**Supplemental Material for**

Is being gender nonconforming distressing? It depends where you live:

Gender equality across 15 nations predicts how much gender nonconformity affects self-esteem

**Tables S1 to S6**

Table S1. Descriptive statistics: Sample composition and main measures included in Study 1.

Table S2. Five-year average scores for the Gender Inequality Index (GII) and the Global Gender Gap Index (GGI) and their composite scores for each nation included in Studies 1 and 2.

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Table S4. Equations describing multilevel models

Table S5. Parameter estimates of multilevel model using the AGT in Studies 1 and 2: (A) two-level unconditional model, (B) two-level random intercept model for effects of individual-level gender typicality and country-level gender equality on self-esteem, (C) is same as B with control variables included.

Table S6.Parameter estimates of multilevel model using the AGT in Study 1 and the BSRI in Study 2: (A) two-level unconditional model, (B) two-level random intercept model for effects of individual-level gender typicality and country-level gender equality on self-esteem, (C) is same as B with control variables included.

**Table S1.** Descriptive statistics: Sample composition and main measures included in Study 1

|  |  |  |  |
| --- | --- | --- | --- |
| Samples | Full Sample |  Women |  Men |
| National samples |  |  |  |
| Austrian sample, *N* | 370 | 234 | 136 |
|  Mean age (*SD*) | 26.08 (8.66) | 25.37 (8.29) | 27.31 (9.16) |
|  Educational background | 3.26 (.64) | 3.28 (.62) | 3.22 (.67) |
|  AGT | 4.40 (1.12) | 4.36 (1.12) | 4.46 (1.13) |
|  RSES | 3.79 (.73) | 3.74 (.75) | 3.87 (.70) |
| German sample, *N* | 159 | 88 | 71 |
|  Mean age (*SD*) | 29.06 (10.51) | 24.40 (4.65) | 34,85 (12.70) |
|  Educational background | 3.18 (.66) | 3.34 (.69) | 2.97 (.56) |
|  AGT | 4.50 (1.11) | 4.46 (1.16) | 4.54 (1.07) |
|  RSES | 3.46 (.83) | 3.41 (.84) | 3.51 (.83) |
| Greek sample, *N* | 194 | 123 | 71 |
|  Mean age (*SD*) | 26.23 (7.48) | 24.59 (6.80) | 29.07 (7.80) |
|  Educational background |  2.77 (.64) | 2.80 (.64) | 2.72 (.66) |
|  AGT | 4.21 (1.14) | 4.13 (1.03) | 4.35 (1.22) |
|  RSES | 3.63 (.71) | 3.59 (.70) | 3.69 (.73) |
| Hungarian sample, *N* | 177 | 117 | 60 |
|  Mean age (*SD*) | 27.05 (9,06) | 27.67 (9.97) | 25.83 (6.89) |
|  Educational background | 3.04 (.27) | 3.06 (.30) | 3.00 (.18) |
|  AGT | 4.40 (1.16) | 4.40 (1.17) | 4.41 (1.16) |
|  RSES | 3.67 (.79) | 3.76 (.75) | 3.52 (.69) |
| Italian sample, *N* | 253 | 145 | 108 |
|  Mean age (*SD*) | 29.57 (9.51) | 27.31 (8.31) | 32.73 (10.12) |
|  Educational background | 2.87 (.47) | 2.83 (.55) | 3.05 (.22) |
|  AGT | 4.31 (1.24) | 4.43 (1.73) | 4.59 (1.28) |
|  RSES | 3.67 (.83) | 3.61 (.83) | 3.75 (.83) |
| Polish sample, *N* | 214 | 119 | 95 |
|  Mean age (*SD*) | 26.03 (6.59) | 24.96 (6.62) | 27.37 (6.32) |
|  Educational background | 3.05 (.25) | 3.04 (.27) | 2.92 (.31) |
|  AGT | 4.29 (1.14) | 4.43 (1.25) | 4.12 (1.40) |
|  RSES | 3.43 (.83) | 3.50 (.81) | 3.34 (.85) |
| Romanian sample, *N* | 328 | 187 | 141 |
|  Mean age (*SD*) | 25.19 (7.08) | 24.09 (7.12) | 26.65 (6.79) |
|  Educational background | 3.00 (.31) | 3.00 (.33) | 2.98 (.28) |
|  AGT | 4.48 (1.17) | 4.63 (1.20) | 4.28 (1.10) |
|  RSES | 3.58 (.72) | 3.63 (.74) | 3.52 (.69) |
| Swedish sample, *N* | 189 | 98 | 91 |
|  Mean age (*SD*) | 27.16 (8.10) | 26.00 (7.37) | 28.41 (8.69) |
|  Educational background | 2.95 (.57) | 2.97 (.56) | 2.93 (.53) |
|  AGT | 4.30 (1.28) | 4.20 (1.26) | 4.42 (1.30) |
|  RSES | 3.42 (.94) | 3.49 (.99) | 3.34 (.88) |
| Spanish sample, *N* | 191 | 101 | 90 |
|  Mean age (*SD*) | 29.98 (8.13) | 29.97 (8.15) | 30.88 (8.06) |
|  Educational background | 2.84 (.48) | 2.83 (.55) | 2.92 (.31) |
|  AGT | 4.49 (1.18) | 4.39 (1.13) | 4.57 (1.22) |
|  RSES | 3.82 (.69) | 3.84 (.68) | 3.81 (.69) |

