**Online Supplemental Material**

**I. LDS Models**  
 Descriptive statistics and bivariate correlations between physiology (SC and RSA at pretransgression and transgression, and estimated changes in SC/RSA from pretransgression to transgression) and guilt-related capacities (ethical and nonethical guilt, and estimated differences between ethical and nonethical guilt) are presented in Table A1. Following standard guidelines (McArdle, 2009), we calculated estimated changes in physiology (i.e., ΔSC and ΔRSA) and differences between ethical and nonethical guilt (i.e., Δguilt) using LDS models. For physiology, we regressed SC and RSA scores at transgression onto their respective pretransgression scores and set these autoregressive paths to 1. We then estimated two latent variables representing changes in SC and RSA from pretransgression to transgression. We fixed the intercepts and variances of the SC and RSA transgression variables to 0, and freely estimated the means and variance parameters of the latent change variables—representing the average amount of change and individual variability in change in SC and RSA from pretransgression to transgression. We allowed pretransgression and change physiology scores to covary. We used a similar procedure to calculate differences in ethical and nonethical guilt, and, for both sets of models, we included remaining study variables as auxiliary variables to aid in the estimation of missing data. We saved factor scores for the latent change constructs and inspected them to identify potential abnormalities in the data. This inspection revealed that one participant’s observed change in SC from pretransgression to transgression was 7.8 *SD*s above the mean. The ΔSC score for this participant was thus deleted and treated as missing data in all subsequent analyses.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | *M*  (*SD*) | Range |
| 1. | Ethical pretransgression SC | ─ |  |  |  |  |  |  |  |  | 16.81  (6.66) | 1.42–36.07 |
| 2. | Ethical  transgression SC | .99\*\* | ─ |  |  |  |  |  |  |  | 16.57  (6.57) | 1.43–35.56 |
| 3. | Ethical ΔSC | −.28\*\* | ─ | ─ |  |  |  |  |  |  | −.27  (.32) | −1.19–.86 |
| 4. | Ethical pretransgression RSA | −.15 | −.15 | −.08 | ─ |  |  |  |  |  | 6.56  (1.11) | 2.85–8.66 |
| 5. | Ethical  transgression RSA | −.04 | −.04 | −.10 | .76\*\* | ─ |  |  |  |  | 6.72  (1.13) | 3.06–9.86 |
| 6. | Ethical ΔRSA | .15\* | .15\* | −.03 | −.32\*\* | ─ | ─ |  |  |  | .15  (.76) | −1.87–2.35 |
| 7. | Ethical Guilt | .03 | .03 | .11 | .04 | −.07 | .04 | ─ |  |  | 1.84  (1.10) | 0–3 |
| 8. | Nonethical Guilt | .00 | .01 | .21\*\* | −.02 | −.06 | −.08 | .36\*\* | ─ |  | 1.20  (1.15) | 0–3 |
| 9. | Δguilt | .03 | .02 | −.09 | .05 | −.01 | −.09 | ─ | −.57\*\* | ─ | .65  (1.22) | −2–3 |

Table A1

*Descriptive Statistics and Bivariate Correlations*

*Note*. *N* = 146. SC = skin conductance. RSA = respiratory sinus arrhythmia. ΔSC/ΔRSA = changes in skin conductance/respiratory sinus arrhythmia from pretransgression to transgression; positive/negative scores represent increases/decreases in skin conductance/respiratory sinus arrhythmia while transgressing. Δguilt = differences in ethical versus nonethical guilt; positive/negative scores represent more/less intense reports of ethical than nonethical guilt. \*\**p* < .01. \**p* < .05.

**II. Aggression Measurement Model**

We averaged items with similar content and wording from the reactive and proactive aggression subscales to create three manifest parcels (Table A2). We then used these items to estimate a one-factor CFA of the latent aggression construct. We used the effects coding method to scale the estimates (Little, 2013). All items loaded strongly onto the latent construct (Table A3).

Table A2

*Items Contained in Each Aggression Parcel*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parcel |  | Reactive Aggression | | Proactive Aggression |
| Parcel 1 | fights back when hurt by someone | | starts fights to get what he‎/she wants | |
| threatens back when threatened by someone | | threatens others to get what he‎/she wants | |
|  |  | |  | |
| Parcel 2 | if angered by others, hits, kicks, or punches them  puts others down if upset or hurt by them | | hits, kicks, or punches others to get what he‎/she wants | |
| to get what he‎/she wants, puts others down | |
|  |  | |  | |
| Parcel 3 | when hurt by others, gets back at them by saying mean things to them | | says mean things to others to get what he‎/she wants | |
| hurts others if upset by them | | to get what he‎/she wants, hurts others | |

Table A3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | *b* | β | τ | θ |
| Parcel 1 | 1.05 | .82 | .85 | .22 |
| Parcel 2 | 1.02 | .94 | .60 | .06 |
| Parcel 3 | .93 | .87 | .62 | .11 |

*Parameter Estimates for the Latent Aggression Measurement Model*

*Note. b =* unstandardized latent factor loadings. β = standardized latent factor loadings. τ = item intercepts. θ = residual item variances.

