The Negation Bias in Stereotype Maintenance: A Replication in Five Languages

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APPENDIX (manipulation checks and analyses)
Table A1. Size and Demographics of the Five Language Samples.

| Language sample | Dutch | English | Hungarian | Finnish | Serbian |
|-----------------|-------|---------|-----------|---------|---------|
| Nationality     | Netherlands | U.S.A. | Hungary | Finland | Serbia |
| Gender: $n$ (%) | 167 male (71%) | 62 male (56%) | 44 male (38%) | 19 male (17%) | 49 male (40%) |
|                 | 67 female | 49 female | 71 female | 92 female | 73 female |
| Age $M (SD)$    | 56.9 (15.1) | 28.4 (9.1) | 30.6 (10.4) | 28.7 (7.5) | 33.9 (13.0) |
| [min – max]     | [21–92] | [18–59] | [19–68] | [20–58] | [18–67] |
| Recruitment     | Kieskompas panel | Prolific panel | Convenience sample | Convenience sample | Convenience sample |
| Total $N$       | 234 | 111 | 115 | 111 | 122 |

Note. All participants were native speakers (i.e., first language) in the respective language, or ($n = 7$) learned to speak the language before the age of six.
Table A2. Stimuli with Means (and Standard Deviations) of Judged Expectedness of the Actor’s Behavior in the Sentence, Measured in Manipulation Check in Dutch, English, Hungarian, Finnish, and Serbian Language Samples, Material Set 1-3.

| Set | Actor–behavior sentence | Dutch     | Eng     | Hung     | Fin     | Serb     | Negation / affirmation descriptions |
|-----|--------------------------|-----------|---------|----------|---------|----------|-------------------------------------|
| 1   | The priest (1) brings the found money to the police (A). | 6.15 \(a\) (1.11) | 5.71 \(*x\) (1.41) | 4.63 \(a\) (1.94) | 5.40 \(x\) (2.01) | 4.56 \(a\) (2.19) | He is not deceitful. |
|     | The junkie (2) brings the found money to the police (A). | 2.04 \(b\) (1.31) | 2.42 \(*y\) (1.42) | 2.45 \(b\) (1.35) | 2.13 \(y\) (1.16) | 2.18 \(b\) (1.37) | He is honest. |
|     | The priest (1) puts the found money in his own pocket (B). | 2.12 \(b\) (1.44) | 2.60 \(*y\) (1.75) | 2.85 \(b\) (1.60) | 2.57 \(z\) (1.25) | 3.46 \(c\) (2.09) | He is not honest. |
|     | The junkie (2) puts the found money in his own pocket (B). | 6.02 \(a\) (1.37) | 5.88 \(*x\) (1.13) | 5.82 \(a\) (1.27) | 6.23 \(x\) (0.99) | 5.97 \(d\) (1.51) | He is deceitful. |
| 2   | The student (1) leaves the dishes in the sink for a week (A). | 5.42 \(a\) (1.30) | 5.23 \(x\) (1.50) | 5.32 \(a\) (1.27) | 5.07 \(x\) (1.26) | 4.88 \(a\) (1.47) | He/She is not tidy. |
|     | The housewife (2) leaves the dishes in the sink for a week (A). | 2.00 \(b\) (1.12) | 2.49 \(*y\) (1.33) | 2.20 \(b\) (1.22) | 2.41 \(*y\) (1.14) | 1.89 \(b\) (1.25) | He/She is messy. |
|     | The student (1) washes the dishes immediately after dinner (B). | 2.88 \(c\) (1.22) | 3.50 \(*z\) (1.35) | 3.46 \(c\) (1.49) | 3.66 \(*z\) (1.36) | 3.56 \(c\) (1.40) | He/She is not messy. |
|     | The housewife (2) washes the dishes immediately after dinner (B). | 5.74 \(d\) (1.03) | 5.90 \(*v\) (1.02) | 5.93 \(d\) (1.10) | 5.54 \(*v\) (1.12) | 6.23 \(d\) (0.93) | He/She is tidy. |
| 3   | The professor (1) scores high on the IQ test (A). | 6.50 \(a\) (0.81) | 6.32 \(x\) (0.88) | 6.24 \(a\) (0.84) | 6.27 \(x\) (0.89) | 5.79 \(a\) (1.34) | He is not stupid. |
|     | The garbage man (2) scores high on the IQ test (A). | 3.19 \(b\) (1.38) | 3.68 \(x\) (1.24) | 3.03 \(b\) (1.28) | 3.63 \(*y\) (1.09) | 3.25 \(b\) (1.48) | He is smart. |
|     | The professor (1) scores low on the IQ test (B). | 1.68 \(c\) (1.06) | 1.92 \(z\) (1.07) | 1.87 \(c\) (1.10) | 2.28 \(*z\) (1.20) | 2.55 \(c\) (1.47) | He is not smart. |
|     | The garbage man (2) scores low on the IQ test (B). | 4.60 \(d\) (1.35) | 4.35 \(*v\) (1.06) | 4.70 \(d\) (1.33) | 4.56 \(*v\) (1.04) | 4.71 \(d\) (1.46) | He is stupid. |

