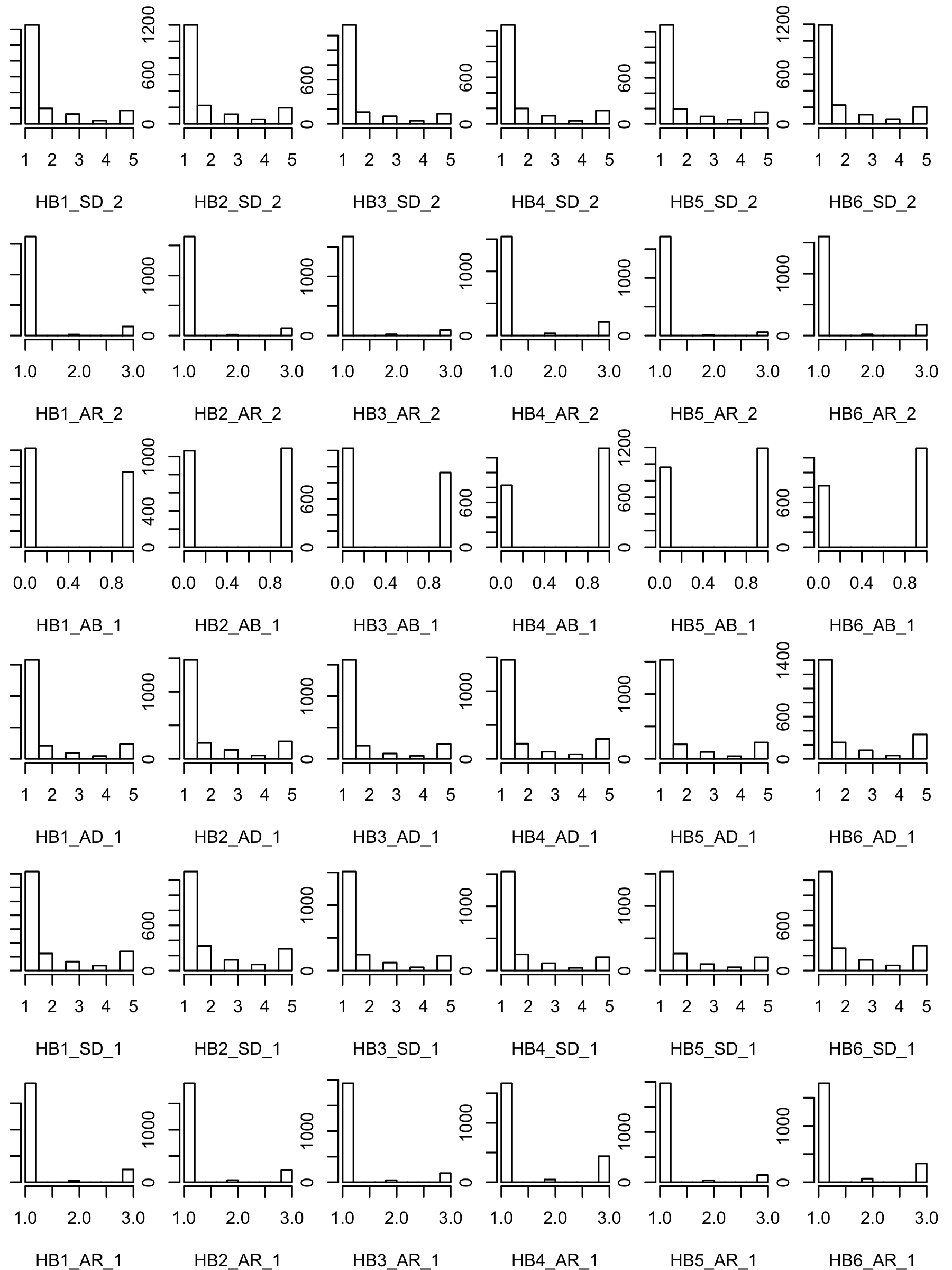


Figure : Item distribution

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS123\_CFA4\_inv\_scalar.out <simpleError in file(file, “rt”): cannot open the connection>

Table : Correlation matrix

|  | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1. HAB\_1** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **2. AD\_1** | 0.437\*\*\* | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **3. SD\_1** | 0.299\*\*\* | 0.633\*\*\* | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **4. AR\_1** | 0.353\*\*\* | 0.644\*\*\* | 0.301\*\*\* | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **5. HAB\_2** | 0.524\*\*\* | 0.261\*\*\* | 0.184\*\*\* | 0.229\*\*\* | -- | -- | -- | -- | -- | -- | -- | -- |
| **6. AD\_2** | 0.173\*\*\* | 0.346\*\*\* | 0.268\*\*\* | 0.290\*\*\* | 0.451\*\*\* | -- | -- | -- | -- | -- | -- | -- |
| **7. SD\_2** | 0.115\*\*\* | 0.229\*\*\* | 0.420\*\*\* | 0.114\*\* | 0.323\*\*\* | 0.677\*\*\* | -- | -- | -- | -- | -- | -- |
| **8. AR\_2** | 0.175\*\*\* | 0.395\*\*\* | 0.213\*\*\* | 0.664\*\*\* | 0.348\*\*\* | 0.536\*\*\* | 0.231\*\*\* | -- | -- | -- | -- | -- |
| **9. HAB\_3** | 0.396\*\*\* | 0.200\*\*\* | 0.124\*\*\* | 0.224\*\*\* | 0.573\*\*\* | 0.221\*\*\* | 0.155\*\*\* | 0.226\*\*\* | -- | -- | -- | -- |
| **10. AD\_3** | 0.145\*\*\* | 0.275\*\*\* | 0.197\*\*\* | 0.281\*\*\* | 0.251\*\*\* | 0.401\*\*\* | 0.356\*\*\* | 0.349\*\*\* | 0.411\*\*\* | -- | -- | -- |
| **11. SD\_3** | 0.106\*\* | 0.209\*\*\* | 0.338\*\*\* | 0.140\*\*\* | 0.177\*\*\* | 0.278\*\*\* | 0.465\*\*\* | 0.151\*\* | 0.279\*\*\* | 0.796\*\*\* | -- | -- |
| **12. AR\_3** | 0.141\*\*\* | 0.341\*\*\* | 0.152\*\*\* | 0.552\*\*\* | 0.227\*\*\* | 0.331\*\*\* | 0.132\*\*\* | 0.660\*\*\* | 0.391\*\*\* | 0.588\*\*\* | 0.311\*\*\* | -- |
| *\* p < 0.05. \*\* p < 0.01. \*\*\* p < 0.001.* | | | | | | | | | | | | |

## Factor Analysis

### EFA and CFA

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4.out

Table : CFA model fits at all waves

| **k** | **χ2** | **df** | ***p*** | **CFI** | **TLI** | **RMSEA** | **SRMR** | **Filename** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 96 | 559.743 | 246 | 0 | 0.982 | 0.979 | 0.034 | 0.054 | CS1\_CFA4.out |
| 96 | 454.236 | 246 | 0 | 0.987 | 0.985 | 0.030 | 0.060 | CS2\_CFA4.out |
| 96 | 464.862 | 246 | 0 | 0.989 | 0.988 | 0.031 | 0.054 | CS3\_CFA4.out |

