# Supplementary Materials

## SM.1. Overview over sample demographics by country

**Table S1.** Overview of Demographic Information for Final Study Sample by Collection Site

| Country | Men | Women | Age | SES |
| --- | --- | --- | --- | --- |
| Canada | 196 | 204 | 48.71 (15.90) | 6.11 (1.72) |
| Greek Cypriot Community | 138 | 122 | 46.60 (15.38) | 5.59 (1.61) |
| Turkish Cypriot Community | 206 | 184 | 43.84 (13.45) | 5.77 (2.04) |
| Egypt | 190 | 189 | 32.38 (9.48) | 5.35 (1.97) |
| Greece | 196 | 194 | 43.76 (13.46) | 5.47 (1.69) |
| Italy | 199 | 193 | 43.00 (16.86) | 5.86 (1.59) |
| Japan | 194 | 195 | 49.70 (13.6) | 4.86 (1.93) |
| Korea | 190 | 197 | 44.36 (13.23) | 4.84 (1.99) |
| Lebanon | 192 | 182 | 31.62 (9.97) | 5.16 (2.01) |
| Spain | 197 | 199 | 44.19 (14.33) | 5.94 (1.62) |
| Tunisia | 187 | 183 | 34.36 (10.36) | 5.34 (1.82) |
| Turkey | 194 | 197 | 38.35 (12.99) | 6.23 (1.85) |
| UK | 192 | 197 | 50.42 (16.55) | 5.31 (1.90) |
| United States | 195 | 195 | 47.17 (16.28) | 6.47 (2.30) |
| **Total** | 2666 | 2631 | 42.75 (15.12) | 5.6 (1.94) |
| *Note*. Values for age and SES represent means with standard deviations in brackets.  |

## SM.2. Graphical overview over country descriptives for study variables

**Figure S1**

Average ratings for apology beliefs of morality and effectiveness by country



**Figure S2**

Average ratings for apology beliefs of admissions of responsibility by country

## SM.3. Measurement Models of Multi-Item Scales

This section outlines the measurement models used at both the individual and cultural levels for the multi-item scales central to our primary analyses—namely, willingness to apologize, personal perceptions of apology effectiveness, and perceived normative perceptions of apology effectiveness. Equivalent models for the honor value scales are presented elsewhere (Vignoles et al., 2024).

For each scale, we ran a separate but parallel series of multi-level measurement models, accounting for the hierarchical nature of the data (with participants nested within cultural groups defined by the intersection of country and gender) and adjusting for differences in acquiescent responding.

First, we started with an **exploratory factor analysis (EFA)** to identify the underlying structure of the items at the individual level. To account for clustering within 28 cultural groups, we used the TYPE=COMPLEX option in Mplus.

Second, we proceeded with a **confirmatory factor analysis (CFA)** to test the structure emerging from the EFA, again employing TYPE=COMPLEX to address data clustering. To capture acquiescence bias, we included a *method factor*, defined as a latent factor with all item loadings fixed at 1 and no correlation with the substantive factors (following Welkenhuysen-Gybels et al., 2003). If model fit was suboptimal, we examined suggested modification indices and item loadings—together with theoretical considerations—to refine the item structure as needed.

Third, we assessed metric invariance of the within-group CFA structure across different cultural regions and gender groups using **multigroup invariance testing**. The 28 cultural groups were organized into five regional clusters, based on prior research examining socio-demographic, linguistic, religious, and historical factors (Mensah & Chen, 2012): Anglo-West (UK, US, Canada), Latin Europe (Spain, Italy), Southeastern Europe (Greece, Greek Cypriot Community), MENA (Türkiye, Lebanon, Egypt, Turkish Cypriot Community, Tunisia), and East Asia (Japan, South Korea). Invariance was tested using two-level multigroup CFA models, with group-mean-centered items and no structure specified at the between-groups level. Following standard practice, we compared constrained models (equal loadings across regions or gender groups) to unconstrained models (freely estimated loadings). A difference in CFI of ≤ .01 between these models was used to support metric invariance (Cheung & Rensvold, 2002). Items were flagged as potentially non-invariant and considered for exclusion if (a) the constrained model showed a modification index above 10 suggesting significant cross-group differences in loadings, and (b) one or more item loadings in the unconstrained model were non-significant.

All analyses were carried out using Mplus Version 8.5 (Muthén & Muthén, 1998). Model fit was assessed using the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Squared Residual (SRMR). We adopted commonly used benchmarks for evaluating fit—CFI and TLI values above .95 (or .90), RMSEA below .06 (or .08), and SRMR below .08 (or .10)—as suggested by Hu and Bentler (1999) and Kline (2023). These benchmarks should be interpreted as general guidelines rather than strict cut-offs, especially given the complexity of our cross-cultural, multi-factor models (Marsh et al., 2004).