Note. Actor–behavior combinations 1–A and 2–B form the stereotype-consistent sentences; combinations 1–B and 2–A (italics) form the stereotype inconsistent sentences. Expectedness ranges from 1 = very unexpected to 7 = very expected. Means in language columns and per set with a different subscript (\(a,b,c,d\) or \(x,y,z,v\)) are significantly different according to Bonferroni posthoc test \((p < .02)\). * Missing values due to a bug in questionnaire, spread equally across items and cases \((N = 52\) for all items, of 111)
| Set: Actor-behavior sentence | Expectedness of actor’s behavior in… | Negation / affirmation descriptions |
|-----------------------------|--------------------------------------|-------------------------------------|
|                             | Dutch | Eng | Hung | Fin | Serb |                                  |
| **4**                      |       |     |      |     |      |                                   |
| The psychologist (1)       |       |     |      |     |      |                                   |
| always lets his            |       |     |      |     |      |                                   |
| conversation partners      |       |     |      |     |      |                                   |
| finish speaking (A).       | 5.94a | 5.93a | 6.08a | 5.79a | 6.03a | He is not rude.                   |
|                            | (1.15)| (1.26)| (1.42)| (1.27)| (1.46)| He is rude.                      |
| The repo man (2)           | 4.20b | 3.74y | 2.96b | 3.76y | 2.70b |                                   |
| always lets his            | (1.46)| (1.29)| (1.30)| (1.19)| (1.64)| He is not attentive.              |
| conversation partners      |       |      |      |      |      |                                   |
| finish speaking (A).       |       |      |      |      |      | He is attentive.                  |
| The psychologist (1)       | 2.71c | 2.60a | 2.21c | 2.68a | 2.41b |                                   |
| regularly interrupts his   | (1.51)| (1.52)| (1.31)| (1.45)| (1.65)|                                   |
| conversation partners      |       |      |      |      |      |                                   |
| (B).                       |       |      |      |      |      |                                   |
| The repo man (2)           | 4.17b | 4.50y | 5.08d | 4.46y | 5.72a |                                   |
| regularly interrupts his   | (1.59)| (1.29)| (1.29)| (1.09)| (1.58)|                                   |
| conversation partners      |       |      |      |      |      |                                   |
| (B).                       |       |      |      |      |      |                                   |
| **5**                      |       |     |      |     |      |                                   |
| The farmer (1)             |       |     |      |     |      |                                   |
| eats the chicken with his  | 5.09a | 4.56a | 5.02a | 4.27a | 4.98a | He is not civilized.               |
| hands (A).                 | (1.25)| (1.33)| (1.26)| (1.27)| (1.40)| He is bad-mannered.               |
| The prince (2)             | 3.41b | 2.99a | 3.30b | 2.87a | 3.06b |                                   |
| eats the chicken with his  | (1.64)| (1.61)| (1.62)| (1.29)| (1.67)|                                   |
| hands (A).                 |       |      |      |      |      |                                   |
| The farmer (1)             | 3.52b | 4.62z | 4.23c | 4.95z | 4.61a |                                   |
| eats the chicken with knife | (1.49)| (1.31)| (1.33)| (1.67)| (1.39)|                                   |
| and fork (B).              |       |      |      |      |      |                                   |
| The prince (2)             | 5.42a | 5.83a | 5.63d | 5.89v | 6.11c |                                   |
| eats the chicken with knife | (1.49)| (1.31)| (1.47)| (1.26)| (1.33)|                                   |
| and fork (B).              |       |      |      |      |      |                                   |
| **6**                      |       |     |      |     |      |                                   |
| The grandfather (1)        |       |     |      |     |      |                                   |
| writes a letter to contact | 5.80a | 5.86a | 5.99a | 5.45a | 5.59a | He is not modern.                 |
| someone (A).               | (1.03)| (0.98)| (1.17)| (1.13)| (1.43)| He is old-fashioned.              |
| The adolescent (2)         | 2.65b | 2.94v | 2.70b | 2.68b | 2.74b |                                   |
| writes a letter to contact | (1.32)| (1.47)| (1.36)| (1.29)| (1.61)|                                   |
| someone (A).               |       |      |      |      |      |                                   |
| The grandfather (1)        | 2.42b | 2.32a | 2.56b | 2.05a | 2.35b |                                   |
| uses Snapchat to contact   | (1.21)| (1.36)| (1.42)| (1.11)| (1.40)|                                   |
| someone (B).               |       |      |      |      |      |                                   |
| The adolescent (2)         | 6.19c | 6.49v | 6.29a | 6.40v | 6.18c |                                   |
| uses Snapchat to contact   | (0.96)| (0.99)| (1.08)| (0.85)| (1.25)|                                   |
| someone (B).               |       |      |      |      |      |                                   |
Table A3. Means (and Standard Deviations) of Judged Actor-Trait Associations, in Dutch, English, Hungarian, Finnish, and Serbian Language Samples, Material Set 1-3.

