**Supplementary Table 1**

*Model of Pre-Ejection Period (PEP) with Token Donation for the Transition from Pre-Influence (Pre-I) to Indirect Influence (II) during the Public Goods Game*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | PEP | | | |
|  | Estimate | (SE) | z | *p* |
| Intercepts |  |  |  |  |
| Token Donation Pre-I | 1.51 | 0.50 | 3.03 | .002 |
| Token Donation II | 0.00 | 0.00 | 999.00 | -- |
| PEP Pre-I | 0.21 | 0.58 | 0.37 | .71 |
| PEP II | 0.00 | 0.00 | 999.00 | -- |
| Token Donation Pre-I |  |  |  |  |
| Gender | -0.10 | 0.09 | -1.18 | .24 |
| Emotion Regulation | 0.01 | 0.07 | 0.13 | .90 |
| PEP Pre-I |  |  |  |  |
| Gender | -0.00 | 0.04 | -0.07 | .94 |
| Emotion Regulation | 0.01 | 0.04 | 0.17 | .86 |
| Baseline PEP | 0.88 | 0.02 | 36.25 | <.001 |
| Token Donation II |  |  |  |  |
| Token Donation Pre-I (μ1) | 0.96 | 0.03 | 33.69 | <.001 |
| PEP II |  |  |  |  |
| PEP Pre-I (μ2) | 0.97 | 0.02 | 55.75 | <.001 |
| Change in Token Donation |  |  |  |  |
| Token Donation Pre-I (β1) | -0.12 | 0.07 | -1.65 | .10 |
| Token Donation II (λ1) | 0.43 | 0.05 | 9.23 | <.001 |
| PEP Pre-I (γ2) | -0.02 | 0.05 | -0.54 | .59 |
| Gender | 0.14 | 0.09 | 1.60 | .11 |
| Emotion Regulation | 0.10 | 0.07 | 1.34 | .18 |
| Change in PEP |  |  |  |  |
| PEP Pre-I (β2) | -0.79 | 0.17 | -4.53 | <.001 |
| PEP II (λ2) | 0.30 | 0.04 | 8.00 | <.001 |
| Token Donation Pre-I (γ1) | -0.06 | 0.09 | -0.68 | .50 |
| Gender | -0.19 | 0.07 | -2.65 | .01 |
| Emotion Regulation | -0.13 | 0.07 | -1.89 | .06 |
| Baseline PEP | 0.82 | 0.17 | 4.90 | <.001 |
| Covariances |  |  |  |  |
| Change in Token Donation with Change in PEP (ρ) | -0.11 | 0.08 | -1.38 | .17 |
| Token Donation Pre-I with PEP Pre-I (Φ) | -0.09 | 0.09 | -1.03 | .31 |

*Note.* Estimates are standardized. Pre-I = Pre-Influence Block; II = Indirect Influence Block; PEP = Pre-Ejection Period. The notation following each coefficient name refers to the corresponding pathway in Figure 2.

