**Supplemental Materials**

**Model specification for Study 1**

The model of Study 1 can be specified as follows:

p1 = (+) ξ + η1 + η2 + εp1

p2 = (+) λp2 ξ + η1 + η2 + εp2

n1 = (–) λn1 ξ + η1 – η2 + εn1

n2 = (–) λn2 ξ + η1 – η2 + εn2

η1 = γNARS NARS + Z

η2 = γConfbias FIR

See Figure 2 in the paper for variable labels.

Although not shown explicitly, the model is a three-group specification for the grouped-alternated, grouped-massed and dispersed conditions. In the final model of Table 1, group-invariant parameters are estimated for λp2, λn1, λn2, γNARS and γConfbias and group-specific parameters are estimated for σ2(ξ), σ2(NARS), σ2(FIR), σ2(εp1), σ2(εp2), σ2(εn1), σ2(εn2), σ(ξ, NARS), and σ2(Z). The last term is the residual variance in η1, which is interpreted as the variation in careless responding in Study 1. The total number of parameters estimated is thus 32, and since there are 63 distinct variances and covariances across the three conditions, the model has 31 degrees of freedom.

**Model specification for Study 2**

The model of Study 2 can be specified as follows:

p1 = (+) ξ + η1 + η2 + εp1

p2 = (+) λp2 ξ + η1 + η2 + εp2

p3 = (+) λp3 ξ + η1 + η2 + εp3

n1 = (–) λn1 ξ + η1 – η2 + εn1

n2 = (–) λn2 ξ + η1 – η2 + εn2

n3 = (–) λn3 ξ + η1 – η2 + εn3

η1 = γNARS NARS + γIMC IMC + Z

η2 = γConfbias FIR

See Figure 2 in the paper for variable labels.

Although not shown explicitly, the model is a three-group specification for the grouped-alternated, grouped-massed and dispersed conditions. In the final model of Table 1, group-invariant parameters are estimated for λp2, λp3, λn1, λn2, λn3, γNARS, γIMC, and γConfbias, and condition-specific parameters are estimated for σ2(ξ), σ2(NARS), σ2(IMC), σ2(FIR), σ2(εp1), σ2(εp2), σ2(εp3), σ2(εn1), σ2(εn2), σ2(εn3), and σ2(Z). σ2(Z) is the residual variance in η1, after controlling for NARS and IMC. The total number of parameters estimated is thus 41, and since there are 135 distinct variances and covariances across the three conditions, the model has 94 degrees of freedom.

**Item descriptive statistics by condition (Study 1)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | variance-covariance matrix | | | | | |
|  |  | M | p1 | n1 | p2 | n2 | FIR | NARS |
| GA | p1 | 4.811 | 2.288 |  |  |  |  |  |
| n1 | 3.085 | -1.774 | 2.536 |  |  |  |  |
| p2 | 4.755 | 1.925 | -1.693 | 2.244 |  |  |  |
| n2 | 3.274 | -1.624 | 2.167 | -1.704 | 2.620 |  |  |
| FIR | 0.443 | -0.001 | 0.019 | -0.043 | 0.125 | 0.249 |  |
| NARS | -0.553 | -0.191 | 0.272 | -0.245 | 0.324 | 0.038 | 0.282 |
| GM | p1 | 4.562 | 2.207 |  |  |  |  |  |
| n1 | 3.042 | -1.129 | 2.314 |  |  |  |  |
| p2 | 4.740 | 1.990 | -1.357 | 2.384 |  |  |  |
| n2 | 3.010 | -1.269 | 2.189 | -1.492 | 2.558 |  |  |
| FIR | 0.510 | -0.09 | 0.073 | -0.139 | 0.026 | 0.253 |  |
| NARS | -0.498 | -0.135 | 0.290 | -0.183 | 0.328 | -0.014 | 0.265 |
| DIS | p1 | 4.712 | 2.324 |  |  |  |  |  |
| n1 | 2.933 | -1.214 | 2.199 |  |  |  |  |
| p2 | 4.750 | 1.714 | -1.299 | 2.267 |  |  |  |
| n2 | 3.038 | -1.698 | 1.692 | -1.796 | 2.814 |  |  |
| FIR | 0.433 | -0.117 | 0.185 | -0.066 | 0.061 | 0.248 |  |
| NARS | -0.426 | -0.173 | 0.225 | -0.197 | 0.302 | -0.006 | 0.292 |

Note. GA = Grouped-alternated condition (N = 106); GM = Grouped-massed condition (N = 96); DIS = dispersed condition (N = 104).