### SM.3.1. Willingness to Apologize

We first conducted an **exploratory factor analysis** to identify the underlying structure for these items at the individual level. Please note that the original items were adjusted from Hornsey and colleagues (2017) to measure reluctance to apologize; we therefore conducted the measurement models in this direction and subsequently reversed the item direction in the main analyses of the current paper to assess willingness to apologize. Items were uncentered and clustered by the 28 samples made up by the combination of gender (male vs female) and country. A one-factor solution appeared to be the most theoretically meaningful and parsimonious solution. A two-factor or three-factor solution did not converge. Fit of the final one-factor solution was not considered adequate (χ2[2] = 230.593, CFI = .351, TLI = .000, SRMR = .111, RMSEA = .145); however given that a following CFA including a method factor improved the fit of the one-factor solution we interpreted this as being due to the missing control for response tendencies in the EFA, not due to the conceptual structure of the model.

**Table S2**

Exploratory Factor Analysis Loadings of Reluctance to Apologize Items

|  |  |
| --- | --- |
| **Item** | **Reluctance to Apologize** |
| I am unlikely to apologize if I have done something wrong.  | .287 |
| I rarely apologise to other people.  | .243 |
| In general, I apologise after having done something wrong. | -.749 |
| After I have done something wrong, I usually apologize. | -.758 |
| *Note.* Shown are the standardized loadings for the final one-factor solution of the exploratory factor analysis conducted with the reluctance to apologize items.  |

In the second step, we conducted a **confirmatory factor analysis** with the one-factor structure as well as a method factor to assess acquiescence in responding (see Table S3 for primary loadings on substantive factors). Fit of the model was excellent (χ2[1] = 1.266, CFI = .999, TLI = .995, SRMR = .002, RMSEA = .007), and loadings for all items were significant. No modification indices emerged.

**Table S3**

Confirmatory Factor Analysis Loadings of Reluctance to Apologize Items

|  |  |
| --- | --- |
| **Item** | **Reluctance to Apologize** |
| I am unlikely to apologize if I have done something wrong.  | .607 |
| I rarely apologise to other people.  | .536 |
| In general, I apologise after having done something wrong.  | -.605 |
| After I have done something wrong, I usually apologize. | -.607 |
| *Note.* Shown are the standardized loadings for the final one-factor solution of the confirmatory factor analysis conducted with the reluctance to apologize items.  |

In the third step, we conducted **multigroup invariance testing** with the established one-factor structure. We tested invariance both across cultural regions, and across genders (female and male). An unconstrained model fit better than a constrained model across cultural regions (Constrained: χ2[37] = 80.154, CFI = .975, TLI = .980, SRMR = .015, RMSEA = .034; Unconstrained: χ2[24] = 21.366, CFI = 1.000, TLI = 1.000, SRMR = .003, RMSEA = .000; ΔCFI = .025), but not across gender groups (Constrained: χ2[13] = 2.208, CFI = 1.000, TLI = 1.000, SRMR = .002, RMSEA = .000; Unconstrained: χ2[10] = 3.096, CFI = 1.000, TLI = 1.000, SRMR = .001, RMSEA = .000; ΔCFI = .000). We thus assumed invariance of our items across genders, but we followed up our invariance analysis on an item-by-item basis across regions, in which all of the 4 items met our criteria for invariance across regions (no combination of modification index in the constrained model and non-significant loading in the unconstrained model). We there did not exclude any items in this step.

### SM.3.2. Personal Beliefs of Apology Effectiveness

We first conducted an **exploratory factor analysis** to identify the underlying structure for these items at the individual level. Items were uncentered and clustered by the 28 samples made up by the combination of gender (male vs female) and country. A one-factor solution appeared to be the most theoretically meaningful and parsimonious solution with very good fit (χ2[5] = 54.377, CFI = .979, TLI = .958, SRMR = .016, RMSEA = .043). While a two-factor provided somewhat better model fit (χ2[5] = 0.926, CFI = 1.00, TLI = 1.00, SRMR = .003, RMSEA = .000), it also suggested a single-item factor that was additionally strongly correlated with the second factor (*r* = .841); a three-factor solution did not converge. Considering the already good fit of the one factor structure, we therefore decided to continue with a one factor solution.