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4.out

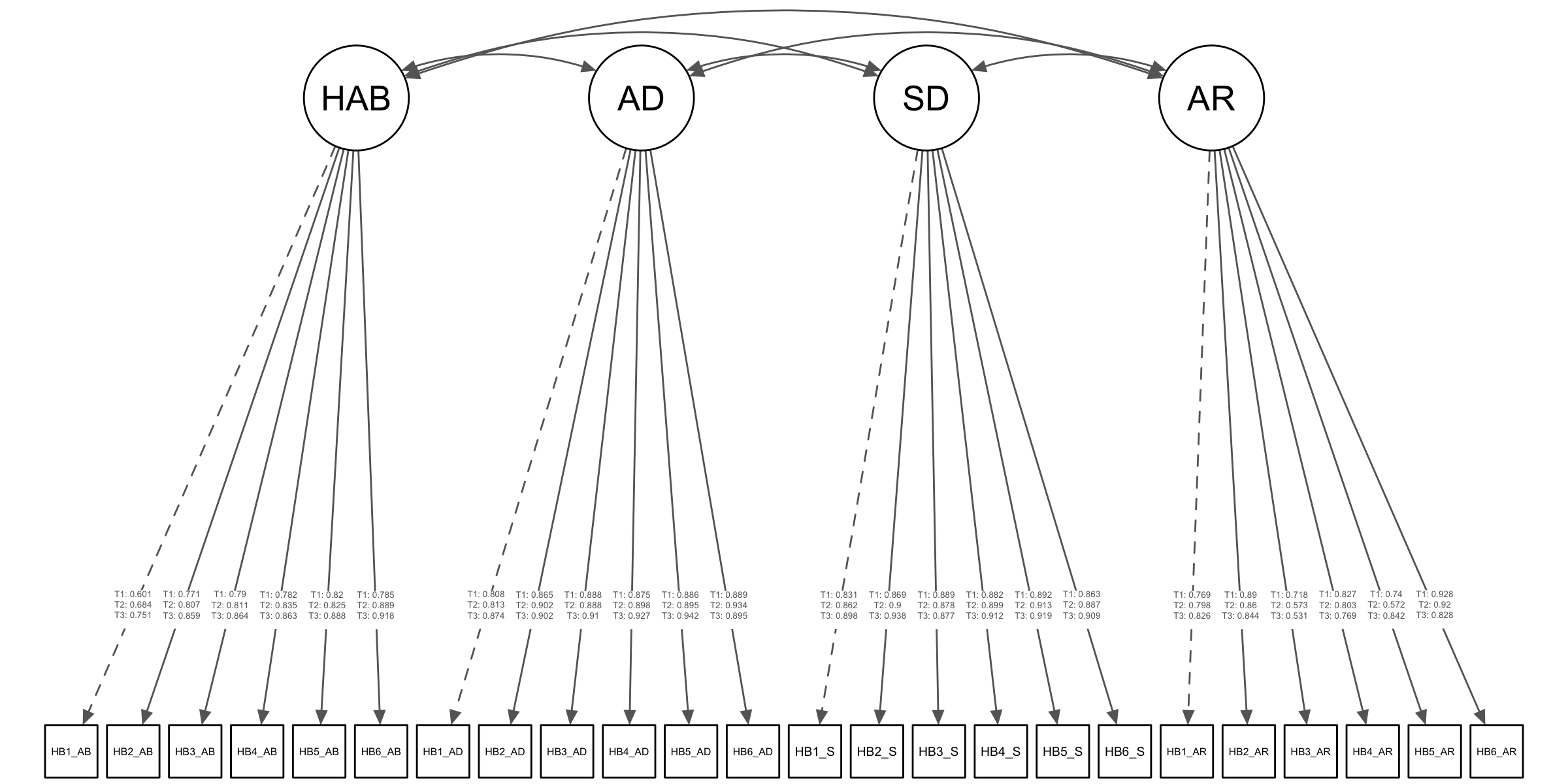


Figure : CFA model final factor structure

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4.out

Table : CFA model parameters at all waves

| **paramHeader** | **param** | **est\_T1** | **se\_T1** | **est\_se\_T1** | **pval\_T1** | **est\_T2** | **se\_T2** | **est\_se\_T2** | **pval\_T2** | **est\_T3** | **se\_T3** | **est\_se\_T3** | **pval\_T3** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HAB.BY | HB1\_AB | 0.601 | 0.039 | 15.296 | 0.000 | 0.684 | 0.038 | 18.018 | 0.000 | 0.751 | 0.028 | 26.417 | 0.000 |
| HAB.BY | HB2\_AB | 0.771 | 0.027 | 28.811 | 0.000 | 0.807 | 0.031 | 26.327 | 0.000 | 0.859 | 0.020 | 42.336 | 0.000 |
| HAB.BY | HB3\_AB | 0.790 | 0.025 | 31.152 | 0.000 | 0.811 | 0.028 | 29.257 | 0.000 | 0.864 | 0.025 | 35.207 | 0.000 |
| HAB.BY | HB4\_AB | 0.782 | 0.031 | 25.633 | 0.000 | 0.835 | 0.027 | 31.318 | 0.000 | 0.863 | 0.020 | 43.065 | 0.000 |
| HAB.BY | HB5\_AB | 0.820 | 0.029 | 28.346 | 0.000 | 0.825 | 0.029 | 28.431 | 0.000 | 0.888 | 0.020 | 44.147 | 0.000 |
| HAB.BY | HB6\_AB | 0.785 | 0.035 | 22.762 | 0.000 | 0.889 | 0.027 | 32.901 | 0.000 | 0.918 | 0.021 | 44.190 | 0.000 |
| AD.BY | HB1\_AD | 0.808 | 0.022 | 36.562 | 0.000 | 0.813 | 0.020 | 39.901 | 0.000 | 0.874 | 0.018 | 49.429 | 0.000 |
| AD.BY | HB2\_AD | 0.865 | 0.015 | 56.725 | 0.000 | 0.902 | 0.013 | 68.663 | 0.000 | 0.902 | 0.016 | 57.450 | 0.000 |
| AD.BY | HB3\_AD | 0.888 | 0.015 | 60.010 | 0.000 | 0.888 | 0.018 | 50.075 | 0.000 | 0.910 | 0.014 | 65.222 | 0.000 |
| AD.BY | HB4\_AD | 0.875 | 0.013 | 67.122 | 0.000 | 0.898 | 0.013 | 68.823 | 0.000 | 0.927 | 0.011 | 81.714 | 0.000 |
| AD.BY | HB5\_AD | 0.886 | 0.014 | 64.721 | 0.000 | 0.895 | 0.012 | 71.660 | 0.000 | 0.942 | 0.011 | 86.428 | 0.000 |
| AD.BY | HB6\_AD | 0.889 | 0.012 | 72.485 | 0.000 | 0.934 | 0.010 | 97.928 | 0.000 | 0.895 | 0.016 | 57.370 | 0.000 |
| SD.BY | HB1\_SD | 0.831 | 0.019 | 43.694 | 0.000 | 0.862 | 0.016 | 55.610 | 0.000 | 0.898 | 0.013 | 67.732 | 0.000 |
| SD.BY | HB2\_SD | 0.869 | 0.012 | 71.166 | 0.000 | 0.900 | 0.013 | 66.828 | 0.000 | 0.938 | 0.012 | 79.329 | 0.000 |
| SD.BY | HB3\_SD | 0.889 | 0.012 | 71.514 | 0.000 | 0.878 | 0.017 | 50.560 | 0.000 | 0.877 | 0.015 | 58.751 | 0.000 |
| SD.BY | HB4\_SD | 0.882 | 0.015 | 59.012 | 0.000 | 0.899 | 0.013 | 66.779 | 0.000 | 0.912 | 0.012 | 78.223 | 0.000 |
| SD.BY | HB5\_SD | 0.892 | 0.015 | 60.663 | 0.000 | 0.913 | 0.013 | 71.882 | 0.000 | 0.919 | 0.012 | 76.322 | 0.000 |
| SD.BY | HB6\_SD | 0.863 | 0.013 | 64.340 | 0.000 | 0.887 | 0.015 | 60.072 | 0.000 | 0.909 | 0.012 | 73.757 | 0.000 |
| AR.BY | HB1\_AR | 0.769 | 0.031 | 24.515 | 0.000 | 0.798 | 0.045 | 17.556 | 0.000 | 0.826 | 0.048 | 17.175 | 0.000 |
| AR.BY | HB2\_AR | 0.890 | 0.026 | 34.351 | 0.000 | 0.860 | 0.055 | 15.724 | 0.000 | 0.844 | 0.048 | 17.716 | 0.000 |
| AR.BY | HB3\_AR | 0.718 | 0.040 | 17.836 | 0.000 | 0.573 | 0.079 | 7.241 | 0.000 | 0.531 | 0.073 | 7.275 | 0.000 |
| AR.BY | HB4\_AR | 0.827 | 0.028 | 29.583 | 0.000 | 0.803 | 0.043 | 18.469 | 0.000 | 0.769 | 0.042 | 18.400 | 0.000 |
| AR.BY | HB5\_AR | 0.740 | 0.042 | 17.725 | 0.000 | 0.572 | 0.091 | 6.288 | 0.000 | 0.842 | 0.071 | 11.793 | 0.000 |
| AR.BY | HB6\_AR | 0.928 | 0.023 | 39.834 | 0.000 | 0.920 | 0.034 | 27.357 | 0.000 | 0.828 | 0.046 | 17.869 | 0.000 |
| AD.WITH | HAB | 0.395 | 0.037 | 10.663 | 0.000 | 0.457 | 0.041 | 11.011 | 0.000 | 0.421 | 0.045 | 9.328 | 0.000 |
| SD.WITH | HAB | 0.266 | 0.037 | 7.278 | 0.000 | 0.313 | 0.040 | 7.912 | 0.000 | 0.325 | 0.043 | 7.544 | 0.000 |
| SD.WITH | AD | 0.629 | 0.032 | 19.705 | 0.000 | 0.709 | 0.028 | 25.689 | 0.000 | 0.823 | 0.023 | 35.903 | 0.000 |
| AR.WITH | HAB | 0.336 | 0.042 | 7.936 | 0.000 | 0.359 | 0.046 | 7.754 | 0.000 | 0.358 | 0.052 | 6.848 | 0.000 |
| AR.WITH | AD | 0.661 | 0.029 | 22.469 | 0.000 | 0.504 | 0.048 | 10.391 | 0.000 | 0.538 | 0.047 | 11.400 | 0.000 |
| AR.WITH | SD | 0.294 | 0.043 | 6.794 | 0.000 | 0.235 | 0.057 | 4.128 | 0.000 | 0.305 | 0.045 | 6.825 | 0.000 |
| Thresholds | HB1\_AB$1 | 0.144 | 0.041 | 3.485 | 0.000 | 0.386 | 0.047 | 8.167 | 0.000 | 0.563 | 0.049 | 11.556 | 0.000 |
| Thresholds | HB2\_AB$1 | -0.064 | 0.036 | -1.773 | 0.076 | 0.216 | 0.046 | 4.715 | 0.000 | 0.446 | 0.055 | 8.060 | 0.000 |