| Set: actor-trait associations in | Dutch | Eng | Hung | Fin | Serb |
|---------------------------------|-------|-----|------|-----|------|
|                                 | 1     |     |      |     |      |
| priests - honest                | 5.19a | 5.46| 5.53 | 5.28| 4.44 |
|                                 | (1.59)a | (1.58)x | (1.36)a | (1.48)x | (1.90)a |
| junkies - honest                | 2.24b | 2.36| 2.95 | 2.40| 2.34 |
|                                 | (1.24)b | (1.28)y | (1.31)b | (1.09)y | (1.18)b |
| priests - deceitful             | 2.97c | 2.88| 2.61 | 2.66| 3.77 |
|                                 | (1.66)c | (1.68)x | (1.49)b | (1.37)y | (1.92)a |
| junkies - deceitful             | 5.39a | 5.58| 4.45 | 5.50| 5.26 |
|                                 | (1.43)a | (1.43)x | (1.56)c | (1.18)x | (1.45)c |
|                                 | 2     |     |      |     |      |
| students - messy                | 4.88a | 5.27| 3.83 | 4.50| 4.25 |
|                                 | (1.27)a | (1.21)x | (1.37)a | (1.02)x | (1.42)a |
| housewives - messy              | 2.71b | 2.49| 2.41 | 2.71| 2.39 |
|                                 | (1.08)b | (1.07)y | (1.11)b | (1.16)y | (1.27)b |
| students - tidy                | 3.06c | 3.03| 3.49 | 3.70| 3.69 |
|                                 | (1.10)c | (1.13)y | (1.33)a | (0.93)y | (1.29)c |
| housewives - tidy              | 5.23d | 5.75| 5.70 | 5.47| 5.80 |
|                                 | (1.05)d | (1.25)y | (1.05)c | (0.99)y | (1.25)d |
|                                 | 3     |     |      |     |      |
| professors - smart             | 6.07a | 6.24| 6.18 | 6.07| 5.42 |
|                                 | (0.98)a | (0.97)x | (0.94)a | (1.01)x | (1.35)a |
| garbage men - smart            | 3.44b | 3.83| 3.41 | 3.66| 3.48 |
|                                 | (1.12)b | (0.93)y | (1.12)b | (1.03)y | (1.24)b |
| professors - stupid            | 1.72c | 1.89| 1.97 | 2.52| 2.59 |
|                                 | (0.90)c | (0.90)x | (1.03)c | (1.11)y | (1.43)c |
| garbage men - stupid           | 3.66b | 3.17| 4.03 | 3.08| 3.46 |
|                                 | (1.41)b | (1.38)y | (1.36)d | (1.63)y | (1.57)b |