**Table S4**

Exploratory Factor Analysis Loadings of Personal Apology Effectiveness Beliefs Items

|  |  |
| --- | --- |
| **Item** | **Personal Apology Effectiveness Beliefs** |
| …restoring a damaged relationship? | .816 |
| …promoting forgiveness? | .796 |
| …repairing the damaged trust between individuals after wrongdoing? | .845 |
| …repairing the damaged reputation of the wrongdoer? | .802 |
| …restoring one’s personal sense of integrity? | .779 |
|  |  |
| *Note.* Shown are the standardized loadings for the final one-factor solution of the exploratory factor analysis conducted with the personal apology effectiveness beliefs items.  |

In the second step, we conducted a **confirmatory factor analysis** with the one-factor structure as well as a method factor to assess acquiescence in responding (see Table S5 for primary loadings on substantive factors). Fit of the model was good (χ2[30] = 550.032, CFI = .912, TLI = .895, SRMR = .067, RMSEA = .056), and loadings for all items were significant. No modification indices emerged.

**Table S5**

Confirmatory Factor Analysis Loadings of Personal Apology Effectiveness Beliefs Items

|  |  |
| --- | --- |
| **Item** | **Personal Apology Effectiveness** |
| …restoring a damaged relationship? | .785 |
| …promoting forgiveness? | .761 |
| …repairing the damaged trust between individuals after wrongdoing? | .816 |
| …repairing the damaged reputation of the wrongdoer? | .774 |
| …restoring one’s personal sense of integrity? | .747 |
|  |  |
| *Note.* Shown are the standardized loadings for the final one-factor solution of the confirmatory factor analysis conducted with the personal apology effectiveness beliefs items. In the third step, we conducted **multigroup invariance testing** with the established one-factor structure. We tested invariance both across cultural regions, and across genders (female and male). An unconstrained model fit the data as well as an unconstrained model across regions (Constrained: χ2[206] = 1362.743, CFI = .920, TLI = .930, SRMR = .028, RMSEA = .072; Unconstrained: χ2[186] = 1249.824, CFI = .926, TLI = .928, SRMR = .027, RMSEA = .072; ΔCFI = .006), whereas an unconstrained model did not converge for gender groups (Constrained: χ2[80] = 839.321, CFI = .865, TLI = .879, SRMR = .029, RMSEA = .059). We thus assumed invariance of our items across regions and did not exclude any items in this step.  |

### SM.3.3. Normative Beliefs of Apology Effectiveness

We first conducted an **exploratory factor analysis** to identify the underlying structure for these items at the individual level. Items were uncentered and clustered by the 28 samples made up by the combination of gender (male vs female) and country. A one-factor solution appeared to be the most theoretically meaningful and parsimonious solution with very good fit (χ2[5] = 41.804, CFI = .984, TLI = .968, SRMR = .013, RMSEA = .037). While a two-factor provided somewhat better model fit (χ2[5] = 2.201, CFI = .999, TLI = .995, SRMR = .003, RMSEA = .015), it also suggested high collinearity between the two factors (*r* = .886) and a somewhat mixed loading structure; a three-factor solution did not converge. Considering the already good fit of the one factor structure, we therefore decided to continue with a one factor solution.

**Table S6**

Exploratory Factor Analysis Loadings of Normative Apology Effectiveness Beliefs Items

|  |  |
| --- | --- |
| **Item** | **Personal Apology Effectiveness Beliefs** |
| …restoring a damaged relationship? | .834 |
| …promoting forgiveness? | .786 |
| …repairing the damaged trust between individuals after wrongdoing? | .851 |
| …repairing the damaged reputation of the wrongdoer? | .807 |
| …restoring one’s personal sense of integrity? | .789 |
|  |  |
| *Note.* Shown are the standardized loadings for the final one-factor solution of the exploratory factor analysis conducted with the normative apology effectiveness beliefs items.  |

In the second step, we conducted a **confirmatory factor analysis** with the one-factor structure as well as a method factor to assess acquiescence in responding (see Table S7 for primary loadings on substantive factors). Fit of the model was good (χ2[30] = 547.906, CFI = .915, TLI = .898, SRMR = .060, RMSEA = .056), and loadings for all items were significant. No modification indices emerged.

**Table S7**

Confirmatory Factor Analysis Loadings of Normative Apology Effectiveness Beliefs Items

|  |  |
| --- | --- |
| **Item** | **Personal Apology Effectiveness** |
| …restoring a damaged relationship? | .801 |
| …promoting forgiveness? | .752 |
| …repairing the damaged trust between individuals after wrongdoing? | .819 |
| …repairing the damaged reputation of the wrongdoer? | .773 |
| …restoring one’s personal sense of integrity? | .756 |
|  |  |
| *Note.* Shown are the standardized loadings for the final one-factor solution of the confirmatory factor analysis conducted with the normative apology effectiveness beliefs items. In the third step, we conducted **multigroup invariance testing** with the established one-factor structure. We tested invariance both across cultural regions, and across genders (female and male). An unconstrained model fit the data as well as an unconstrained model across regions (Constrained: χ2[206] = 1585.273, CFI = .920, TLI = .930, SRMR = .028, RMSEA = .078; Unconstrained: χ2[186] = 1473.132, CFI = .925, TLI = .928, SRMR = .027, RMSEA = .080; ΔCFI = .005) and gender groups gender groups (Constrained: χ2[80] = 800.738, CFI = .867, TLI = .880, SRMR = .029, RMSEA = .057; Unconstrained: χ2[75] = 774.012, CFI = .871, TLI = .876, SRMR = .029, RMSEA = .058; ΔCFI = .004). We thus assumed invariance of our items across regions and genders, and did not exclude any items in this step.  |