| Thresholds | HB3\_AB$1 | 0.100 | 0.042 | 2.365 | 0.018 | 0.356 | 0.049 | 7.218 | 0.000 | 0.522 | 0.047 | 11.028 | 0.000 |
| Thresholds | HB4\_AB$1 | -0.274 | 0.038 | -7.170 | 0.000 | -0.096 | 0.046 | -2.073 | 0.038 | 0.171 | 0.048 | 3.530 | 0.000 |
| Thresholds | HB5\_AB$1 | -0.152 | 0.039 | -3.928 | 0.000 | 0.007 | 0.052 | 0.132 | 0.895 | 0.254 | 0.046 | 5.494 | 0.000 |
| Thresholds | HB6\_AB$1 | -0.325 | 0.044 | -7.475 | 0.000 | -0.115 | 0.043 | -2.676 | 0.007 | 0.134 | 0.051 | 2.625 | 0.009 |
| Thresholds | HB1\_AD$1 | 0.594 | 0.046 | 12.852 | 0.000 | 0.738 | 0.058 | 12.751 | 0.000 | 0.951 | 0.058 | 16.310 | 0.000 |
| Thresholds | HB1\_AD$2 | 0.939 | 0.049 | 19.324 | 0.000 | 1.045 | 0.060 | 17.512 | 0.000 | 1.265 | 0.066 | 19.217 | 0.000 |
| Thresholds | HB1\_AD$3 | 1.140 | 0.056 | 20.286 | 0.000 | 1.341 | 0.061 | 21.929 | 0.000 | 1.468 | 0.068 | 21.585 | 0.000 |
| Thresholds | HB1\_AD$4 | 1.257 | 0.066 | 18.961 | 0.000 | 1.420 | 0.065 | 21.723 | 0.000 | 1.587 | 0.069 | 22.906 | 0.000 |
| Thresholds | HB2\_AD$1 | 0.462 | 0.049 | 9.458 | 0.000 | 0.674 | 0.063 | 10.732 | 0.000 | 0.883 | 0.053 | 16.583 | 0.000 |
| Thresholds | HB2\_AD$2 | 0.786 | 0.047 | 16.584 | 0.000 | 1.001 | 0.062 | 16.157 | 0.000 | 1.209 | 0.069 | 17.437 | 0.000 |
| Thresholds | HB2\_AD$3 | 1.080 | 0.049 | 22.118 | 0.000 | 1.224 | 0.061 | 20.048 | 0.000 | 1.374 | 0.071 | 19.373 | 0.000 |
| Thresholds | HB2\_AD$4 | 1.190 | 0.053 | 22.541 | 0.000 | 1.350 | 0.062 | 21.651 | 0.000 | 1.492 | 0.070 | 21.377 | 0.000 |
| Thresholds | HB3\_AD$1 | 0.592 | 0.052 | 11.401 | 0.000 | 0.779 | 0.058 | 13.466 | 0.000 | 0.940 | 0.052 | 18.031 | 0.000 |
| Thresholds | HB3\_AD$2 | 0.947 | 0.053 | 17.794 | 0.000 | 1.070 | 0.066 | 16.194 | 0.000 | 1.266 | 0.061 | 20.824 | 0.000 |
| Thresholds | HB3\_AD$3 | 1.145 | 0.052 | 21.820 | 0.000 | 1.283 | 0.065 | 19.754 | 0.000 | 1.431 | 0.067 | 21.320 | 0.000 |
| Thresholds | HB3\_AD$4 | 1.258 | 0.057 | 21.888 | 0.000 | 1.435 | 0.075 | 19.024 | 0.000 | 1.492 | 0.065 | 22.877 | 0.000 |
| Thresholds | HB4\_AD$1 | 0.445 | 0.046 | 9.777 | 0.000 | 0.589 | 0.053 | 11.013 | 0.000 | 0.879 | 0.053 | 16.737 | 0.000 |
| Thresholds | HB4\_AD$2 | 0.771 | 0.047 | 16.243 | 0.000 | 0.905 | 0.059 | 15.408 | 0.000 | 1.226 | 0.062 | 19.873 | 0.000 |
| Thresholds | HB4\_AD$3 | 0.936 | 0.046 | 20.400 | 0.000 | 1.115 | 0.056 | 19.777 | 0.000 | 1.402 | 0.066 | 21.146 | 0.000 |
| Thresholds | HB4\_AD$4 | 1.073 | 0.051 | 21.167 | 0.000 | 1.230 | 0.058 | 21.045 | 0.000 | 1.501 | 0.069 | 21.711 | 0.000 |
| Thresholds | HB5\_AD$1 | 0.530 | 0.046 | 11.579 | 0.000 | 0.701 | 0.057 | 12.206 | 0.000 | 0.880 | 0.055 | 16.079 | 0.000 |
| Thresholds | HB5\_AD$2 | 0.859 | 0.045 | 18.901 | 0.000 | 1.024 | 0.056 | 18.398 | 0.000 | 1.279 | 0.070 | 18.168 | 0.000 |
| Thresholds | HB5\_AD$3 | 1.075 | 0.056 | 19.243 | 0.000 | 1.207 | 0.061 | 19.641 | 0.000 | 1.469 | 0.070 | 20.845 | 0.000 |
| Thresholds | HB5\_AD$4 | 1.166 | 0.063 | 18.453 | 0.000 | 1.310 | 0.067 | 19.487 | 0.000 | 1.543 | 0.073 | 21.241 | 0.000 |
| Thresholds | HB6\_AD$1 | 0.344 | 0.050 | 6.871 | 0.000 | 0.557 | 0.055 | 10.083 | 0.000 | 0.780 | 0.060 | 12.921 | 0.000 |
| Thresholds | HB6\_AD$2 | 0.666 | 0.051 | 13.113 | 0.000 | 0.829 | 0.058 | 14.392 | 0.000 | 1.111 | 0.069 | 15.998 | 0.000 |
| Thresholds | HB6\_AD$3 | 0.890 | 0.050 | 17.641 | 0.000 | 1.042 | 0.061 | 17.188 | 0.000 | 1.255 | 0.066 | 19.062 | 0.000 |
| Thresholds | HB6\_AD$4 | 0.993 | 0.052 | 19.191 | 0.000 | 1.168 | 0.058 | 20.010 | 0.000 | 1.348 | 0.069 | 19.621 | 0.000 |
| Thresholds | HB1\_SD$1 | 0.398 | 0.044 | 9.014 | 0.000 | 0.468 | 0.068 | 6.847 | 0.000 | 0.749 | 0.056 | 13.379 | 0.000 |
| Thresholds | HB1\_SD$2 | 0.767 | 0.050 | 15.357 | 0.000 | 0.836 | 0.070 | 11.993 | 0.000 | 1.195 | 0.060 | 19.921 | 0.000 |
| Thresholds | HB1\_SD$3 | 0.975 | 0.048 | 20.107 | 0.000 | 1.173 | 0.075 | 15.620 | 0.000 | 1.448 | 0.069 | 20.978 | 0.000 |
| Thresholds | HB1\_SD$4 | 1.109 | 0.052 | 21.447 | 0.000 | 1.329 | 0.072 | 18.366 | 0.000 | 1.600 | 0.073 | 22.027 | 0.000 |
| Thresholds | HB2\_SD$1 | 0.285 | 0.050 | 5.724 | 0.000 | 0.407 | 0.061 | 6.654 | 0.000 | 0.705 | 0.054 | 12.950 | 0.000 |
| Thresholds | HB2\_SD$2 | 0.696 | 0.052 | 13.263 | 0.000 | 0.777 | 0.063 | 12.265 | 0.000 | 1.118 | 0.062 | 18.153 | 0.000 |