Note. Judged association ranges from 1 = not at all to 7 = very much. Means in language columns and per set with a different subscript (^a,b,c or x,y,z,v in columns to prevent confusion) are significantly different according to Bonferroni posthoc test ($p < .05$).
| Set: actor-trait         | Dutch  | Eng    | Hung   | Fin    | Serb   |
|-------------------------|--------|--------|--------|--------|--------|
| **4 psychologists - attentive** | 4.98 (1.20)<sup>a</sup> | 6.06 (1.06)<sup>x</sup> | 5.87 (1.23)<sup>a</sup> | 5.47 (1.20)<sup>x</sup> | 5.57 (1.48)<sup>a</sup> |
| repo men - attentive     | 3.40 (1.30)<sup>b</sup> | 3.58 (1.30)<sup>y</sup> | 3.07 (1.32)<sup>b</sup> | 3.05 (1.06)<sup>y</sup> | 2.02 (1.19)<sup>b</sup> |
| psychologists - rude     | 2.49 (1.11)<sup>c</sup> | 2.57 (1.29)<sup>c</sup> | 2.50 (1.34)<sup>c</sup> | 2.32 (1.09)<sup>c</sup> | 2.56 (1.53)<sup>c</sup> |
| repo men - rude          | 4.17 (1.40)<sup>d</sup> | 4.49 (1.46)<sup>y</sup> | 5.00 (1.27)<sup>d</sup> | 4.23 (1.54)<sup>y</sup> | 6.01 (1.30)<sup>d</sup> |
| **5 farmers - bad-mannered** | 3.16 (1.28)<sup>a</sup> | 2.78 (1.24)<sup>x</sup> | 3.09 (1.45)<sup>a</sup> | 2.74 (1.40)<sup>x</sup> | 2.98 (1.45)<sup>a</sup> |
| princes - bad-mannered   | 2.25 (1.11)<sup>b</sup> | 2.77 (1.53)<sup>x</sup> | 2.83 (1.27)<sup>b</sup> | 2.87 (1.39)<sup>x</sup> | 3.37 (1.63)<sup>a</sup> |
| farmers - civilized      | 4.35 (1.14)<sup>c</sup> | 4.62 (1.11)<sup>c</sup> | 4.37 (1.25)<sup>c</sup> | 3.87 (1.17)<sup>c</sup> | 4.83 (1.24)<sup>c</sup> |
| princes - civilized      | 5.74 (1.11)<sup>d</sup> | 5.84 (1.23)<sup>y</sup> | 5.74 (1.19)<sup>d</sup> | 5.41 (1.35)<sup>y</sup> | 5.58 (1.48)<sup>d</sup> |
| **6 grandfathers - old-fashioned** | 4.63 (1.43)<sup>a</sup> | 5.89 (1.25)<sup>x</sup> | 5.36 (1.43)<sup>a</sup> | 5.41 (1.25)<sup>x</sup> | 5.49 (1.50)<sup>a</sup> |
| adolescents - old-fashioned | 2.09 (0.98)<sup>b</sup> | 1.95 (1.05)<sup>y</sup> | 2.00 (1.03)<sup>b</sup> | 1.87 (1.03)<sup>y</sup> | 2.04 (1.22)<sup>b</sup> |
| grandfathers - modern    | 3.48 (1.16)<sup>c</sup> | 2.81 (1.16)<sup>c</sup> | 3.46 (1.22)<sup>c</sup> | 2.94 (1.10)<sup>c</sup> | 2.89 (1.39)<sup>c</sup> |
| adolescents - modern     | 5.72 (1.05)<sup>d</sup> | 6.25 (0.89)<sup>v</sup> | 6.24 (0.80)<sup>d</sup> | 6.23 (0.84)<sup>v</sup> | 5.87 (1.27)<sup>d</sup> |
Table A4. Fixed Effects Estimates of Stereotype Consistency and Variance-Covariance Estimates for Models Predicting Expectedness of the Actor’s Behavior in the Sentence, in the Five Language Samples Separately.

|                  | Dutch          | English         | Finnish         | Hungarian       | Serbian         |
|------------------|----------------|-----------------|-----------------|-----------------|-----------------|
|                  | B  95%CI  | p   | B  95%CI  | p   | B  95%CI  | p   | B  95%CI  | p   | B  95%CI  | p   |
| Fixed parts      |                |                |                 |                 |                 |
| Intercept        | 2.74           | 2.62 – 2.85    | <.001           | 2.99           | 2.86 – 3.12    | <.001 | 2.97           | 2.85 – 3.09    | <.001 | 2.82           | 2.62 – 3.01    | <.001 | 2.90           | 2.71 – 3.08    | <.001 |
| Stereotype       | 2.85           | 2.77 – 2.93    | <.001           | 2.57           | 2.45 – 2.68    | <.001 | 2.47           | 2.36 – 2.58    | <.001 | 2.74           | 2.64 – 2.85    | <.001 | 2.67           | 2.55 – 2.78    | <.001 |
| Stereotype       |                |                |                 |                 |                 |