## SM.4. Complementary Analyses: Regression Models Across Three Regions

**Table S8**

Model Coefficient Overview for Regional Comparisons of Willingness to Apologize Predicted by Morality and Effectiveness

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Anglo-West** | **MENA** | **East Asia** |
| ***Predictors*** | ***Estimates*** | ***CI*** | ***p*** | ***Estimates*** | ***CI*** | ***p*** | ***Estimates*** | ***CI*** | ***p*** |
| **Fixed Effects** |  |  |  |  |  |  |  |  |  |
| (Intercept) | 5.74 | 5.53, 5.96 | **<.001\*\*\*** | 5.46 | 5.30, 5.63 | **<.001\*\*\*** | 5.48 | 5.22, 5.74 | **<.001\*\*\*** |
| Morality (Personal) | .45 | .38, .51 | **<.001\*\*\*** | .18 | .14, .23 | **<.001\*\*\*** | .25 | .16, .34 | **<.001\*\*\*** |
| Effectiveness (Personal) | .05 | -.00, .10 | .075 | .07 | .04, .10 | **<.001\*\*\*** | .20 | .12, .28 | **<.001\*\*\*** |
| Morality (Perceived Normative) | .03 | -.03, .08 | .343 | .05 | .02, .09 | **.003\*\*** | .15 | .05, .24 | **.002\*\*** |
| Effectiveness (Perceived Normative) | -.03 | -.09, .02 | .240 | .00 | -.03, .03 | .984 | -.07 | -.15, .01 | .103 |
| Region [Anglo-West]  | - | - | - | .28 | .01, .55 | .041 | .26 | -.08, .60 | .131 |
| Region [MENA] | -.28 | -.55, -.01 | .041 | - | - | - | -.02 | -.33, .29 | .893 |
| Region [East Asia] | -.26 | -.60, .08 | .131 | .02 | -.29, .33 | .893 | - | - | - |
| Morality (Personal) × Region [Anglo-West] | - | - | - | .26 | .19, .34 | **<.001\*\*\*** | .19 | .08, .31 | **.001\*\*** |
| Morality (Personal) × Region [MENA] | -.26 | -.34, -.19 | **<.001\*\*\*** | - | - | - | -.07 | -.17, .03 | .184 |
| Morality (Personal) × Region [East Asia] | -.19 | -.31, -.08 | **.001\*\*** | .07 | -.03, .17 | .184 | - | - | - |
| Effectiveness (Personal) × Region [Anglo-West] | - | - | - | -.02 | -.08, .04 | .524 | -.15 | -.25, -.05 | **.002\*\*** |
| Effectiveness (Personal) × Region [MENA] | .02 | -.04, .08 | .524 | - | - | - | -.13 | -.22, -.04 | **.003\*\*** |
| Effectiveness (Personal) × Region [East Asia] | .15 | .05, .25 | **.002\*\*** | .13 | .04, .22 | **.003\*\*** | - | - | - |
| Morality (Perceived Normative) × Region [Anglo-West] | - | - | - | -.03 | -.09, .04 | .430 | -.12 | -.23, -.01 | .033 |
| Morality (Perceived Normative) × Region [MENA] | .03 | -.04, .09 | .430 | - | - | - | -.09 | -.19, .01 | .071 |
| Morality (Perceived Normative) × Region [East Asia] | .12 | .01, .23 | .033 | .09 | -.01, .19 | .071 | - | - | - |
| Effectiveness (Perceived Normative) × Region [Anglo-West] | - | - | - | -.03 | -.10, .03 | .307 | .04 | -.06, .13 | .475 |
| Effectiveness (Perceived Normative) × Region [MENA] | .03 | -.03, .10 | .307 | - | - | - | .07 | -.02, .16 | .127 |
| Effectiveness (Perceived Normative) × Region [East Asia] | -.04 | -.13, .06 | .475 | -.07 | -.16, .02 | .127 | - | - | - |
| **Random Effects** |
| σ2 | 1.09 | 1.09 | 1.09 |
| τ00 | .07 Country\_Gender | .07 Country\_Gender | .07 Country\_Gender |
| ICC | .06 | .06 | .06 |
| N | 20 Country\_Gender | 20 Country\_Gender | 20 Country\_Gender |
| Observations | 3858 | 3858 | 3858 |
| Marginal R2 / Conditional R2 | .160 / .207 | .160 / .207 | .160 / .207 |