| Thresholds | HB2\_SD$3 | 0.914 | 0.050 | 18.301 | 0.000 | 1.086 | 0.069 | 15.783 | 0.000 | 1.331 | 0.064 | 20.807 | 0.000 |
| Thresholds | HB2\_SD$4 | 1.093 | 0.053 | 20.558 | 0.000 | 1.266 | 0.070 | 18.025 | 0.000 | 1.456 | 0.072 | 20.249 | 0.000 |
| Thresholds | HB3\_SD$1 | 0.483 | 0.049 | 9.821 | 0.000 | 0.665 | 0.063 | 10.615 | 0.000 | 0.748 | 0.055 | 13.545 | 0.000 |
| Thresholds | HB3\_SD$2 | 0.851 | 0.052 | 16.255 | 0.000 | 0.986 | 0.064 | 15.298 | 0.000 | 1.216 | 0.058 | 20.852 | 0.000 |
| Thresholds | HB3\_SD$3 | 1.106 | 0.049 | 22.803 | 0.000 | 1.265 | 0.067 | 18.904 | 0.000 | 1.410 | 0.063 | 22.511 | 0.000 |
| Thresholds | HB3\_SD$4 | 1.238 | 0.052 | 23.858 | 0.000 | 1.435 | 0.068 | 21.147 | 0.000 | 1.553 | 0.065 | 24.059 | 0.000 |
| Thresholds | HB4\_SD$1 | 0.554 | 0.051 | 10.952 | 0.000 | 0.512 | 0.055 | 9.386 | 0.000 | 0.746 | 0.060 | 12.488 | 0.000 |
| Thresholds | HB4\_SD$2 | 0.940 | 0.054 | 17.532 | 0.000 | 0.889 | 0.060 | 14.848 | 0.000 | 1.195 | 0.064 | 18.628 | 0.000 |
| Thresholds | HB4\_SD$3 | 1.195 | 0.056 | 21.276 | 0.000 | 1.152 | 0.067 | 17.295 | 0.000 | 1.404 | 0.072 | 19.389 | 0.000 |
| Thresholds | HB4\_SD$4 | 1.299 | 0.057 | 22.721 | 0.000 | 1.266 | 0.068 | 18.594 | 0.000 | 1.528 | 0.072 | 21.256 | 0.000 |
| Thresholds | HB5\_SD$1 | 0.550 | 0.054 | 10.201 | 0.000 | 0.587 | 0.054 | 10.796 | 0.000 | 0.707 | 0.054 | 13.217 | 0.000 |
| Thresholds | HB5\_SD$2 | 0.978 | 0.054 | 18.111 | 0.000 | 0.957 | 0.062 | 15.310 | 0.000 | 1.147 | 0.063 | 18.164 | 0.000 |
| Thresholds | HB5\_SD$3 | 1.198 | 0.059 | 20.222 | 0.000 | 1.213 | 0.064 | 18.987 | 0.000 | 1.410 | 0.071 | 19.891 | 0.000 |
| Thresholds | HB5\_SD$4 | 1.326 | 0.068 | 19.390 | 0.000 | 1.378 | 0.071 | 19.441 | 0.000 | 1.502 | 0.067 | 22.529 | 0.000 |
| Thresholds | HB6\_SD$1 | 0.279 | 0.057 | 4.879 | 0.000 | 0.410 | 0.055 | 7.388 | 0.000 | 0.617 | 0.052 | 11.911 | 0.000 |
| Thresholds | HB6\_SD$2 | 0.663 | 0.056 | 11.863 | 0.000 | 0.796 | 0.060 | 13.214 | 0.000 | 1.056 | 0.059 | 18.042 | 0.000 |
| Thresholds | HB6\_SD$3 | 0.886 | 0.056 | 15.724 | 0.000 | 1.019 | 0.062 | 16.516 | 0.000 | 1.257 | 0.065 | 19.321 | 0.000 |
| Thresholds | HB6\_SD$4 | 1.055 | 0.058 | 18.118 | 0.000 | 1.168 | 0.058 | 20.306 | 0.000 | 1.377 | 0.063 | 22.013 | 0.000 |
| Thresholds | HB1\_AR$1 | 1.153 | 0.053 | 21.809 | 0.000 | 1.329 | 0.062 | 21.585 | 0.000 | 1.384 | 0.065 | 21.344 | 0.000 |
| Thresholds | HB1\_AR$2 | 1.222 | 0.053 | 22.980 | 0.000 | 1.413 | 0.069 | 20.407 | 0.000 | 1.464 | 0.068 | 21.434 | 0.000 |
| Thresholds | HB2\_AR$1 | 1.119 | 0.052 | 21.422 | 0.000 | 1.458 | 0.062 | 23.405 | 0.000 | 1.400 | 0.057 | 24.626 | 0.000 |
| Thresholds | HB2\_AR$2 | 1.228 | 0.054 | 22.745 | 0.000 | 1.543 | 0.061 | 25.505 | 0.000 | 1.474 | 0.063 | 23.511 | 0.000 |
| Thresholds | HB3\_AR$1 | 1.267 | 0.056 | 22.477 | 0.000 | 1.591 | 0.079 | 20.064 | 0.000 | 1.573 | 0.074 | 21.131 | 0.000 |
| Thresholds | HB3\_AR$2 | 1.359 | 0.059 | 22.913 | 0.000 | 1.709 | 0.077 | 22.304 | 0.000 | 1.650 | 0.079 | 20.854 | 0.000 |
| Thresholds | HB4\_AR$1 | 0.744 | 0.047 | 15.971 | 0.000 | 1.101 | 0.059 | 18.735 | 0.000 | 1.135 | 0.056 | 20.311 | 0.000 |
| Thresholds | HB4\_AR$2 | 0.828 | 0.047 | 17.547 | 0.000 | 1.185 | 0.059 | 20.022 | 0.000 | 1.219 | 0.059 | 20.772 | 0.000 |
| Thresholds | HB5\_AR$1 | 1.348 | 0.061 | 22.184 | 0.000 | 1.872 | 0.082 | 22.694 | 0.000 | 1.751 | 0.070 | 25.040 | 0.000 |
| Thresholds | HB5\_AR$2 | 1.465 | 0.061 | 24.043 | 0.000 | 1.977 | 0.098 | 20.141 | 0.000 | 1.816 | 0.074 | 24.508 | 0.000 |
| Thresholds | HB6\_AR$1 | 0.927 | 0.053 | 17.603 | 0.000 | 1.309 | 0.066 | 19.910 | 0.000 | 1.246 | 0.062 | 20.037 | 0.000 |
| Thresholds | HB6\_AR$2 | 1.050 | 0.055 | 18.949 | 0.000 | 1.363 | 0.062 | 21.927 | 0.000 | 1.357 | 0.063 | 21.518 | 0.000 |
| Variances | HAB | 1.000 | 0.000 | 999.000 | 999.000 | 1.000 | 0.000 | 999.000 | 999.000 | 1.000 | 0.000 | 999.000 | 999.000 |
| Variances | AD | 1.000 | 0.000 | 999.000 | 999.000 | 1.000 | 0.000 | 999.000 | 999.000 | 1.000 | 0.000 | 999.000 | 999.000 |
| Variances | SD | 1.000 | 0.000 | 999.000 | 999.000 | 1.000 | 0.000 | 999.000 | 999.000 | 1.000 | 0.000 | 999.000 | 999.000 |
| Variances | AR | 1.000 | 0.000 | 999.000 | 999.000 | 1.000 | 0.000 | 999.000 | 999.000 | 1.000 | 0.000 | 999.000 | 999.000 |