Random parts

|                  |                |                |                 |                 |                 |
| σ²               | 2.109          | 2.180          | 2.036           | 1.972           | 2.637           |
| τ₀₀,participants | 0.000          | 0.004          | 0.008           | 0.120           | 0.013           |
| τ₀₀, set         | 0.017          | 0.016          | 0.013           | 0.045           | 0.042           |
| N,participants   | 234            | 111            | 111             | 115             | 122             |
| N, set           | 6              | 6              | 6               | 6               | 6               |
| ICC,ResponseId   | 0.000          | 0.002          | 0.004           | 0.056           | 0.005           |
| ICC, set         | 0.008          | 0.007          | 0.006           | 0.021           | 0.015           |
| Observations     | 5616           | 2597           | 2664            | 2760            | 2928            |
| R² mar / con     | .490 / .493    | .427 / .434    | .426 / .433     | .467 / .510     | .497 / .411     |

Note: The random effects part reports the within-group variance σ², between-group variance τ₀₀, The number of units in a group (N) and the Intraclass Correlation Coefficient (ICC) for the participants and sets. The model fit is reported for both marginal (mar) and conditional (con) R².
**Table A5.** Fixed Effects Estimates of Stereotype Consistency and Expectedness of the Actor’s Behavior and Variance-Covariance Estimates for Models Predicting Appropriateness of Affirmations and Appropriateness of Negations (Dutch Language Sample)

|                         | Appropriateness affirmations | Appropriateness negations |
|-------------------------|------------------------------|---------------------------|
|                         |       |     |       |     |     |       |     |
| Fixed parts             |       |     |       |     |     |       |     |
| Intercept               | 4.88  | 4.47 – 5.29 | <.001 | 4.69  | 4.27 – 5.11 | <.001 | 4.71  | 4.31 – 5.11 | <.001 | 4.67  | 4.25 – 5.08 | <.001 |
| Stereotype consistency  | -0.05 | -0.13 – 0.04 | .306 | -0.24 | -0.36 – -0.12 | <.001 | -0.14 | -0.22 – -0.05 | .002 | -0.19 | -0.31 – -0.06 | .003 |
| Expectedness            | 0.07  | 0.04 – 0.10 | <.001 | 0.02  | -0.01 – 0.05 | .265 |
|                         |       |     |       |     |     |       |     |
| Random parts            |       |     |       |     |     |       |     |
| σ²                      | 2.786 |       |       | 2.776 |       |       | 2.719 |       |
| τ₀₀, participants       | 0.637 |       |       | 0.639 |       |       | 0.693 |       |
| τ₀₀, set                | 0.237 |       |       | 0.243 |       |       | 0.229 |       |
| N participants          | 234   |       |       | 234   |       |       | 234   |       |
| N set                   | 6     |       |       | 6     |       |       | 6     |       |
| ICC,Respondeid          | 0.174 |       |       | 0.175 |       |       | 0.190 |       |
| ICC, set                | 0.065 |       |       | 0.066 |       |       | 0.063 |       |
| Observations            | 5616  |       |       | 5616  |       |       | 5616  |       |
| R² mar / con            | .000  | .248 |       | .003  | .253 |       | .001  | .263 |       | .001  | .264 |

**Note:** The random effects part reports the within-group variance σ², between-group variance τ₀₀, The number of units in a group (N) and the Intraclass Correlation Coefficient (ICC) for the participants and sets. The model fit is reported for both marginal (mar) and conditional (con) R².
Table A6. Fixed Effects Estimates of Stereotype Consistency and Expectedness of the Actor’s Behavior and Variance-Covariance Estimates for Models Predicting Appropriateness of Affirmations and Appropriateness of Negations (English Language Sample)