Note. Educational background is the highest educational attainment of the parents and was coded as follows: 1 = no qualification; 2 = junior high school/middle school; 3 = senior high school graduate; 4 = university degree (bachelor’s, master’s, PhD). Values are means; standard deviations in parentheses. AGT = Adult Gender Typicality Scale; RSES = Rosenberg Self-Esteem Scale.

**Table S2.** Five-year average scores for the Gender Inequality Index (GII) and the Global Gender Gap Index (GGI) and their composite scores for each nation included in Studies 1 and 2

|  |  |
| --- | --- |
|  | Study 1 |
| Country | GIIa | GGI | Composite |
|  |  |  |  |
| Sweden | .9560 | .8167 | .8864 |
| Germany | .9278 | .7700 | .8489 |
| Spain | .9156 | .7370 | .8263 |
| Austria  | .9198 | .7257 | .8228 |
| Italy | .9112 | .7046 | .8079 |
| Poland | .8602 | .7156 | .7879 |
| Greece | .8610 | .6827 | .7719 |
| Hungary | .7409 | .6722 | .7065 |
| Romania | .6642 | .6951 | .6797 |

|  |
| --- |
| Study 2 |
|  |  |  |  |
| Norway | .9478 | .8402 | .8940 |
| Finland | .9398 | .8411 | .8905 |
| Sweden | .9560 | .8167 | .8864 |
| Germany | .9278 | .7700 | .8489 |
| Austria | .9198 | .7257 | .8228 |
| Czech Republic | .8680 | .6791 | .7735 |
| USA | .7968 | .7339 | .7653 |
| Brazil | .5842 | .6888 | .6365 |
| Guatemala | .5018 | .6625 | .5822 |

a The GII scale was inversed to match the direction of the GGI scores.