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4.out

Table : CFA model R-squared at all waves

| **param** | **est\_T1** | **se\_T1** | **est\_se\_T1** | **pval\_T1** | **resid\_var\_T1** | **est\_T2** | **se\_T2** | **est\_se\_T2** | **pval\_T2** | **resid\_var\_T2** | **est\_T3** | **se\_T3** | **est\_se\_T3** | **pval\_T3** | **resid\_var\_T3** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HB1\_AB | 0.361 | 0.047 | 7.648 | 0 | 0.639 | 0.469 | 0.052 | 9.009 | 0.000 | 0.531 | 0.564 | 0.043 | 13.209 | 0 | 0.436 |
| HB2\_AB | 0.595 | 0.041 | 14.405 | 0 | 0.405 | 0.652 | 0.050 | 13.164 | 0.000 | 0.348 | 0.739 | 0.035 | 21.168 | 0 | 0.261 |
| HB3\_AB | 0.624 | 0.040 | 15.576 | 0 | 0.376 | 0.658 | 0.045 | 14.629 | 0.000 | 0.342 | 0.746 | 0.042 | 17.604 | 0 | 0.254 |
| HB4\_AB | 0.612 | 0.048 | 12.816 | 0 | 0.388 | 0.697 | 0.044 | 15.659 | 0.000 | 0.303 | 0.745 | 0.035 | 21.533 | 0 | 0.255 |
| HB5\_AB | 0.673 | 0.047 | 14.173 | 0 | 0.327 | 0.681 | 0.048 | 14.215 | 0.000 | 0.319 | 0.789 | 0.036 | 22.074 | 0 | 0.211 |
| HB6\_AB | 0.617 | 0.054 | 11.381 | 0 | 0.383 | 0.791 | 0.048 | 16.450 | 0.000 | 0.209 | 0.843 | 0.038 | 22.095 | 0 | 0.157 |
| HB1\_AD | 0.653 | 0.036 | 18.281 | 0 | 0.347 | 0.660 | 0.033 | 19.951 | 0.000 | 0.340 | 0.763 | 0.031 | 24.714 | 0 | 0.237 |
| HB2\_AD | 0.748 | 0.026 | 28.363 | 0 | 0.252 | 0.814 | 0.024 | 34.331 | 0.000 | 0.186 | 0.813 | 0.028 | 28.725 | 0 | 0.187 |
| HB3\_AD | 0.788 | 0.026 | 30.005 | 0 | 0.212 | 0.789 | 0.031 | 25.038 | 0.000 | 0.211 | 0.829 | 0.025 | 32.611 | 0 | 0.171 |
| HB4\_AD | 0.766 | 0.023 | 33.561 | 0 | 0.234 | 0.807 | 0.023 | 34.412 | 0.000 | 0.193 | 0.860 | 0.021 | 40.857 | 0 | 0.140 |
| HB5\_AD | 0.785 | 0.024 | 32.360 | 0 | 0.215 | 0.800 | 0.022 | 35.830 | 0.000 | 0.200 | 0.888 | 0.021 | 43.214 | 0 | 0.112 |
| HB6\_AD | 0.791 | 0.022 | 36.242 | 0 | 0.209 | 0.873 | 0.018 | 48.964 | 0.000 | 0.127 | 0.801 | 0.028 | 28.685 | 0 | 0.199 |
| HB1\_SD | 0.690 | 0.032 | 21.847 | 0 | 0.310 | 0.743 | 0.027 | 27.805 | 0.000 | 0.257 | 0.806 | 0.024 | 33.866 | 0 | 0.194 |
| HB2\_SD | 0.756 | 0.021 | 35.583 | 0 | 0.244 | 0.809 | 0.024 | 33.414 | 0.000 | 0.191 | 0.879 | 0.022 | 39.664 | 0 | 0.121 |
| HB3\_SD | 0.789 | 0.022 | 35.757 | 0 | 0.211 | 0.770 | 0.030 | 25.280 | 0.000 | 0.230 | 0.770 | 0.026 | 29.376 | 0 | 0.230 |
| HB4\_SD | 0.778 | 0.026 | 29.506 | 0 | 0.222 | 0.808 | 0.024 | 33.390 | 0.000 | 0.192 | 0.832 | 0.021 | 39.111 | 0 | 0.168 |
| HB5\_SD | 0.796 | 0.026 | 30.332 | 0 | 0.204 | 0.834 | 0.023 | 35.941 | 0.000 | 0.166 | 0.845 | 0.022 | 38.161 | 0 | 0.155 |
| HB6\_SD | 0.744 | 0.023 | 32.170 | 0 | 0.256 | 0.787 | 0.026 | 30.036 | 0.000 | 0.213 | 0.826 | 0.022 | 36.879 | 0 | 0.174 |
| HB1\_AR | 0.591 | 0.048 | 12.258 | 0 | 0.409 | 0.637 | 0.073 | 8.778 | 0.000 | 0.363 | 0.682 | 0.079 | 8.587 | 0 | 0.318 |
| HB2\_AR | 0.793 | 0.046 | 17.175 | 0 | 0.207 | 0.739 | 0.094 | 7.862 | 0.000 | 0.261 | 0.712 | 0.080 | 8.858 | 0 | 0.288 |
| HB3\_AR | 0.516 | 0.058 | 8.918 | 0 | 0.484 | 0.328 | 0.091 | 3.620 | 0.000 | 0.672 | 0.282 | 0.078 | 3.638 | 0 | 0.718 |
| HB4\_AR | 0.684 | 0.046 | 14.791 | 0 | 0.316 | 0.644 | 0.070 | 9.234 | 0.000 | 0.356 | 0.591 | 0.064 | 9.200 | 0 | 0.409 |
| HB5\_AR | 0.548 | 0.062 | 8.863 | 0 | 0.452 | 0.327 | 0.104 | 3.144 | 0.002 | 0.673 | 0.709 | 0.120 | 5.896 | 0 | 0.291 |
| HB6\_AR | 0.861 | 0.043 | 19.917 | 0 | 0.139 | 0.846 | 0.062 | 13.678 | 0.000 | 0.154 | 0.685 | 0.077 | 8.935 | 0 | 0.315 |