| Fixed parts |  |  |  |  |  |  |  |  |  |  |
|-------------|---|---|---|---|---|---|---|---|---|---|
|             | Appropriateness affirmations |  |  | Appropriateness negations |  |  |  |  |  |  |
| B           | 95%CI | p   | B           | 95%CI | p   | B           | 95%CI | p   | B           | 95%CI | p   |
| Intercept   | 5.34 | 4.94 – 5.73 | <.001 | 4.84 | 4.43 – 5.26 | <.001 | 4.98 | 4.62 – 5.35 | <.001 | 4.88 | 4.49 – 5.26 | <.001 |
| Stereotype consistency | 0.00 | -0.10 – 0.11 | .935 | -0.41 | -0.55 – -0.26 | <.001 | -0.12 | -0.22 – -0.01 | .030 | -0.20 | -0.35 – -0.06 | .005 |
| Expectedness | 0.17 | 0.13 – 0.20 | <.001 | 0.03 | -0.00 – 0.07 | .074 |

| Random parts |  |  |  |  |  |  |  |  |  |  |
|---------------|---|---|---|---|---|---|---|---|---|---|
| σ²            | 2.034 | 1.956 | 1.951 | 1.949 |
| τ₀₀,participants | 0.387 | 0.385 | 0.661 | 0.658 |
| τ₀₀, set      | 0.217 | 0.220 | 0.165 | 0.166 |
| Nparticipants | 111 | 111 | 111 | 111 |
| Nset          | 6 | 6 | 6 | 6 |
| ICCResponseId | 0.147 | 0.150 | 0.238 | 0.237 |
| ICCset        | 0.082 | 0.086 | 0.059 | 0.060 |
| Observations  | 2664 | 2597 | 2664 | 2597 |
| R² mar / con  | .000 / .241 | .023 / .265 | .001 / .306 | .002 / .306 |

Note: Due to missing values for expectedness the number of observations is lower (67 less) in the models including expectedness.

Note: The random effects part reports the within-group variance σ², between-group variance τ₀₀, The number of units in a group (N) and the Intraclass Correlation Coefficient (ICC) for the participants and sets. The model fit is reported for both marginal (mar) and conditional (con) R².
### Table A7. Fixed Effects Estimates of Stereotype Consistency and Expectedness of the Actor’s Behavior and Variance-Covariance Estimates for Models Predicting Appropriateness of Affirmations and Appropriateness of Negations (Finnish Language Sample)

|                         | Appropriateness affirmations |                         | Appropriateness negations |                         |
|-------------------------|------------------------------|-------------------------|---------------------------|-------------------------|
|                         | B               | 95% CI     | p          | B               | 95% CI     | p          | B               | 95% CI     | p          |
| Fixed parts             |                 |             |            |                 |             |            |                 |             |            |
| Intercept               | 5.07            | 4.53 – 5.62 | <.001      | 4.76            | 4.19 – 5.33 | <.001      | 4.61            | 4.17 – 5.05 | <.001      |
| Stereotype consistency  | -0.05           | -0.16 – 0.07 | .458       | -0.30           | -0.46 – -0.15 | <.001      | -0.14           | -0.25 – -0.02 | .021       |
| Expectedness            | 0.10            | 0.06 – 0.15 | <.001      | -0.02           | -0.07 – 0.02 | .244       |
| Random parts            |                 |             |            |                 |             |            |                 |             |            |
| $\sigma^2$              | 2.452           | 2.428       | 2.308      | 2.307           |             |            |                 |             |            |
| $\tau_{00,\text{participants}}$ | 0.556          | 0.561       | 0.989      | 0.988           |             |            |                 |             |            |
| $\tau_{00,\text{set}}$  | 0.422           | 0.438       | 0.235      | 0.233           |             |            |                 |             |            |
| N,participants          | 111             | 111         | 111        | 111             |             |            |                 |             |            |
| N,set                   | 6               | 6           | 6          | 6               |             |            |                 |             |            |
| ICC,Responseld          | 0.162           | 0.164       | 0.280      | 0.280           |             |            |                 |             |            |
| ICC,set                 | 0.123           | 0.128       | 0.067      | 0.066           |             |            |                 |             |            |
| Observations            | 2664            | 2664        | 2664       | 2664            |             |            |                 |             |            |
| $R^2 \text{ mar / con}$ | .000 / .302     | .007 / .313 | .001 / .355 | .002 / .354     |             |            |                 |             |            |