**III. Supplementary Analyses**

Table A4

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model S1 | |  | Model S2 | |  | Model S3 | |
|  | Δguilt | Aggression |  | Δguilt | Aggression |  | Δguilt | Aggression |
| Ethical ΔSC | .06  [−.08, .19] | .03  [−.14, .20] |  | .05  [−.09, .19] | .04  [−.13, .21] |  | .04  [−.10, .17] | .03  [−.14, .20] |
| Ethical ΔRSA | −.15\*  [−.28, −.02] | .03  [−.09, .16] |  | −.15\*  [−.28, −.03] | .04  [−.08, .16] |  | −.16\*  [−.30, −.03] | .01  [−.11, .13] |
| Ethical ΔSC x ΔRSA | .14\*  [.02, .26] | .11  [−.02, .25] |  | .14\*  [.02, .26] | .12  [−.02, .25] |  | .13\*  [.02, .25] | .11  [−.03, .24] |
| Δguilt | ─ | −.19\*\*  [−.34, −.04] |  | ─ | −.19\*\*  [−.34, −.05] |  | ─ | −.20\*\*  [−.35, −.05] |
| Nonethical guilt | −.54\*\*\*  [−.66, −.41] | .01  [−.17, .18] |  | −.54\*\*  [−.66, −.41] | .003  [−.17, .18] |  | −.54\*\*\*  [−.66, −.41] | −.01  [−.19, .17] |
| Ethical pretransgression SC | .04  [−.09, .17] | −.11  [−.23, .02] |  | ─ | ─ |  | ─ | ─ |
| Ethical pretransgression RSA | .02  [−.13, .16] | −.04  [−.18, .11] |  | ─ | ─ |  | ─ | ─ |
| Nonethical pretransgression SC | ─ | ─ |  | .02  [−.12, .16] | −.12\*  [−.24, −.002] |  | ─ | ─ |
| Nonethical pretransgression RSA | ─ | ─ |  | −.01  [−.14, .12] | .03  [−.10, .16] |  | ─ | ─ |
| Nonethical ΔSC | ─ | ─ |  | ─ | ─ |  | .04  [−.09, .17] | .09  [−.09, .27] |
| Nonethical ΔRSA | ─ | ─ |  | ─ | ─ |  | .01  [−.15, .17] | −.10  [−.22, .02] |
| Nonethical ΔSC x ΔRSA | ─ | ─ |  | ─ | ─ |  | −.01  [−.18, .16] | −.01  [−.19, .17] |
| Gender | −.03  [−.16, .11] | .15  [−.01, .30] |  | −.02  [−.16, .11] | .17\*  [.02, .32] |  | −.02  [−.16, .11] | .14  [−.01, .29] |
| Preference | .17\*\*  [.04, .30] | ─ |  | .16\*  [.04, .29] | ─ |  | .17\*\*  [.04, .30] | ─ |
| Indirect Effects |  |  |  |  |  |  |  |  |
| Ethical ΔSC x ΔRSA | ─ | −.03  [−.06, .01] |  | ─ | −.03  [−.08, −.001] |  | ─ | −.03  [−.08, −.001] |
| Nonethical ΔSC x ΔRSA | ─ | ─ |  | ─ | ─ |  | ─ | .01  [−.04, .05] |
| *R*2 | .37 | .11 |  | .37 | .11 |  | .37 | .12 |

*Supplementary Analyses Incorporating LDS Baselines, Nonethical Guilt, and Nonethical Physiology*

*Note.* Supplementary analyses testing whether the inclusion of nonethical guilt, ethical pretransgression physiology (Model S1), nonethical pretransgression physiology (Model S2), and changes in physiology during the nonethical story (Model S3) altered the main findings. \*\*\**p* < .001. \*\**p* < .01. \**p* < .05.

Table A5

*Model S4 Incorporating All Emotion Recognition Variables*

|  |  |  |
| --- | --- | --- |
|  | Δguilt | Aggression |
| Fear recognition | −.24\*\*  [−.40, −.09] | −.10  [−.23, .03] |
| Happiness recognition | .07  [−.09, .23] | −.08  [−.21, .06] |
| Sadness recognition | −.04  [−.18, .12] | .04  [−.14, .21] |
| Anger recognition | −.12  [−.25, .02] | .17\*\*  [.04, .30] |
| Δguilt | ─ | −.18\*\*  [−.29, −.06] |
| Gender | −.001  [−.15, .15] | .15\*  [−.003, .31] |
| Preference | .25\*\*\*  [.10, .40] | ─ |
| Indirect Effects |  |  |
| Fear recognition | ─ | .04  [.01, .10] |
| Happiness recognition | ─ | −.01  [−.05, .01] |
| Sadness recognition | ─ | .006  [−.02, .04] |
| Anger recognition | ─ | .02  [−.004, .07] |
| *R*2 | .13 | .13 |

*Note.* Supplementary analyses testing whether the inclusion of all emotion recognition variables altered the main findings. \*\*\**p* < .001. \*\**p* < .01. \**p* < .05.

**IV. Fit Statistics**

Table A6

*Fit Statistics for All Models*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | χ2 | *df* | *p* | RMSEA | CFI | SRMR |
| Model 1a | 11.36 | 11 | .41 | .015 (.000-.089) | .999 | .021 |
| Model 1b | 13.10 | 13 | .44 | .007 (.000-.082) | 1.00 | .020 |
| Model 2 | 5.71 | 9 | .77 | .000 (.000-.064) | 1.00 | .017 |
| Model 3 | 14.40 | 15 | .49 | .000 (.000-.075) | 1.00 | .018 |
|  |  |  |  |  |  |  |
| Model S1 | 14.40 | 19 | .76 | .000 (.000-.051) | 1.00 | .016 |
| Model S2 | 14.13 | 19 | .78 | .000 (.000-.050) | 1.00 | .016 |
| Model S3 | 28.77 | 21 | .12 | .050 (.000-.092) | .980 | .019 |
| Model S4 | 17.21 | 15 | .31 | .032 (.000-.087) | .993 | .022 |