### Internal Reliability and Correlations

Table : Internal reliability by each subscale

| **subscale** | **item** | **raw\_alpha** | **std.alpha** | **G6(smc)** | **average\_r** | **S/N** | **alpha se** | **var.r** | **med.r** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HAB\_1 | HB1\_AB\_1 | 0.777 | 0.777 | 0.741 | 0.411 | 3.485 | 0.005 | 0.002 | 0.396 |
| HAB\_1 | HB2\_AB\_1 | 0.751 | 0.751 | 0.719 | 0.376 | 3.017 | 0.006 | 0.007 | 0.380 |
| HAB\_1 | HB3\_AB\_1 | 0.752 | 0.752 | 0.720 | 0.378 | 3.038 | 0.006 | 0.007 | 0.386 |
| HAB\_1 | HB4\_AB\_1 | 0.756 | 0.756 | 0.724 | 0.383 | 3.105 | 0.006 | 0.005 | 0.396 |
| HAB\_1 | HB5\_AB\_1 | 0.747 | 0.747 | 0.713 | 0.371 | 2.951 | 0.006 | 0.005 | 0.373 |
| HAB\_1 | HB6\_AB\_1 | 0.754 | 0.754 | 0.717 | 0.380 | 3.066 | 0.006 | 0.003 | 0.396 |
| AD\_1 | HB1\_AD\_1 | 0.879 | 0.880 | 0.856 | 0.594 | 7.319 | 0.003 | 0.001 | 0.594 |
| AD\_1 | HB2\_AD\_1 | 0.871 | 0.871 | 0.848 | 0.575 | 6.754 | 0.003 | 0.003 | 0.584 |
| AD\_1 | HB3\_AD\_1 | 0.870 | 0.870 | 0.847 | 0.571 | 6.664 | 0.003 | 0.003 | 0.575 |
| AD\_1 | HB4\_AD\_1 | 0.868 | 0.868 | 0.845 | 0.568 | 6.583 | 0.003 | 0.002 | 0.577 |
| AD\_1 | HB5\_AD\_1 | 0.869 | 0.870 | 0.846 | 0.572 | 6.675 | 0.003 | 0.001 | 0.577 |
| AD\_1 | HB6\_AD\_1 | 0.868 | 0.868 | 0.844 | 0.568 | 6.576 | 0.003 | 0.002 | 0.577 |
| SD\_1 | HB1\_SD\_1 | 0.876 | 0.878 | 0.855 | 0.591 | 7.225 | 0.003 | 0.001 | 0.582 |
| SD\_1 | HB2\_SD\_1 | 0.866 | 0.869 | 0.845 | 0.570 | 6.615 | 0.003 | 0.003 | 0.567 |
| SD\_1 | HB3\_SD\_1 | 0.866 | 0.867 | 0.845 | 0.566 | 6.534 | 0.003 | 0.002 | 0.570 |
| SD\_1 | HB4\_SD\_1 | 0.866 | 0.867 | 0.844 | 0.567 | 6.538 | 0.003 | 0.002 | 0.562 |
| SD\_1 | HB5\_SD\_1 | 0.864 | 0.865 | 0.841 | 0.561 | 6.401 | 0.003 | 0.002 | 0.562 |
| SD\_1 | HB6\_SD\_1 | 0.868 | 0.870 | 0.847 | 0.571 | 6.668 | 0.003 | 0.002 | 0.562 |
| AR\_1 | HB1\_AR\_1 | 0.760 | 0.761 | 0.731 | 0.390 | 3.192 | 0.005 | 0.007 | 0.360 |
| AR\_1 | HB2\_AR\_1 | 0.750 | 0.751 | 0.720 | 0.377 | 3.021 | 0.006 | 0.007 | 0.346 |
| AR\_1 | HB3\_AR\_1 | 0.786 | 0.787 | 0.756 | 0.425 | 3.696 | 0.005 | 0.007 | 0.436 |
| AR\_1 | HB4\_AR\_1 | 0.756 | 0.757 | 0.721 | 0.384 | 3.117 | 0.006 | 0.004 | 0.360 |
| AR\_1 | HB5\_AR\_1 | 0.782 | 0.782 | 0.752 | 0.418 | 3.593 | 0.005 | 0.008 | 0.436 |
| AR\_1 | HB6\_AR\_1 | 0.746 | 0.751 | 0.716 | 0.377 | 3.023 | 0.006 | 0.005 | 0.355 |
| HAB\_2 | HB1\_AB\_2 | 0.807 | 0.807 | 0.777 | 0.455 | 4.170 | 0.005 | 0.004 | 0.436 |
| HAB\_2 | HB2\_AB\_2 | 0.790 | 0.790 | 0.763 | 0.429 | 3.756 | 0.005 | 0.007 | 0.421 |
| HAB\_2 | HB3\_AB\_2 | 0.790 | 0.789 | 0.762 | 0.428 | 3.738 | 0.005 | 0.007 | 0.426 |
| HAB\_2 | HB4\_AB\_2 | 0.785 | 0.785 | 0.757 | 0.422 | 3.652 | 0.005 | 0.005 | 0.414 |
| HAB\_2 | HB5\_AB\_2 | 0.787 | 0.787 | 0.759 | 0.425 | 3.700 | 0.005 | 0.005 | 0.432 |
| HAB\_2 | HB6\_AB\_2 | 0.789 | 0.789 | 0.757 | 0.428 | 3.735 | 0.005 | 0.004 | 0.436 |
| AD\_2 | HB1\_AD\_2 | 0.886 | 0.886 | 0.864 | 0.609 | 7.776 | 0.003 | 0.001 | 0.604 |
| AD\_2 | HB2\_AD\_2 | 0.869 | 0.869 | 0.847 | 0.570 | 6.620 | 0.003 | 0.004 | 0.568 |
| AD\_2 | HB3\_AD\_2 | 0.874 | 0.874 | 0.853 | 0.581 | 6.930 | 0.003 | 0.005 | 0.595 |
| AD\_2 | HB4\_AD\_2 | 0.867 | 0.867 | 0.844 | 0.567 | 6.538 | 0.003 | 0.003 | 0.569 |
| AD\_2 | HB5\_AD\_2 | 0.872 | 0.873 | 0.850 | 0.578 | 6.861 | 0.003 | 0.003 | 0.582 |
| AD\_2 | HB6\_AD\_2 | 0.867 | 0.867 | 0.842 | 0.566 | 6.515 | 0.003 | 0.002 | 0.571 |
| SD\_2 | HB1\_SD\_2 | 0.898 | 0.898 | 0.878 | 0.639 | 8.835 | 0.002 | 0.001 | 0.639 |
| SD\_2 | HB2\_SD\_2 | 0.892 | 0.892 | 0.871 | 0.624 | 8.281 | 0.003 | 0.001 | 0.614 |
| SD\_2 | HB3\_SD\_2 | 0.894 | 0.895 | 0.874 | 0.629 | 8.484 | 0.002 | 0.001 | 0.630 |
| SD\_2 | HB4\_SD\_2 | 0.890 | 0.891 | 0.869 | 0.620 | 8.144 | 0.003 | 0.001 | 0.623 |
| SD\_2 | HB5\_SD\_2 | 0.891 | 0.892 | 0.871 | 0.622 | 8.237 | 0.003 | 0.001 | 0.623 |
| SD\_2 | HB6\_SD\_2 | 0.895 | 0.895 | 0.875 | 0.631 | 8.558 | 0.002 | 0.001 | 0.628 |
| AR\_2 | HB1\_AR\_2 | 0.682 | 0.680 | 0.649 | 0.298 | 2.121 | 0.007 | 0.011 | 0.250 |
| AR\_2 | HB2\_AR\_2 | 0.676 | 0.674 | 0.641 | 0.292 | 2.064 | 0.007 | 0.010 | 0.245 |
| AR\_2 | HB3\_AR\_2 | 0.733 | 0.727 | 0.695 | 0.347 | 2.662 | 0.006 | 0.014 | 0.401 |
| AR\_2 | HB4\_AR\_2 | 0.692 | 0.689 | 0.658 | 0.307 | 2.219 | 0.007 | 0.011 | 0.264 |
| AR\_2 | HB5\_AR\_2 | 0.738 | 0.736 | 0.703 | 0.358 | 2.784 | 0.006 | 0.012 | 0.401 |
| AR\_2 | HB6\_AR\_2 | 0.678 | 0.680 | 0.648 | 0.298 | 2.120 | 0.007 | 0.011 | 0.264 |
| HAB\_3 | HB1\_AB\_3 | 0.834 | 0.834 | 0.806 | 0.501 | 5.019 | 0.004 | 0.003 | 0.477 |
| HAB\_3 | HB2\_AB\_3 | 0.822 | 0.822 | 0.798 | 0.480 | 4.607 | 0.004 | 0.006 | 0.465 |
| HAB\_3 | HB3\_AB\_3 | 0.825 | 0.824 | 0.799 | 0.484 | 4.686 | 0.004 | 0.006 | 0.481 |
| HAB\_3 | HB4\_AB\_3 | 0.818 | 0.818 | 0.789 | 0.473 | 4.496 | 0.004 | 0.002 | 0.477 |
| HAB\_3 | HB5\_AB\_3 | 0.814 | 0.814 | 0.789 | 0.466 | 4.370 | 0.004 | 0.004 | 0.466 |
| HAB\_3 | HB6\_AB\_3 | 0.817 | 0.817 | 0.787 | 0.472 | 4.463 | 0.004 | 0.002 | 0.477 |
| AD\_3 | HB1\_AD\_3 | 0.906 | 0.907 | 0.889 | 0.660 | 9.706 | 0.002 | 0.002 | 0.642 |
| AD\_3 | HB2\_AD\_3 | 0.903 | 0.903 | 0.886 | 0.652 | 9.354 | 0.002 | 0.003 | 0.626 |
| AD\_3 | HB3\_AD\_3 | 0.905 | 0.906 | 0.892 | 0.658 | 9.635 | 0.002 | 0.003 | 0.642 |
| AD\_3 | HB4\_AD\_3 | 0.896 | 0.897 | 0.881 | 0.636 | 8.719 | 0.002 | 0.002 | 0.621 |
| AD\_3 | HB5\_AD\_3 | 0.898 | 0.900 | 0.882 | 0.642 | 8.954 | 0.002 | 0.002 | 0.627 |
| AD\_3 | HB6\_AD\_3 | 0.903 | 0.903 | 0.887 | 0.651 | 9.330 | 0.002 | 0.002 | 0.629 |
| SD\_3 | HB1\_SD\_3 | 0.909 | 0.910 | 0.891 | 0.668 | 10.066 | 0.002 | 0.001 | 0.661 |
| SD\_3 | HB2\_SD\_3 | 0.906 | 0.907 | 0.888 | 0.660 | 9.713 | 0.002 | 0.001 | 0.659 |
| SD\_3 | HB3\_SD\_3 | 0.907 | 0.907 | 0.892 | 0.661 | 9.769 | 0.002 | 0.002 | 0.653 |
| SD\_3 | HB4\_SD\_3 | 0.905 | 0.905 | 0.888 | 0.656 | 9.544 | 0.002 | 0.001 | 0.651 |
| SD\_3 | HB5\_SD\_3 | 0.904 | 0.904 | 0.887 | 0.653 | 9.425 | 0.002 | 0.001 | 0.650 |
| SD\_3 | HB6\_SD\_3 | 0.905 | 0.906 | 0.888 | 0.657 | 9.588 | 0.002 | 0.001 | 0.653 |
| AR\_3 | HB1\_AR\_3 | 0.677 | 0.674 | 0.638 | 0.292 | 2.066 | 0.007 | 0.010 | 0.264 |
| AR\_3 | HB2\_AR\_3 | 0.661 | 0.659 | 0.620 | 0.279 | 1.935 | 0.008 | 0.008 | 0.276 |
| AR\_3 | HB3\_AR\_3 | 0.733 | 0.734 | 0.695 | 0.356 | 2.759 | 0.006 | 0.005 | 0.353 |
| AR\_3 | HB4\_AR\_3 | 0.685 | 0.682 | 0.645 | 0.300 | 2.143 | 0.007 | 0.009 | 0.276 |
| AR\_3 | HB5\_AR\_3 | 0.705 | 0.701 | 0.667 | 0.319 | 2.341 | 0.007 | 0.013 | 0.352 |
| AR\_3 | HB6\_AR\_3 | 0.663 | 0.664 | 0.625 | 0.283 | 1.976 | 0.008 | 0.008 | 0.264 |