**Table S9**

Model Coefficient Overview for Regional Comparisons of Offered Apologies Predicted by Morality and Effectiveness

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Anglo-West** | **MENA** | **East Asia** |
| ***Predictors*** | ***Odds Ratios*** | ***CI*** | ***p*** | ***Odds Ratios*** | ***CI*** | ***p*** | ***Odds Ratios*** | ***CI*** | ***p*** |
| **Fixed Effects** |  |  |  |  |  |  |  |  |  |
| (Intercept) | 4.28 | 3.42, 5.36 | **<.001\*\*\*** | 2.79 | 2.36, 3.30 | **<.001\*\*\*** | 1.22 | .95, 1.57 | .123 |
| Morality (Personal) | 1.21 | 1.04, 1.39 | **.011\*** | 1.04 | .94, 1.15 | .405 | 1.21 | 1.00, 1.46 | **.045\*** |
| Effectiveness (Personal) | 1.15 | 1.00, 1.32 | **.043\*** | 1.05 | .97, 1.12 | .223 | 1.14 | .97, 1.34 | .121 |
| Morality (Perceived Normative) | 1.02 | .89, 1.18 | .747 | 1.16 | 1.07, 1.25 | **<.001\*\*\*** | 1.04 | .86, 1.26 | .705 |
| Effectiveness (Perceived Normative) | .98 | .85, 1.13 | .772 | 1.04 | .97, 1.12 | .279 | .89 | .75, 1.05 | .178 |
| Region [Anglo-West]  | - | - | - | 1.54 | 1.16, 2.03 | .003 | 3.51 | 2.51, 4.93 | **<.001\*\*\*** |
| Region [MENA] | .65 | .49, .86 | .003 | - | - | - | 2.29 | 1.69, 3.10 | **<.001\*\*\*** |
| Region [East Asia] | .28 | .20, .40 | **<.001\*\*\*** | .44 | .32, .59 | **<.001\*\*\*** | - | - | - |
| Morality (Personal) × Region [Anglo-West] | - | - | - | 1.16 | .97, 1.38 | .106 | .99 | .78, 1.26 | .959 |
| Morality (Personal) × Region [MENA] | .87 | .73, 1.03 | .106 | - | - | - | .86 | .70, 1.06 | .165 |
| Morality (Personal) × Region [East Asia] | 1.01 | .79, 1.28 | .959 | 1.16 | .94, 1.44 | .165 | - | - | - |
| Effectiveness (Personal) × Region [Anglo-West] | - | - | - | 1.10 | .94, 1.28 | .225 | 1.01 | .82, 1.25 | .909 |
| Effectiveness (Personal) × Region [MENA] | .91 | .78, 1.06 | .225 | - | - | - | .92 | .77, 1.10 | .359 |
| Effectiveness (Personal) × Region [East Asia] | .99 | .80, 1.22 | .909 | 1.09 | .91, 1.30 | .359 | - | - | - |
| Morality (Perceived Normative) × Region [Anglo-West] | - | - | - | .88 | .75, 1.04 | .127 | .99 | .78, 1.25 | .908 |
| Morality (Perceived Normative) × Region [MENA] | 1.13 | .97, 1.33 | .127 | - | - | - | 1.12 | .91, 1.37 | .295 |
| Morality (Perceived Normative) ×Region [East Asia] | 1.01 | .80, 1.29 | .908 | .90 | .73, 1.10 | .295 | - | - | - |
| Effectiveness (Perceived Normative) × Region [Anglo-West] | - | - | - | .94 | .81, 1.10 | .454 | 1.10 | .88, 1.37 | .394 |
| Effectiveness (Perceived Normative) × Region [MENA] | 1.06 | .91, 1.24 | .454 | - | - | - | 1.17 | .97, 1.40 | .096 |
| Effectiveness (Perceived Normative) × Region [East Asia] | .91 | .73, 1.13 | .394 | .86 | .71, 1.03 | .096 | - | - | - |
| **Random Effects** |
| σ2 | 3.29 | 3.29 | 3.29 |
| τ00 | .04 Country\_Gender | .04 Country\_Gender | .04 Country\_Gender |
| ICC | .01 | .01 | .01 |
| N | 20 Country\_Gender | 20 Country\_Gender | 20 Country\_Gender |
| Observations | 3497 | 3497 | 3497 |
| Marginal R2 / Conditional R2 | .084 / .095 | .084 / .095 | .084 / .095 |