**Table S3.** Descriptive statistics: Sample composition and main measures included in Study 2

|  |  |  |  |
| --- | --- | --- | --- |
| National Samples | Full Sample |  Women |  Men |
|  |  |  |  |
| Austrian sample, *N* | 314 | 177 | 138 |
|  Mean age (*SD*) | 27.69 (10.10) | 27.82 (9.33) | 27.52 (11.03) |
|  Educational background | 3.00 (.89) | 2.99 (.90) | 3.00 (.89) |
|  AGT | 4.16 (1.14) | 4.18 (1.10) | 4.13 (1.21) |
|  BSRI | 5.11 (1.00) | 5.40 (.90) | 4.74 (1.00) |
|  RSES | 3.19 (.57) | 3.15 (.59) | 3.26 (.55) |
| Brazilian sample, *N* | 273 | 127 | 146 |
|  Mean age (*SD*) | 28.09 (9.18) | 28.32 (9.61) | 27.88 (8.82) |
|  Educational background | 3.23 (.87) | 3.37 (.81) | 3.11 (.91) |
|  AGT | 3.92 (1.23) | 4.01 (1.21) | 3.85 (1.24) |
|  BSRI | 5.19 (1.12) | 5.76 (.83) | 4.70 (1.12) |
|  RSES | 2.85 (.59) | 2.88 (.59) | 2.82 (.59) |
| Czech sample, *N* | 247 | 156 | 91 |
|  Mean age (*SD*) | 25.72 (6.49) | 25.65 (6.29) | 25.84 (6.86) |
|  Educational background | 3.37 (.74) | 3.36 (.76) | 3.39 (.70) |
|  AGT | 3.96 (1.11) | 3.94 (1.08) | 3.98 (1.17) |
|  BSRI | 5.13 (.96) | 5.39 (.80) | 4.67 (1.05) |
|  RSES | 2.84 (.54) | 2.78 (.56) | 2.95 (.50) |
| Finnish sample, *N* | 266 | 172 | 94 |
|  Mean age (*SD*) | 27.87 (8.06) | 26.92 (7.52) | 29.61 (8.76) |
|  Educational background | 3.40 (.65) | 3.45 (.62) | 3.31 (.69) |
|  AGT | 4.08 (1.15) | 4.13 (1.06) | 3.99 (1.30) |
|  BSRI | 5.11 (1.07) | 5.12 (.99) | 4.82 (1.02) |
|  RSES | 3.00 (.63) | 2.95 (.65) | 2.88 (.62) |
| German sample, *N* | 282 | 160 | 122 |
|  Mean age (*SD*) | 31.00 (12.69) | 27.99 (11.12) | 34.93 (13.56) |
|  Educational background | 3.26 (.91) | 3.33 (.88) | 3.18 (.94) |
|  AGT | 4.36 (1.14) | 4.05 (1.27) | 4.23 (1.78) |
|  BSRI | 5.14 (1.18) | 5.45 (.85) | 4.60 (.91) |
|  RSES | 3.17 (.53) | 3.20 (.52) | 3.13 (.53) |
| Guatemalan sample, *N* | 235 | 143 | 92 |
|  Mean age (*SD*) | 43.03 (12.82) | 42.88 (13.58) | 43.25 (11.59) |
|  Educational background | 3.25 (.88) | 3.16 (.92) | 3.40 (.79) |
|  AGT | 4.94 (1.16) | 4.84 (1.18) | 5.12 (1.13) |
|  BSRI | 5.71 (.88) | 5.77 (.88) | 5.61 (.87) |
|  RSES | 3.53 (.42) | 3.51 (.41) | 3.57 (.63) |
| Norwegian sample, *N* | 270 | 161 | 99 |
|  Mean age (*SD*) | 25.91 (6.90) | 26.22 (7.85) | 25.41 (4.98) |
|  Educational background | 3.63 (.60) | 3.58 (.66) | 3.72 (.50) |
|  AGT | 4.32 (1.20) | 4.25 (1.11) | 4.45 (1.13) |
|  BSRI | 5.01 (1.07) | 5.50 (.81) | 4.47 (1.13) |
|  RSES | 2.84 (.62) | 2.81 (.62) | 2.88 (.62) |
| Swedish sample, *N* | 233 | 136 | 97 |
|  Mean age | 27.34 (8.28) | 27.85 (9.40) | 26.62 (6.38) |
|  Educational background | 3.57 (.64) | 3.54 (.68) | 3.61 (.59) |
|  AGT | 4.04 (1.24) | 4.05 (1.27) | 4.03 (1.21) |
|  BSRI | 5.28 (.94) | 5.58 (.72) | 4.86 (1.05) |
|  RSES | 2.89 (.58) | 2.82 (.56) | 2.98 (.61) |
|  |  |  |  |
| US sample, *N* | 300 | 150 | 150 |
|  Mean age | 31.04 (10.89) | 31.75 (11.19) | 30.33 (10.58) |
|  Educational background | 3.43(.71) | 3.43 (.70) | 3.42 (.72) |
|  AGT | 3.91 (1.47) | 3.66 (1.32) | 4.16 (1.76) |
|  BSRI | 5.14 (1.19) | 5.41 (1.12) | 4.86 (1.19) |
|  RSES | 2.87 (.67) | 2.86 (.70) | 2.88 (.64) |
|  |  |  |  |