Table : Summary item statistics by each subscale

| **subscale** | **item** | **n** | **raw.r** | **std.r** | **r.cor** | **r.drop** | **mean** | **sd** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HAB\_1 | HB1\_AB\_1 | 2156 | 0.634 | 0.631 | 0.515 | 0.452 | 0.432 | 0.495 |
| HAB\_1 | HB2\_AB\_1 | 2153 | 0.716 | 0.714 | 0.630 | 0.561 | 0.506 | 0.500 |
| HAB\_1 | HB3\_AB\_1 | 2154 | 0.711 | 0.710 | 0.625 | 0.556 | 0.430 | 0.495 |
| HAB\_1 | HB4\_AB\_1 | 2156 | 0.695 | 0.698 | 0.609 | 0.538 | 0.615 | 0.487 |
| HAB\_1 | HB5\_AB\_1 | 2152 | 0.727 | 0.726 | 0.654 | 0.577 | 0.553 | 0.497 |
| HAB\_1 | HB6\_AB\_1 | 2150 | 0.702 | 0.705 | 0.627 | 0.548 | 0.617 | 0.486 |
| AD\_1 | HB1\_AD\_1 | 2157 | 0.760 | 0.763 | 0.693 | 0.651 | 1.678 | 1.314 |
| AD\_1 | HB2\_AD\_1 | 2155 | 0.803 | 0.804 | 0.750 | 0.707 | 1.786 | 1.372 |
| AD\_1 | HB3\_AD\_1 | 2156 | 0.806 | 0.811 | 0.760 | 0.716 | 1.681 | 1.320 |
| AD\_1 | HB4\_AD\_1 | 2156 | 0.821 | 0.817 | 0.771 | 0.727 | 1.845 | 1.436 |
| AD\_1 | HB5\_AD\_1 | 2151 | 0.810 | 0.810 | 0.762 | 0.718 | 1.730 | 1.350 |
| AD\_1 | HB6\_AD\_1 | 2154 | 0.825 | 0.817 | 0.773 | 0.728 | 1.932 | 1.498 |
| SD\_1 | HB1\_SD\_1 | 2156 | 0.767 | 0.760 | 0.689 | 0.649 | 1.848 | 1.411 |
| SD\_1 | HB2\_SD\_1 | 2155 | 0.812 | 0.805 | 0.753 | 0.711 | 1.933 | 1.425 |
| SD\_1 | HB3\_SD\_1 | 2156 | 0.807 | 0.811 | 0.762 | 0.716 | 1.718 | 1.313 |
| SD\_1 | HB4\_SD\_1 | 2156 | 0.804 | 0.811 | 0.764 | 0.715 | 1.667 | 1.266 |
| SD\_1 | HB5\_SD\_1 | 2153 | 0.815 | 0.822 | 0.780 | 0.732 | 1.667 | 1.265 |
| SD\_1 | HB6\_SD\_1 | 2154 | 0.808 | 0.801 | 0.747 | 0.703 | 1.979 | 1.479 |
| AR\_1 | HB1\_AR\_1 | 2155 | 0.719 | 0.717 | 0.636 | 0.570 | 1.239 | 0.638 |
| AR\_1 | HB2\_AR\_1 | 2156 | 0.747 | 0.748 | 0.684 | 0.614 | 1.231 | 0.625 |
| AR\_1 | HB3\_AR\_1 | 2154 | 0.602 | 0.633 | 0.510 | 0.445 | 1.183 | 0.561 |
| AR\_1 | HB4\_AR\_1 | 2152 | 0.770 | 0.730 | 0.667 | 0.598 | 1.429 | 0.808 |
| AR\_1 | HB5\_AR\_1 | 2154 | 0.610 | 0.650 | 0.533 | 0.471 | 1.151 | 0.512 |
| AR\_1 | HB6\_AR\_1 | 2152 | 0.773 | 0.747 | 0.690 | 0.623 | 1.338 | 0.730 |
| HAB\_2 | HB1\_AB\_2 | 1780 | 0.667 | 0.671 | 0.570 | 0.510 | 0.355 | 0.479 |
| HAB\_2 | HB2\_AB\_2 | 1786 | 0.729 | 0.730 | 0.652 | 0.589 | 0.425 | 0.494 |
| HAB\_2 | HB3\_AB\_2 | 1786 | 0.730 | 0.733 | 0.657 | 0.593 | 0.370 | 0.483 |
| HAB\_2 | HB4\_AB\_2 | 1784 | 0.748 | 0.746 | 0.681 | 0.614 | 0.541 | 0.498 |
| HAB\_2 | HB5\_AB\_2 | 1786 | 0.742 | 0.739 | 0.670 | 0.604 | 0.507 | 0.500 |
| HAB\_2 | HB6\_AB\_2 | 1787 | 0.736 | 0.733 | 0.667 | 0.597 | 0.556 | 0.497 |
| AD\_2 | HB1\_AD\_2 | 1787 | 0.732 | 0.743 | 0.662 | 0.623 | 1.509 | 1.132 |
| AD\_2 | HB2\_AD\_2 | 1791 | 0.823 | 0.823 | 0.778 | 0.735 | 1.584 | 1.214 |
| AD\_2 | HB3\_AD\_2 | 1787 | 0.793 | 0.800 | 0.743 | 0.702 | 1.494 | 1.127 |
| AD\_2 | HB4\_AD\_2 | 1790 | 0.834 | 0.830 | 0.791 | 0.747 | 1.635 | 1.270 |
| AD\_2 | HB5\_AD\_2 | 1791 | 0.808 | 0.805 | 0.756 | 0.714 | 1.587 | 1.229 |
| AD\_2 | HB6\_AD\_2 | 1789 | 0.841 | 0.831 | 0.795 | 0.749 | 1.715 | 1.346 |
| SD\_2 | HB1\_SD\_2 | 1789 | 0.808 | 0.808 | 0.753 | 0.718 | 1.699 | 1.277 |
| SD\_2 | HB2\_SD\_2 | 1790 | 0.842 | 0.838 | 0.797 | 0.760 | 1.784 | 1.340 |
| SD\_2 | HB3\_SD\_2 | 1787 | 0.822 | 0.827 | 0.780 | 0.743 | 1.584 | 1.193 |
| SD\_2 | HB4\_SD\_2 | 1789 | 0.845 | 0.846 | 0.810 | 0.770 | 1.679 | 1.274 |
| SD\_2 | HB5\_SD\_2 | 1790 | 0.839 | 0.841 | 0.802 | 0.764 | 1.650 | 1.241 |
| SD\_2 | HB6\_SD\_2 | 1790 | 0.828 | 0.823 | 0.775 | 0.738 | 1.802 | 1.358 |
| AR\_2 | HB1\_AR\_2 | 1785 | 0.721 | 0.704 | 0.629 | 0.544 | 1.175 | 0.557 |
| AR\_2 | HB2\_AR\_2 | 1787 | 0.725 | 0.718 | 0.653 | 0.571 | 1.147 | 0.514 |
| AR\_2 | HB3\_AR\_2 | 1790 | 0.535 | 0.578 | 0.431 | 0.351 | 1.118 | 0.459 |
| AR\_2 | HB4\_AR\_2 | 1789 | 0.728 | 0.680 | 0.593 | 0.519 | 1.258 | 0.655 |
| AR\_2 | HB5\_AR\_2 | 1790 | 0.482 | 0.552 | 0.394 | 0.328 | 1.073 | 0.366 |
| AR\_2 | HB6\_AR\_2 | 1790 | 0.735 | 0.704 | 0.630 | 0.553 | 1.204 | 0.597 |
| HAB\_3 | HB1\_AB\_3 | 1881 | 0.696 | 0.704 | 0.616 | 0.560 | 0.293 | 0.455 |
| HAB\_3 | HB2\_AB\_3 | 1881 | 0.748 | 0.752 | 0.679 | 0.625 | 0.320 | 0.467 |
| HAB\_3 | HB3\_AB\_3 | 1880 | 0.736 | 0.742 | 0.666 | 0.612 | 0.302 | 0.459 |
| HAB\_3 | HB4\_AB\_3 | 1879 | 0.772 | 0.765 | 0.709 | 0.649 | 0.432 | 0.495 |
| HAB\_3 | HB5\_AB\_3 | 1883 | 0.785 | 0.781 | 0.726 | 0.669 | 0.400 | 0.490 |
| HAB\_3 | HB6\_AB\_3 | 1883 | 0.777 | 0.769 | 0.717 | 0.655 | 0.462 | 0.499 |
| AD\_3 | HB1\_AD\_3 | 1868 | 0.816 | 0.821 | 0.773 | 0.736 | 1.410 | 1.049 |
| AD\_3 | HB2\_AD\_3 | 1865 | 0.834 | 0.838 | 0.796 | 0.758 | 1.457 | 1.108 |
| AD\_3 | HB3\_AD\_3 | 1868 | 0.821 | 0.824 | 0.773 | 0.741 | 1.426 | 1.071 |
| AD\_3 | HB4\_AD\_3 | 1867 | 0.871 | 0.870 | 0.842 | 0.806 | 1.487 | 1.132 |
| AD\_3 | HB5\_AD\_3 | 1871 | 0.858 | 0.857 | 0.827 | 0.791 | 1.441 | 1.087 |
| AD\_3 | HB6\_AD\_3 | 1872 | 0.847 | 0.839 | 0.800 | 0.763 | 1.585 | 1.245 |
| SD\_3 | HB1\_SD\_3 | 1875 | 0.825 | 0.829 | 0.784 | 0.749 | 1.494 | 1.093 |
| SD\_3 | HB2\_SD\_3 | 1878 | 0.845 | 0.845 | 0.806 | 0.770 | 1.540 | 1.140 |
| SD\_3 | HB3\_SD\_3 | 1869 | 0.840 | 0.842 | 0.798 | 0.767 | 1.492 | 1.088 |
| SD\_3 | HB4\_SD\_3 | 1875 | 0.854 | 0.853 | 0.816 | 0.783 | 1.516 | 1.134 |
| SD\_3 | HB5\_SD\_3 | 1871 | 0.857 | 0.858 | 0.824 | 0.791 | 1.511 | 1.110 |
| SD\_3 | HB6\_SD\_3 | 1871 | 0.855 | 0.851 | 0.815 | 0.779 | 1.622 | 1.218 |
| AR\_3 | HB1\_AR\_3 | 1882 | 0.684 | 0.681 | 0.591 | 0.502 | 1.162 | 0.536 |
| AR\_3 | HB2\_AR\_3 | 1884 | 0.717 | 0.715 | 0.649 | 0.558 | 1.144 | 0.506 |
| AR\_3 | HB3\_AR\_3 | 1880 | 0.477 | 0.518 | 0.343 | 0.284 | 1.109 | 0.444 |
| AR\_3 | HB4\_AR\_3 | 1882 | 0.701 | 0.661 | 0.562 | 0.484 | 1.233 | 0.629 |
| AR\_3 | HB5\_AR\_3 | 1883 | 0.575 | 0.613 | 0.479 | 0.408 | 1.100 | 0.426 |
| AR\_3 | HB6\_AR\_3 | 1881 | 0.730 | 0.704 | 0.631 | 0.543 | 1.203 | 0.589 |

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS123\_CFA4\_inv\_scalar.out <simpleError in file(file, “rt”): cannot open the connection>

Table : Item total statistics

| **subscale** | **omega** | **raw\_alpha** | **std.alpha** | **G6(smc)** | **average\_r** | **S/N** | **ase** | **mean** | **sd** | **median\_r** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HAB\_1 | 0.895 | 0.788 | 0.788 | 0.766 | 0.383 | 3.728 | 0.005 | 0.526 | 0.344 | 0.395 |
| AD\_1 | 0.947 | 0.890 | 0.890 | 0.875 | 0.575 | 8.108 | 0.003 | 1.778 | 1.114 | 0.579 |
| SD\_1 | 0.947 | 0.887 | 0.889 | 0.874 | 0.571 | 7.989 | 0.003 | 1.804 | 1.092 | 0.564 |
| AR\_1 | 0.925 | 0.796 | 0.797 | 0.776 | 0.395 | 3.918 | 0.004 | 1.263 | 0.462 | 0.364 |
| HAB\_2 | 0.919 | 0.820 | 0.820 | 0.803 | 0.431 | 4.546 | 0.004 | 0.459 | 0.357 | 0.424 |
| AD\_2 | 0.953 | 0.892 | 0.892 | 0.877 | 0.578 | 8.230 | 0.002 | 1.587 | 0.984 | 0.577 |
| SD\_2 | 0.957 | 0.909 | 0.910 | 0.896 | 0.627 | 10.103 | 0.002 | 1.700 | 1.064 | 0.625 |
| AR\_2 | 0.902 | 0.739 | 0.736 | 0.716 | 0.317 | 2.781 | 0.006 | 1.163 | 0.353 | 0.269 |
| HAB\_3 | 0.937 | 0.847 | 0.847 | 0.830 | 0.479 | 5.523 | 0.003 | 0.368 | 0.360 | 0.474 |
| AD\_3 | 0.966 | 0.917 | 0.918 | 0.908 | 0.650 | 11.129 | 0.002 | 1.467 | 0.938 | 0.627 |
| SD\_3 | 0.963 | 0.920 | 0.921 | 0.910 | 0.659 | 11.618 | 0.002 | 1.529 | 0.956 | 0.653 |
| AR\_3 | 0.899 | 0.727 | 0.725 | 0.699 | 0.305 | 2.631 | 0.006 | 1.159 | 0.343 | 0.288 |