**Table S10**

Model Coefficient Overview for Regional Comparisons of Willingness to Apologize Predicted by Admission of Responsibility

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Anglo-West** | **MENA** | **East Asia** |
| ***Predictors*** | ***Estimates*** | ***CI*** | ***p*** | ***Estimates*** | ***CI*** | ***p*** | ***Estimates*** | ***CI*** | ***p*** |
| **Fixed Effects** |  |  |  |  |  |  |  |  |  |
| (Intercept) | 5.74 | 5.53, 5.95 | **<.001\*\*\*** | 5.46 | 5.30, 5.63 | **<.001\*\*\*** | 5.49 | 5.23, 5.74 | **<.001\*\*\*** |
| Responsibility (Personal) | .04 | .00, .08 | **.048\*** | .06 | .04, .09 | **<.001\*\*\*** | .11 | .05, .17 | **<.001\*\*\*** |
| Responsibility (Perceived Normative) | .07 | .03, .11 | **<.001\*\*\*** | .03 | .00, .05 | **.028\*** | .10 | .04, .15 | **.001\*\*** |
| Region [Anglo-West] | - | - | - | .28 | .01, .54 | .044 | .25 | -.08, .59 | .136 |
| Region [MENA] | -.28 | -.54, -.01 | .044 | - | - | - | -.02 | -.33, .29 | .896 |
| Region [East Asia] | -.25 | -.59, .08 | .136 | .02 | -.29, .33 | .896 | - | - | - |
| Responsibility (Personal) × Region [Anglo-West] | - | - | - | -.02 | -.07, .02 | .365 | -.07 | -.14, -.00 | .040 |
| Responsibility (Personal) × Region [MENA] | .02 | -.02, .07 | .365 | - | - | - | -.05 | -.11, .01 | .105 |
| Responsibility (Personal) × Region [East Asia] | .07 | .00, .14 | .040 | .05 | -.01, .11 | .105 | - | - | - |
| Responsibility (Perceived Normative) × Region [Anglo-West] | - | - | - | .05 | .00, .09 | .036 | -.02 | -.09, .05 | .514 |
| Responsibility (Perceived Normative) × Region [MENA] | -.05 | -.09, -.00 | .036 | - | - | - | -.07 | -.13, -.01 | .022 |
| Responsibility (Perceived Normative) × Region [East Asia] | .02 | -.05, .09 | .514 | .07 | .01, .13 | .022 |  |  |  |
| **Random Effects** |
| σ2 | 1.24 | 1.24 | 1.24 |
| τ00 | .06 Country\_Gender | .06 Country\_Gender | .06 Country\_Gender |
| ICC | .05 | .05 | .05 |
| N | 20 Country\_Gender | 20 Country\_Gender | 20 Country\_Gender |
| Observations | 3858 | 3858 | 3858 |
| Marginal R2 / Conditional R2 | .051 / .098 | .051 / .098 | .051 / .098 |

**Table S11**

Model Coefficient Overview for Regional Comparisons of Offered Apologies Predicted by Admission of Responsibility

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Anglo-West** | **MENA** | **East Asia** |
| ***Predictors*** | ***Odds Ratios*** | ***CI*** | ***p*** | ***Odds Ratios*** | ***CI*** | ***p*** | ***Odds Ratios*** | ***CI*** | ***p*** |
| **Fixed Effects** |  |  |  |  |  |  |  |  |  |
| (Intercept) | 4.13 | 3.33, 5.12 | **<.001\*\*\*** | 2.77 | 2.36, 3.26 | **<.001\*\*\*** | 1.21 | .95, 1.55 | .118 |
| Responsibility (Personal) | 1.00 | .92, 1.09 | .994 | 1.08 | 1.03, 1.14 | .**002**\*\* | 1.00 | .89, 1.12 | .945 |
| Responsibility (Perceived Normative) | 1.09 | 1.00, 1.19 | **.059†** | 1.05 | 1.00, 1.10 | **.045\*** | 1.08 | .96, 1.21 | .201 |
| Region [Anglo-West] | - | - | - | 1.49 | 1.14, 1.95 | **.004\*\*** | 3.40 | 2.46, 4.71 | **<.001\*\*\*** |
| Region [MENA] | .67 | .51, .88 | **.004\*\*** | - | - | - | 2.28 | 1.70, 3.06 | **<.001\*\*\*** |
| Region [East Asia] | .29 | .21, .41 | **<.001\*\*\*** | .44 | .33, .59 | **<.001\*\*\*** | - | - | - |
| Responsibility (Personal) × Region [Anglo-West] | - | - | - | .93 | .84, 1.02 | .137 | 1.00 | .87, 1.16 | .952 |
| Responsibility (Personal) × Region [MENA] | 1.08 | .98, 1.20 | .137 | - | - | - | 1.09 | .96, 1.23 | .204 |
| Responsibility (Personal) × Region [East Asia] | 1.00 | .86, 1.15 | .952 | .92 | .81, 1.05 | .204 | - | - | - |
| Responsibility (Perceived Normative) × Region [Anglo-West] | - | - | - | 1.04 | .94, 1.15 | .485 | 1.01 | .87, 1.17 | .906 |
| Responsibility (Perceived Normative) × Region [MENA] | .96 | .87, 1.07 | .485 | - | - | - | .97 | .86, 1.10 | .675 |
| Responsibility (Perceived Normative) × Region [East Asia] | .99 | .86, 1.15 | .906 | 1.03 | .91, 1.16 | .675 | - | - | - |
| **Random Effects** |
| σ2 | 3.29 | 3.29 | 3.29 |
| τ00 | .04 Country\_Gender | .04 Country\_Gender | .04 Country\_Gender |
| ICC | .01 | .01 | .01 |
| N | 20 Country\_Gender | 20 Country\_Gender | 20 Country\_Gender |
| Observations | 3497 | 3497 | 3497 |
| Marginal R2 / Conditional R2 | .065 / .075 | .065 / .075 | .065 / .075 |