Note. AGT = Adult Gender Typicality Scale; BSRI = Bem Sex Role Inventory; RSES = Rosenberg Self-Esteem Scale, for which a 4-point scale was Study 2.

**Table S4.** Equations describing multilevel models

Model 1: Fully unconditional model\*

|  |  |  |
| --- | --- | --- |
|  Level 1 (Individual): | Level 2 (Nation): |  |
| $RSES\_{ij}$ = $β\_{0j}$ +$e\_{ij}$ | $β\_{0j}$ = $γ\_{00}$+$ u\_{0j}$ |  |
| $e\_{ij}\~N(0,τ²$) | $ u\_{0j}\~N($0,$ σ²$) |  Equation 1 |

|  |  |  |
| --- | --- | --- |
| Model 2: Random intercept modelLevel 1 (Individual): | Level 2 (Nation): |  |
| $RSES\_{ij}$ = $β\_{0j}$ + $β\_{1j}GC\_{ij}$+$e\_{ij}$ | $β\_{0j}$ = $γ\_{00}+ γ\_{01}GEQ\_{j}$+$ u\_{0j}$ |  |
|  | $β\_{1j}$=$ γ\_{10}$+$γ\_{11}GEQ\_{j}$ |  Equation 2 |

Model 3: Random intercept model with control variables

Level 1 (Individual):

$RSES\_{ij}$ = $β\_{0j}$ + $β\_{1j}GC\_{ij}$+$β\_{2j}Sex\_{ij}$+$β\_{3j}Age\_{ij}$+$β\_{4j}Edu\_{ij}+e\_{ij}$

Level 2 (Nation):

$β\_{0j}$ = $γ\_{00}+ γ\_{01}GEQ\_{j}$+$ u\_{0jk}$

$β\_{1j}$=$ γ\_{10}$+$γ\_{11}GEQ\_{j}$

$β\_{2j}$=$ γ\_{20}$ ,$ β\_{3j}$=$ γ\_{30}$,$ β\_{4j}$=$ γ\_{40}$

 Equation 3

\* RSES= Rosenberg Self-Esteem Scale; GC = gender conformity, measured by the AGT in Studies 1 and 2 (or, alternatively, the aggregated AGT and BSRI scores in Study 2); GEQ = gender equality, measured by the composite score of the GII and the GGI.