**Supplementary Table 2**

*Model of Mean Heart Rate (MHR) with Token Donation in the Antisocial and Prosocial Conditions for the Transition from Indirect Influence (II) to Direct Influence (DI) during the Public Goods Game*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | Antisocial Condition | | | | Prosocial Condition | | | |
|  | Estimate | (SE) | z | *p* | Estimate | (SE) | z | *p* |
| Intercepts |  |  |  |  |  |  |  |  |
| Token Donation II | 2.41 | 0.77 | 3.14 | .002 | 0.61 | 0.54 | 1.20 | .26 |
| Token Donation DI | 0.00 | 0.00 | 999.00 | -- | 0.00 | 0.00 | 999.00 | -- |
| MHR II | 0.44 | 0.72 | 0.61 | .54 | -0.03 | 0.52 | -0.06 | .95 |
| MHR DI | 0.00 | 0.00 | 999.00 | -- | 0.00 | 0.00 | 999.00 | -- |
| Token Donation II |  |  |  |  |  |  |  |  |
| Gender | -0.23 | 0.12 | -1.99 | .05 | 0.12 | 0.11 | 1.08 | .28 |
| Emotion Regulation | -0.09 | 0.11 | -0.83 | .41 | 0.16 | 0.09 | 1.84 | .07 |
| MHR II |  |  |  |  |  |  |  |  |
| Gender | 0.03 | 0.06 | 0.55 | .59 | 0.01 | 0.05 | 0.21 | .83 |
| Emotion Regulation | -0.03 | 0.06 | -0.50 | .62 | 0.07 | 0.04 | 1.79 | .07 |
| Baseline MHR | 0.87 | 0.03 | 28.09 | <.001 | 0.90 | 0.03 | 30.37 | <.001 |
| Token Donation DI |  |  |  |  |  |  |  |  |
| Token Donation II (μ1) | 1.07 | 0.05 | 23.54 | <.001 | 0.99 | 0.04 | 25.97 | <.001 |
| MHR DI |  |  |  |  |  |  |  |  |
| MHR II (μ2) | 1.05 | 0.04 | 23.99 | <.001 | 1.03 | 0.04 | 26.39 | <.001 |
| Change in Token Donation |  |  |  |  |  |  |  |  |
| Token Donation II (β1) | -0.34 | 0.08 | -4.07 | <.001 | -0.20 | 0.08 | -2.46 | .01 |
| Token Donation DI (λ1) | 0.50 | 0.07 | 6.95 | <.001 | 0.48 | 0.06 | 8.27 | <.001 |
| MHR II (γ2) | -0.11 | 0.06 | -1.83 | .07 | 0.06 | 0.13 | 0.42 | .68 |
| Gender | 0.11 | 0.12 | 0.98 | .33 | -0.00 | 0.11 | -0.01 | .99 |
| Emotion Regulation | 0.08 | 0.06 | 1.36 | .17 | -0.07 | 0.12 | -0.62 | .53 |
| Change in MHR |  |  |  |  |  |  |  |  |
| MHR II (β2) | -1.20 | 0.22 | -5.45 | <.001 | -1.47 | 0.22 | -6.60 | <.001 |
| MHR DI (λ2) | 0.31 | 0.04 | 7.98 | <.001 | 0.31 | 0.04 | 8.40 | <.001 |
| Token Donation II (γ1) | -0.09 | 0.00 | -0.83 | .41 | -0.02 | 0.10 | -0.17 | .87 |
| Gender | -0.14 | 0.10 | -1.45 | .15 | 0.06 | 0.09 | 0.68 | .50 |
| Emotion Regulation | 0.06 | 0.09 | 0.67 | .51 | -0.13 | 0.06 | -2.07 | .04 |
| Baseline MHR | 1.04 | 0.22 | 4.71 | <.001 | 1.39 | 0.23 | 6.07 | <.001 |
| Covariances |  |  |  |  |  |  |  |  |
| Change in Token Donation with Change in MHR (ρ) | 0.12 | 0.11 | 1.05 | .29 | 0.14 | 0.10 | 1.40 | .16 |
| Token Donation II with MHR II (Φ) | -0.06 | 0.13 | -0.48 | .63 | 0.03 | 0.11 | 0.29 | .77 |

*Note.* Estimates are standardized. II = Indirect Influence Block; DI = Direct Influence Block; MHR = Mean Heart Rate. The notation following each coefficient name refers to the corresponding pathway in Figure 2.

**Supplementary Table 3**

*Model of Pre-Ejection Period (PEP) with Token Donation in the Prosocial Condition for the Transition from Indirect Influence (II) to Direct Influence (DI) during the Public Goods Game*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Estimate | (SE) | z | *p* |
| Intercepts |  |  |  |  |
| Token Donation II | 0.54 | 0.53 | 1.03 | .31 |
| Token Donation DI | 0.00 | 0.00 | 999.00 | -- |
| PEP II | 0.32 | 0.71 | 0.45 | .65 |
| PEP DI | 0.00 | 0.00 | 999.00 | -- |
| Token Donation II |  |  |  |  |
| Gender | 0.12 | 0.11 | 1.06 | .29 |
| Emotion Regulation | 0.17 | 0.09 | 1.94 | .05 |
| PEP II |  |  |  |  |
| Gender | -0.06 | 0.06 | -1.10 | .27 |
| Emotion Regulation | -0.07 | 0.05 | -1.55 | .12 |
| Baseline PEP | 0.89 | 0.03 | 29.32 | <.001 |
| Token Donation DI |  |  |  |  |
| Token Donation II (μ1) | 0.99 | 0.04 | 25.08 | <.001 |
| PEP DI |  |  |  |  |
| PEP II (μ2) | 1.07 | 0.03 | 39.11 | <.001 |
| Change in Token Donation |  |  |  |  |
| Token Donation II (β1) | -0.20 | 0.09 | -2.29 | .02 |
| Token Donation DI (λ1) | 0.46 | 0.06 | 7.73 | <.001 |
| PEP II (γ2) | 0.03 | 0.12 | 0.21 | .83 |
| Gender | 0.01 | 0.12 | .08 | .94 |
| Emotion Regulation | -0.08 | 0.12 | -0.67 | .51 |
| Change in PEP |  |  |  |  |
| PEP II (β2) | -0.98 | 0.23 | -4.31 | <.001 |
| PEP DI (λ2) | 0.27 | 0.05 | 5.56 | <.001 |
| Token Donation II (γ1) | 0.06 | 0.07 | 0.82 | .41 |
| Gender | 0.08 | 0.10 | 0.79 | .43 |
| Emotion Regulation | -0.07 | 0.11 | -0.61 | .54 |
| Baseline PEP | 0.68 | 0.23 | 2.94 | .003 |
| Covariances |  |  |  |  |
| Change in Token Donation with Change in PEP (ρ) | 0.12 | 0.08 | 1.52 | .13 |
| Token Donation II with PEP II (Φ) | -0.11 | 0.13 | -0.84 | .40 |

*Note.* Estimates are standardized. II = Indirect Influence Block; DI = Direct Influence Block; PEP = Pre-Ejection Period. The notation following each coefficient name refers to the corresponding pathway in Figure 2.