**Item descriptive statistics by condition (Study 2)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Variance-covariance matrix | | | | | | | | |
|  |  | Mean | p1 | n1 | p2 | n2 | p1 | n3 | FIR | NARS | IMC |
| GA | p1 | 3.137 | 1.045 |  |  |  |  |  |  |  |  |
| n1 | 3.078 | -0.349 | 1.009 |  |  |  |  |  |  |  |
| p2 | 3.373 | 0.643 | -0.429 | 1.062 |  |  |  |  |  |  |
| n2 | 3.255 | -0.462 | 0.724 | -0.506 | 1.087 |  |  |  |  |  |
| p3 | 3.623 | 0.530 | -0.498 | 0.550 | -0.540 | 0.857 |  |  |  |  |
| n3 | 3.314 | -0.494 | 0.645 | -0.518 | 0.826 | -0.533 | 1.093 |  |  |  |
| FIR | 0.505 | -0.030 | 0.025 | 0.003 | 0.070 | -0.050 | 0.016 | 0.251 |  |  |
| NARS | 3.458 | 0.071 | 0.024 | 0.064 | 0.013 | 0.060 | 0.007 | -0.011 | 0.112 |  |
| IMC | 0.064 | 0.016 | 0.035 | 0.011 | 0.036 | 0.000 | 0.030 | -0.003 | 0.011 | 0.060 |
|  |  |  |  |  |  |  |  |  |  |  |
| GM | p1 | 3.022 | 1.135 |  |  |  |  |  |  |  |  |
| n1 | 3.301 | -0.621 | 1.228 |  |  |  |  |  |  |  |
| p2 | 3.242 | 0.854 | -0.667 | 1.233 |  |  |  |  |  |  |
| n2 | 3.333 | -0.620 | 0.991 | -0.730 | 1.283 |  |  |  |  |  |
| p3 | 3.586 | 0.766 | -0.799 | 0.890 | -0.787 | 1.239 |  |  |  |  |
| n3 | 3.403 | -0.629 | 0.964 | -0.745 | 1.086 | -0.914 | 1.355 |  |  |  |
| FIR | 0.505 | 0.076 | -0.004 | 0.110 | -0.014 | 0.043 | -0.001 | 0.251 |  |  |
| NARS | 3.452 | 0.082 | 0.004 | 0.109 | -0.016 | 0.079 | -0.021 | 0.015 | 0.123 |  |
| IMC | 0.027 | 0.005 | 0.014 | 0.010 | 0.009 | 0.006 | 0.016 | 0.003 | 0.004 | 0.026 |
|  |  |  |  |  |  |  |  |  |  |  |
| DIS | p1 | 3.137 | 1.001 |  |  |  |  |  |  |  |  |
| n1 | 3.298 | -0.346 | 1.014 |  |  |  |  |  |  |  |
| p2 | 3.332 | 0.675 | -0.401 | 1.036 |  |  |  |  |  |  |
| n2 | 3.337 | -0.429 | 0.777 | -0.471 | 1.146 |  |  |  |  |  |
| p3 | 3.517 | 0.556 | -0.448 | 0.627 | -0.600 | 0.957 |  |  |  |  |
| n3 | 3.317 | -0.486 | 0.655 | -0.615 | 0.858 | -0.703 | 1.188 |  |  |  |
| FIR | 0.512 | -0.021 | 0.001 | -0.014 | -0.003 | -0.011 | 0.001 | 0.251 |  |  |
| NARS | 3.392 | 0.053 | 0.029 | 0.083 | 0.015 | 0.049 | -0.021 | -0.008 | 0.114 |  |
| IMC | 0.034 | 0.005 | 0.010 | 0.008 | 0.031 | 0.007 | 0.011 | -0.003 | -0.001 | 0.033 |

Note. GA = Grouped-alternated condition (N = 204); GM = Grouped-massed condition (N = 205); DIS = Dispersed condition (N = 205).