**Table S5.** Parameter estimates of multilevel model using the AGT in Studies 1 and 2: (A) two-level unconditional model, (B) two-level random intercept model for effects of individual-level gender typicality and country-level gender equality on self-esteem, (C) is same as B with control variables included.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  **A** | Estimate | Std. Err | *t* value | Pr(>|t|) |
| **Level 1: Individual-level fixed effects** |  |  |  |  |
| Intercept | -0.01 | 0.07 | -0.15 | 0.88 |
| **Random effects** |  |  |  |  |
| Nation (Intercept) | 0.08 | 0.28 |  |  |
| Residual | 0.93 | 0.96 |  |  |
| ICC  |  0.79 |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  **B** | Estimate | Std. Err | *t* value |  Pr(>|t|) |
| **Level 1: Individual-level fixed effects** |  |  |  |  |
| Intercept | -0.02 | 0.06 | -0.43 | 0.67 |
| Gender Typicality (AGT) | 0.33 | 0.02 | 21.28 | <.001 |
| **Level 2: Country-level fixed effects**  |  |  |  |  |
| Gender Equality | -0.08 | 0.06 | -1.38 | 0.19 |
| **Cross-level interaction effect** |  |  |  |  |
| Gender Typicality × Gender Equality | -0.05 | 0.02 | -2.86 | 0.004 |
| **Random effects** |  |  |  |  |
| Nation (Intercept) | 0.05 | 0.21 |  --- | --- |
| Residual | 0.84 | 0.92 |  --- | --- |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **C** | Estimate | Std. Err | *t* value | Pr(>|t|) |
| **Level 1: Individual-level fixed effects** |  |  |  |  |
| Intercept | 0.07 | 0.07 | 1.11 | 0.27 |
| Gender Typicality (AGT) | 0.33 | 0.02 | 21.30 | <.001 |
| Age | 0.15 | 0.01 | 10.18 | <.001 |
| Education | 0.05 | 0.01 | 3.72 | <.001 |
| Sex | -0.06 | 0.03 | -2.19 | 0.03 |
| **Level 2: Country-level fixed effects**  |  |  |  |  |
| Gender Equality | -0.05 | 0.05 | -1.02 | 0.33 |
| **Cross-level interaction effect** |  |  |  |  |
| Gender Typicality × Gender Equality | -0.03 | 0.02 | -2.00 | 0.05 |
| **Random effects** |  |  |  |  |
| Nation (Intercept) | 0.03 | 0.18 | --- | --- |  |
| Residual | 0.82 | 0.92 | --- | --- |  |
|  |  |  |  |  |  |

Note. ICC, intraclass coefficient.

**Table S6.** Parameter estimates of multilevel model using the AGT in Study 1 and the BSRI in Study 2: (A) two-level unconditional model, (B) two-level random intercept model for effects of individual-level gender typicality and country-level gender equality on self-esteem, (C) is same as B with control variables included.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  **A** | Estimate | Std. Err | *t* value | Pr(>|t|) |
| **Level 1: Individual-level fixed effects** |  |  |  |  |
| Intercept | -0.01 | 0.07 | -0.15 | 0.88 |
| **Random effects** |  |  |  |  |
| Nation (Intercept) | 0.08 | 0.28 |  |  |
| Residual | 0.93 | 0.96 |  |  |
| ICC  |  0.79 |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  **B** | Estimate | Std. Err | *t* value |  Pr(>|t|) |
| **Level 1: Individual-level fixed effects** |  |  |  |  |
| Intercept | -0.01 | 0.06 | -0.23 | 0.82 |
| Gender Typicality | 0.26 | 0.01 | 18.40 | <.001 |
| **Level 2: Country-level fixed effects**  |  |  |  |  |
| Gender Equality | -0.08 | 0.06 | -1.36 | 0.19 |
| **Cross-level interaction effect** |  |  |  |  |
| Gender Typicality × Gender Equality | -0.04 | 0.01 | -2.52 | 0.01 |
| **Random effects** |  |  |  |  |
| Nation (Intercept) | 0.06 | 0.25 |  --- | --- |
| Residual | 0.85 | 0.92 |  --- | --- |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **C** | Estimate | Std. Err | *t* value | Pr(>|t|) |
| **Level 1: Individual-level fixed effects** |  |  |  |  |
| Intercept | 0.14 | 0.07 | 2.06 | 0.04 |
| Gender Typicality | 0.26 | 0.01 | 18.61 | <.001 |
| Age | 0.15 | 0.02 | 9.67 | <.001 |
| Education | 0.06 | 0.01 | 3.78 | <.001 |
| Sex | -0.10 | 0.03 | -3.54 | 0.01 |
| **Level 2: Country-level fixed effects**  |  |  |  |  |
| Gender Equality | -0.06 | 0.05 | -1.09 | 0.29 |
| **Cross-level interaction effect** |  |  |  |  |
| Gender Typicality × Gender Equality | -0.03 | 0.01 | -1.96 | 0.05 |
| **Random effects** |  |  |  |  |
| Nation (Intercept) | 0.83 | 0.22 | --- | --- |  |
| Residual | 0.05 | 0.91 | --- | --- |  |
|  |  |  |  |  |  |

 Note. ICC, intraclass coefficient.