## SM.5. Complementary Analyses: Regression Models Including All Predictors Simultaneously

**Table S12**

Model Coefficient Overview for Willingness to Apologize Predicted by All Predictors

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Block 1** | **Block 2** | **Block 3** | **Block 4** |
| ***Predictors*** | ***B*** | ***CI*** | ***p*** | ***B*** | ***CI*** | ***p*** | ***B*** | ***CI*** | ***p*** | ***B*** | ***CI*** | ***p*** |
| **Fixed Effects** |  |  |  |  |  |  |  |  |  |  |  |  |
| (Intercept) | 5.58 | 5.48, 5.68 | **<.001\*\*\*** | 5.58 | 5.48, 5.68 | **<.001\*\*\*** | 5.58 | 5.49, 5.68 | **<.001\*\*\*** | 5.58 | 5.49, 5.68 | **<.001\*\*\*** |
| Morality (Personal) | .29 | .26, .31 | **<.001\*\*\*** | .27 | .24, .30 | **<.001\*\*\*** | .27 | .24, .30 | **<.001\*\*\*** | .28 | .25, .31 | **<.001\*\*\*** |
| Effectiveness (Personal) | .08 | .06, .09 | **<.001\*\*\*** | .09 | .07, .11 | **<.001\*\*\*** | .09 | .07, .11 | **<.001\*\*\*** | .10 | .07, .12 | **<.001\*\*\*** |
| Responsibility (Personal) | .04 | .02, .05 | **<.001\*\*\*** | .03 | .01, .05 | **<.001\*\*\*** | .03 | .01, .05 | **<.001\*\*\*** | .03 | .01, .04 | **.001\*\*** |
| Morality (Perceived Normative) |  |  |  | .03 | .01, .06 | **.017\*** | .03 | .01, .06 | **.017\*** | .03 | .01, .06 | **.009\*\*** |
| Effectiveness (Perceived Normative) |  |  |  | -.03 | -.05, -.00 | **.019\*** | -.03 | -.05, -.00 | **.019\*** | -.03 | -.05, -.01 | **.007\*\*** |
| Responsibility (Perceived Normative) |  |  |  | .01 | -.01, .03 | .179 | .01 | -.01, .03 | .180 | .01 | -.01, .03 | .277 |
| Honor Norms |  |  |  |  |  |  | -.26 | -.54, .01 | .061† | -.26 | -.54, .01 | .061† |
| Morality (Personal) × Honor Norms |  |  |  |  |  |  |  |  |  | -.21 | -.30, -.13 | **<.001\*\*\*** |
| Effectiveness (Personal) × Honor Norms |  |  |  |  |  |  |  |  |  | -.09 | -.15, -.03 | **.005\*\*** |
| Responsibility (Personal) × Honor Norms |  |  |  |  |  |  |  |  |  | .01 | -.03, .06 | .527 |
| Morality (Perceived Normative) ×Honor Norms |  |  |  |  |  |  |  |  |  | .01 | -.06, .08 | .845 |
| Effectiveness (Perceived Normative) × Honor Norms |  |  |  |  |  |  |  |  |  | .09 | .02, .15 | **.007\*\*** |
| Responsibility (Perceived Normative) × Honor Norms |  |  |  |  |  |  |  |  |  | .01 | -.03, .05 | .619 |
| **Random Effects** |
| σ2 | 1.14 | 1.13 | 1.13 | 1.13 |
| τ00 | .07 Country\_Gender | .07 Country\_Gender | .06 Country\_Gender | .06 Country\_Gender |
| ICC | .06 | .06 | .05 | .05 |
| N | 28 Country\_Gender | 28 Country\_Gender | 28 Country\_Gender | 28 Country\_Gender |
| Observations | 5296 | 5296 | 5296 | 5296 |
| Marginal R2 / Conditional R2 | .137 / .187 | .139 / .188\*\* | .145 / .190† | .151 / .196\*\*\* |

*Note*. \* *p* < .05, \*\* *p* < .01, \*\*\* *p* < .001, † *p* < .065.