**Note:** The random effects part reports the within-group variance $\sigma^2$, between-group variance $\tau_{00}$, The number of units in a group (N) and the Intraclass Correlation Coefficient (ICC) for the participants and sets. The model fit is reported for both marginal (mar) and conditional (con) $R^2$. 
|                         | Appropriateness affirmations |                         | Appropriateness negations |
|-------------------------|-----------------------------|-------------------------|---------------------------|
|                         | B   | 95%CI  | p  | B  | 95%CI  | p  | B  | 95%CI  | p  | B  | 95%CI  | p  |
| Fixed parts             |     |        |    |     |        |    |     |        |    |     |        |    |
| Intercept               | 4.78| 4.36 – 5.20 | <.001 | 4.47| 4.02 – 4.92 | <.001 | 4.37| 4.04 – 4.69 | <.001 | 4.54| 4.20 – 4.89 | <.001 |
| Stereotype consistency  | 0.21| 0.08 – 0.34 | .002 | -0.09| -0.27 – 0.09 | .340 | -0.43| -0.56 – -0.30 | <.001 | -0.25| -0.43 – -0.07 | .006 |
| Expectedness            | 0.11| 0.06 – 0.16 | <.001 | -0.06| -0.11 – -0.02 | .007 |     |        |    |     |        |    |
| Random parts            |     |        |    |     |        |    |     |        |    |     |        |    |
| σ²                      | 3.122 | 3.100 | 2.948 | 2.939 |
| τ00, participants       | 0.658 | 0.643 | 0.909 | 0.923 |
| τ00, set                | 0.224 | 0.235 | 0.106 | 0.099 |
| N, participants         | 115  | 115  | 115  | 115  |
| N, set                  | 6    | 6    | 6    | 6    |
| ICC, ResponseId         | 0.164 | 0.162 | 0.229 | 0.233 |
| ICC, set                | 0.056 | 0.059 | 0.027 | 0.025 |
| Observations            | 2760 | 2760 | 2760 | 2760 |
| R², mar / con           | .003 / .231 | .009 / .236 | .011 / .268 | .013 / .271 |

*Note:* The random effects part reports the within-group variance σ², between-group variance τ00, The number of units in a group (N) and the Intraclass Correlation Coefficient (ICC) for the participants and sets. The model fit is reported for both marginal (mar) and conditional (con) R².
Table A9.
Fixed Effects Estimates of Stereotype Consistency and Expectedness of the Actor’s Behavior and Variance-Covariance Estimates for Models Predicting Appropriateness of Affirmations and Appropriateness of Negations (Serbian Language Sample)

|                      | Appropriateness affirmations | Appropriateness negations |
|----------------------|-----------------------------|---------------------------|
|                      | B   | 95%CI  | p   | B   | 95%CI  | p   | B   | 95%CI  | p   | B   | 95%CI  | p   |
| Fixed parts          |     |        |     |     |        |     |     |        |     |     |        |     |
| Intercept            | 4.80 | 4.39 – 5.21 | <.001 | 4.54 | 4.10 – 4.98 | <.001 | 4.53 | 4.08 – 4.97 | <.001 | 4.68 | 4.22 – 5.13 | <.001 |
| Stereotype consistency | 0.19 | 0.06 – 0.33 | .005 | -0.05 | -0.22 – 0.13 | .580 | -0.38 | -0.52 – -0.24 | <.001 | -0.24 | -0.42 – -0.07 | .007 |
| Expectedness         | 0.09 | 0.05 – 0.13 | <.001 | -0.05 | -0.09 – -0.01 | .020 |

Random parts

|                      |     |        |     |     |        |     |     |        |     |     |        |     |
| σ²                   | 3.442 | 3.419 | 3.547 | 3.539 |
| τ₀₀,participants     | 0.538 | 0.540 | 0.652 | 0.657 |
| τ₀₀, set             | 0.223 | 0.234 | 0.262 | 0.253 |
| N participants       | 122  | 122   | 122   | 122   |
| N set                | 6    | 6     | 6     | 6     |
| ICCResponseId        | 0.128 | 0.129 | 0.146 | 0.148 |
| ICCset               | 0.053 | 0.056 | 0.059 | 0.057 |
| Observations         | 2928 | 2928  | 2928  | 2928  |
| R² mar / con         | .002 / .191 | .007 / .199 | .008 / .220 | .009 / .220 |

Note: The random effects part reports the within-group variance σ², between-group variance τ₀₀, The number of units in a group (N) and the Intraclass Correlation Coefficient (ICC) for the participants and sets. The model fit is reported for both marginal (mar) and conditional (con) R².
Exploratory analyses

The original article (Beukeboom et al., 2010) included (somewhat limited) additional analyses to test an explanatory variable (perceived expectedness of the actor’s behavior) in the effect of stereotype consistency on appropriateness of negation (and affirmation) use. Mediational (Study 2) and correlational analyses (Study 3) demonstrated that perceived unexpectedness of the described behavior was positively related to (rated appropriateness of) negation usage. The mediation analysis with Study 2 was conducted with a method to estimate mediation effects in within-subject designs (Judd, Kenny, & McClelland, 2001). In this test appropriateness of negation and affirmation use were merged in one dependent variable (i.e., relative appropriateness of negations versus affirmations).