### Measurement Invariance

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4\_tx\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4\_tx\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4\_tx\_inv\_scalar.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4\_tx\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4\_tx\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4\_tx\_inv\_scalar.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4\_tx\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4\_tx\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4\_tx\_inv\_scalar.out

Table : Treatment group invariance model fit

| **k** | **χ2** | **df** | ***p*** | **χ2B** | **df** | ***p*** | **Δχ2** | **df** | ***p*** | **CFI** | **TLI** | **RMSEA** | **SRMR** | **Filename** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 288 | 1092.020 | 738 | 0 | 24801.44 | 828 | 0 | NA | NA | NA | 0.985 | 0.983 | 0.026 | 0.056 | CS1\_CFA4\_tx\_inv\_config.out |
| 248 | 1097.543 | 778 | 0 | 24801.44 | 828 | 0 | 50.913 | 40 | 0.1156 | 0.987 | 0.986 | 0.024 | 0.058 | CS1\_CFA4\_tx\_inv\_metric.out |
| 124 | 1224.273 | 902 | 0 | 24801.44 | 828 | 0 | 140.068 | 124 | 0.1536 | 0.987 | 0.988 | 0.022 | 0.058 | CS1\_CFA4\_tx\_inv\_scalar.out |
| 288 | 1082.970 | 738 | 0 | 27331.62 | 828 | 0 | NA | NA | NA | 0.987 | 0.985 | 0.028 | 0.069 | CS2\_CFA4\_tx\_inv\_config.out |
| 248 | 1104.242 | 778 | 0 | 27331.62 | 828 | 0 | 67.619 | 40 | 0.0041 | 0.988 | 0.987 | 0.027 | 0.072 | CS2\_CFA4\_tx\_inv\_metric.out |
| 124 | 1243.318 | 902 | 0 | 27331.62 | 828 | 0 | 174.881 | 124 | 0.0018 | 0.987 | 0.988 | 0.025 | 0.073 | CS2\_CFA4\_tx\_inv\_scalar.out |
| 288 | 1069.434 | 738 | 0 | 30779.99 | 828 | 0 | NA | NA | NA | 0.989 | 0.988 | 0.027 | 0.066 | CS3\_CFA4\_tx\_inv\_config.out |
| 248 | 1089.890 | 778 | 0 | 30779.99 | 828 | 0 | 68.226 | 40 | 0.0036 | 0.990 | 0.989 | 0.025 | 0.071 | CS3\_CFA4\_tx\_inv\_metric.out |
| 124 | 1214.884 | 902 | 0 | 30779.99 | 828 | 0 | 125.541 | 124 | 0.4444 | 0.990 | 0.990 | 0.023 | 0.071 | CS3\_CFA4\_tx\_inv\_scalar.out |

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4\_Gender\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4\_Gender\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4\_Gender\_inv\_scalar.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4\_Gender\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4\_Gender\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4\_Gender\_inv\_scalar.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4\_Gender\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4\_Gender\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4\_Gender\_inv\_scalar.out

Table : Gender invariance model fit

| **k** | **χ2** | **df** | ***p*** | **χ2B** | **df** | ***p*** | **Δχ2** | **df** | ***p*** | **CFI** | **TLI** | **RMSEA** | **WRMR** | **Filename** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 192 | 1019.214 | 492 | 0 | 29857.95 | 552 | 0 | NA | NA | NA | 0.982 | 0.980 | 0.032 | 1.710 | CS1\_CFA4\_Gender\_inv\_config.out |
| 172 | 987.838 | 512 | 0 | 29857.95 | 552 | 0 | 27.702 | 20 | 0.1166 | 0.984 | 0.982 | 0.029 | 1.759 | CS1\_CFA4\_Gender\_inv\_metric.out |
| 110 | 1067.849 | 574 | 0 | 29857.95 | 552 | 0 | 108.089 | 62 | 0.0003 | 0.983 | 0.984 | 0.028 | 1.807 | CS1\_CFA4\_Gender\_inv\_scalar.out |
| 192 | 926.710 | 492 | 0 | 28268.47 | 552 | 0 | NA | NA | NA | 0.984 | 0.982 | 0.031 | 1.590 | CS2\_CFA4\_Gender\_inv\_config.out |
| 172 | 899.482 | 512 | 0 | 28268.47 | 552 | 0 | 24.343 | 20 | 0.2277 | 0.986 | 0.985 | 0.029 | 1.635 | CS2\_CFA4\_Gender\_inv\_metric.out |
| 110 | 967.453 | 574 | 0 | 28268.47 | 552 | 0 | 77.239 | 62 | 0.0919 | 0.986 | 0.986 | 0.028 | 1.667 | CS2\_CFA4\_Gender\_inv\_scalar.out |
| 192 | 865.633 | 492 | 0 | 36917.18 | 552 | 0 | NA | NA | NA | 0.990 | 0.988 | 0.028 | 1.511 | CS3\_CFA4\_Gender\_inv\_config.out |
| 172 | 839.795 | 512 | 0 | 36917.18 | 552 | 0 | 27.420 | 20 | 0.1239 | 0.991 | 0.990 | 0.026 | 1.574 | CS3\_CFA4\_Gender\_inv\_metric.out |
| 110 | 906.903 | 574 | 0 | 36917.18 | 552 | 0 | 72.706 | 62 | 0.1660 | 0.991 | 0.991 | 0.025 | 1.604 | CS3\_CFA4\_Gender\_inv\_scalar.out |

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4\_Age\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4\_Age\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS1\_CFA4\_Age\_inv\_scalar.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4\_Age\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4\_Age\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS2\_CFA4\_Age\_inv\_scalar.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4\_Age\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4\_Age\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS3\_CFA4\_Age\_inv\_scalar.out

Table : Age invariance model fit

| **k** | **χ2** | **df** | ***p*** | **χ2B** | **df** | ***p*** | **Δχ2** | **df** | ***p*** | **CFI** | **TLI** | **RMSEA** | **WRMR** | **Filename** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 384 | 1392.037 | 984 | 0 | 38581.9 | 1104 | 0 | NA | NA | NA | 0.989 | 0.988 | 0.028 | 1.892 | CS1\_CFA4\_Age\_inv\_config.out |
| 324 | 1434.817 | 1044 | 0 | 38581.9 | 1104 | 0 | 91.798 | 60 | 0.0052 | 0.990 | 0.989 | 0.026 | 2.040 | CS1\_CFA4\_Age\_inv\_metric.out |
| 138 | 1742.036 | 1230 | 0 | 38581.9 | 1104 | 0 | 458.804 | 186 | 0.0000 | 0.986 | 0.988 | 0.028 | 2.258 | CS1\_CFA4\_Age\_inv\_scalar.out |
| 384 | 1737.763 | 984 | 0 | 36527.5 | 1104 | 0 | NA | NA | NA | 0.979 | 0.976 | 0.041 | 2.331 | CS2\_CFA4\_Age\_inv\_config.out |
| 324 | 1747.742 | 1044 | 0 | 36527.5 | 1104 | 0 | 94.512 | 60 | 0.0030 | 0.980 | 0.979 | 0.039 | 2.456 | CS2\_CFA4\_Age\_inv\_metric.out |
| 138 | 2061.793 | 1230 | 0 | 36527.5 | 1104 | 0 | 479.611 | 186 | 0.0000 | 0.977 | 0.979 | 0.039 | 2.649 | CS2\_CFA4\_Age\_inv\_scalar.out |
| 384 | 1394.029 | 984 | 0 | 42212.1 | 1104 | 0 | NA | NA | NA | 0.990 | 0.989 | 0.030 | 1.830 | CS3\_CFA4\_Age\_inv\_config.out |
| 324 | 1362.034 | 1044 | 0 | 42212.1 | 1104 | 0 | 55.787 | 60 | 0.6303 | 0.992 | 0.992 | 0.025 | 1.924 | CS3\_CFA4\_Age\_inv\_metric.out |
| 138 | 1585.183 | 1230 | 0 | 42212.1 | 1104 | 0 | 279.260 | 186 | 0.0000 | 0.991 | 0.992 | 0.025 | 2.039 | CS3\_CFA4\_Age\_inv\_scalar.out |

Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS123\_CFA4\_inv\_config.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS123\_CFA4\_inv\_metric.out Reading model: ~/Box/For Zezhen/MR automation/Test Data/CS123\_CFA4\_inv\_scalar.out <simpleError in file(file, “rt”): cannot open the connection>

Table : Longitudinal invariance model fit

| **k** | **χ2** | **df** | ***p*** | **χ2B** | **df** | ***p*** | **Δχ2** | **df** | ***p*** | **CFI** | **TLI** | **RMSEA** | **SRMR** | **Filename** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 336 | 3087.562 | 2418 | 0 | 51031.69 | 2556 | 0 | NA | NA | NA | 0.986 | 0.985 | 0.011 | 0.048 | CS123\_CFA4\_inv\_config.out |
| 296 | 3101.760 | 2458 | 0 | 51031.69 | 2556 | 0 | 58.780 | 40 | 0.028 | 0.987 | 0.986 | 0.011 | 0.050 | CS123\_CFA4\_inv\_metric.out |
| 172 | 3250.858 | 2582 | 0 | 51031.69 | 2556 | 0 | 275.684 | 124 | 0.000 | 0.986 | 0.986 | 0.011 | 0.050 | CS123\_CFA4\_inv\_scalar.out |

## Reference

TBD…