**Table S13**

Model Coefficient Overview for Offered Apologies Predicted by All Predictors

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Block 1** | **Block 2** | **Block 3** | **Block 4** |
| ***Predictors*** | ***Odds Ratios*** | ***CI*** | ***p*** | ***Odds Ratios*** | ***CI*** | ***p*** | ***Odds Ratios*** | ***CI*** | ***p*** | ***Odds Ratios*** | ***CI*** | ***p*** |
| **Fixed Effects** |  |  |  |  |  |  |  |  |  |  |  |  |
| (Intercept) | 2.84 | 2.38 – 3.39 | **<.001\*\*\*** | 2.85 | 2.39 – 3.40 | **<.001\*\*\*** | 2.85 | 2.39 – 3.40 | **<.001\*\*\*** | 2.86 | 2.39 – 3.41 | **<.001\*\*\*** |
| Morality (Personal) | 1.15 | 1.08 – 1.22 | **<.001\*\*\*** | 1.12 | 1.05 – 1.19 | **.001\*\*** | 1.12 | 1.05 – 1.19 | **.001\*\*** | 1.12 | 1.05 – 1.20 | **<.001\*\*\*** |
| Effectiveness (Personal) | 1.08 | 1.05 – 1.12 | **<.001\*\*\*** | 1.06 | 1.01 – 1.12 | **.017\*** | 1.06 | 1.01 – 1.12 | **.017\*** | 1.07 | 1.01 – 1.12 | **.013\*** |
| Responsibility (Personal) | 1.05 | 1.02 – 1.09 | **.001\*\*** | 1.05 | 1.01 – 1.08 | **.017\*** | 1.05 | 1.01 – 1.08 | **.017\*** | 1.04 | 1.00 – 1.08 | **.049\*** |
| Morality (Perceived Normative) |  |  |  | 1.06 | 1.00 – 1.12 | **.035\*** | 1.06 | 1.00 – 1.12 | **.035\*** | 1.06 | 1.00 – 1.12 | .064† |
| Effectiveness (Perceived Normative) |  |  |  | 1.02 | .97 – 1.07 | .450 | 1.02 | .97 – 1.07 | .450 | 1.02 | .97 – 1.07 | .558 |
| Responsibility (Perceived Normative) |  |  |  | 1.01 | .98 – 1.05 | .542 | 1.01 | .98 – 1.05 | .542 | 1.01 | .97 – 1.05 | .547 |
| Honor Norms |  |  |  |  |  |  | 1.01 | .62 – 1.67 | .955 | 1.03 | .63 – 1.71 | .894 |
| Morality (Personal) × Honor Norms |  |  |  |  |  |  |  |  |  | .84 | .70 – 1.01 | .067 |
| Effectiveness (Personal) × Honor Norms |  |  |  |  |  |  |  |  |  | .96 | .83 – 1.10 | .529 |
| Responsibility (Personal) × Honor Norms |  |  |  |  |  |  |  |  |  | 1.08 | .98 – 1.19 | .106 |
| Morality (Perceived Normative) ×Honor Norms |  |  |  |  |  |  |  |  |  | 1.15 | .98 – 1.34 | .081 |
| Effectiveness (Perceived Normative) × Honor Norms |  |  |  |  |  |  |  |  |  | 1.09 | .95 – 1.25 | .239 |
| Responsibility (Perceived Normative) × Honor Norms |  |  |  |  |  |  |  |  |  | .98 | .89 – 1.08 | .755 |
| **Random Effects** |
| σ2 | 3.29 | 3.29 | 3.29 | 3.29 |
| τ00 | .19 Country\_Gender | .20 Country\_Gender | .20 Country\_Gender | .20 Country\_Gender |
| ICC | .06 | .06 | .06 | .06 |
| N | 28 Country\_Gender | 28 Country\_Gender | 28 Country\_Gender | 28 Country\_Gender |
| Observations | 4836 | 4836 | 4836 | 4836 |
| Marginal R2 / Conditional R2 | .028 / .082 | .030 / .084 | .030 / .084 | .033 / .087 |

*Note*. \* *p* < .05, \*\* *p* < .01, \*\*\* *p* < .001, † *p* < .065.