Aside from allowing a more precise test of the negation bias (see article section ‘alternative analyses’), our mixed effects model also allowed us to test the effects of expectedness of the described behavior on negation and affirmation appropriateness separately. Note, however, that it is still a limited test, in that it does not test significance of an indirect effect like in Preacher and Hayes’ (2004) approach. We could not yet find an R package to run mediation models with the present design; i.e., a multilevel dataset with crossed random effects for stimulus set and participant. For instance, the mediation package (Tingley et al., 2013) can only run mediation analyses on multilevel data when random effects are nested rather than crossed. Moreover, the present design also prevents us to test another potential explanatory variable, namely actor-trait associations, as we only have two actor-traits scores per material set, while we have 4 actor-behavior sentences.

Nevertheless, we can test whether expectedness of the actor’s behavior can be seen as an explanatory variable in predicting negation and affirmation use separately, by following the traditional Baron and Kenny (1986) steps. For appropriateness of negation use our mixed effects analyses with stereotype consistency as fixed factor and participant and material set as
random parts provide evidence for the first requirements for mediation (Baron & Kenny, 1986) for all language samples; i.e., the independent variable (stereotype consistency) predicts the potential mediator (expectedness of the actor’s behavior, see appendix Table A4) as well as the dependent variable (negation appropriateness; see Tables A5-A9, 1st and 3rd columns, and results section ‘alternative analyses’). Mediation is tested by including the mediating variable in the model. To this end, we ran the same models, but now including expectedness of the described behavior (the hypothesized mediator) as a fixed factor (see Appendix Tables A5-A9, 2nd and 4th columns; grey font). Full mediation occurs when the mediator is significantly predictive of the dependent variable and the effect of the independent variable on the dependent variable decreases to zero. When the direct effect remains significant, however, partial mediation is said to occur (Baron & Kenny, 1986).

For the Hungarian and Serbian samples, results suggest partial mediation of expectedness for negation appropriateness. That is, when expectedness of the actor’s behavior is included in the model, expectedness is a negative predictor of negation appropriateness; the more expected the described behavior is, the less appropriate negation descriptions are. Yet, the direct effect of stereotype consistency on appropriateness of negation use remains significant, which suggests there may be other mediating variables in addition to expectedness that explain appropriateness of negations.

For the Dutch, English and Finnish samples, we unexpectedly find no support for (full nor partial) mediation of expectedness of the actor’s behavior for negation appropriateness. That is, when expectedness is included in the model, expectedness is not predictive of negation appropriateness. Moreover, the direct effects of stereotype consistency on negation appropriateness remain significant for Dutch and English (but not for Finnish).

With respect to affirmation appropriateness, results suggest full mediation for the Hungarian and Serbian samples. That is, when expectedness is included we find a direct
positive effect of expectedness of the actor’s behavior on the judged appropriateness of affirmation descriptions for these languages; the more expected the described behavior, the more appropriate one judges an affirmation description. Moreover, the effects of stereotype consistency on affirmation appropriateness become non-significant. For the Dutch, English and Finnish samples, we did not find a direct effect of stereotype consistency on affirmation appropriateness (first requirement is violated), which also means there is no mediation in these samples.

In sum, for negation appropriateness results suggest partial mediation of expectedness of the actor’s behavior for the Hungarian and Serbian sample, but no mediation for the Dutch, English and Finnish samples. For affirmation appropriateness results suggest full mediation of expectedness for the Hungarian and Serbian sample, but because there is no direct effect of stereotype inconsistency, no mediation on affirmation appropriateness for the Dutch, English and Finnish samples. Thus, in the Hungarian and Serbian, but not in Dutch, English and Finnish, sample the results are in line with the additional tests on the explanatory variable presented in the original article (Beukeboom et al., 2010). This suggests that perceived expectedness of the actor’s behavior is not the only explanatory variable in the effect of stereotype consistency on appropriateness of negation (and affirmation) use. Alternative explanatory variables are discussed in the general discussion section in the main article.
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