**Supplementary Table 4**

*Model of Mean Heart Rate (MHR) with Token Donation in the Antisocial and Prosocial Conditions for the Transition from Direct Influence (DI) to Continuing Influence (CI) during the Public Goods Game*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | Antisocial Condition | | | | Prosocial Condition | | | |
|  | Estimate | (SE) | z | *p* | Estimate | (SE) | z | *p* |
| Intercepts |  |  |  |  |  |  |  |  |
| Token Donation DI | 1.25 | 0.76 | 1.66 | .10 | 1.20 | 0.67 | 1.79 | .07 |
| Token Donation CI | 0.00 | 0.00 | 999.00 | -- | 0.00 | 0.00 | 999.00 | -- |
| MHR DI | 0.33 | 0.56 | 0.59 | .56 | 0.16 | 0.34 | 0.47 | .64 |
| MHR CI | 0.00 | 0.00 | 999.00 | -- | 0.00 | 0.00 | 999.00 | -- |
| Token Donation DI |  |  |  |  |  |  |  |  |
| Gender | -0.14 | 0.12 | -1.18 | .24 | 0.10 | 0.11 | 0.87 | .38 |
| Emotion Regulation | 0.04 | 0.11 | 0.32 | .75 | 0.12 | 0.10 | 1.13 | .26 |
| MHR DI |  |  |  |  |  |  |  |  |
| Gender | -0.02 | 0.05 | -0.31 | .76 | 0.03 | 0.04 | 0.65 | .52 |
| Emotion Regulation | -0.01 | 0.05 | -0.10 | .92 | 0.00 | 0.03 | 0.03 | .98 |
| Baseline MHR | 0.91 | 0.03 | 34.82 | <.001 | 0.95 | 0.02 | 52.52 | <.001 |
| Token Donation CI |  |  |  |  |  |  |  |  |
| Token Donation DI (μ1) | 0.94 | 0.04 | 22.68 | <.001 | 0.91 | 0.05 | 19.18 | <.001 |
| MHR CI |  |  |  |  |  |  |  |  |
| MHR DI (μ2) | 0.95 | 0.05 | 18.13 | <.001 | 0.99 | 0.03 | 33.27 | <.001 |
| Change in Token Donation |  |  |  |  |  |  |  |  |
| Token Donation DI (β1) | -0.08 | 0.11 | -0.75 | .46 | -0.21 | 0.12 | -1.80 | .07 |
| Token Donation CI (λ1) | 0.44 | 0.06 | 6.89 | <.001 | 0.67 | 0.11 | 6.26 | <.001 |
| MHR DI (γ2) | -0.09 | 0.06 | -1.49 | .14 | -0.11 | 0.11 | -0.97 | .33 |
| Gender | 0.09 | 0.12 | 0.77 | .44 | -0.02 | 0.12 | -0.20 | .84 |
| Emotion Regulation | 0.06 | 0.06 | 1.00 | .32 | -0.10 | 0.10 | -1.10 | .27 |
| Change in MHR |  |  |  |  |  |  |  |  |
| MHR DI (β2) | -0.67 | 0.23 | -2.88 | .004 | -0.69 | 0.37 | -1.86 | .06 |
| MHR CI (λ2) | 0.37 | 0.05 | 7.70 | <.001 | 0.32 | 0.04 | 7.80 | <.001 |
| Token Donation DI (γ1) | -0.04 | 0.11 | -0.34 | .74 | 0.12 | 0.13 | 0.91 | .36 |
| Gender | -0.04 | 0.12 | -0.31 | .76 | 0.05 | 0.11 | 0.45 | .65 |
| Emotion Regulation | 0.05 | 0.09 | 0.49 | .63 | -0.06 | 0.11 | -0.55 | .58 |
| Baseline MHR | 0.68 | 0.22 | 3.11 | .002 | 0.62 | 0.39 | 1.57 | .12 |
| Covariances |  |  |  |  |  |  |  |  |
| Change in Token Donation with Change in MHR (ρ) | 0.14 | 0.12 | 1.14 | .26 | -0.07 | 0.10 | -0.65 | .52 |
| Token Donation DI with MHR DI (Φ) | -0.04 | 0.16 | -0.24 | .81 | 0.10 | 0.13 | 0.79 | .43 |

*Note.* Estimates are standardized. DI = Direct Influence Block; CI = Continuing Influence Block; MHR = Mean Heart Rate. The notation following each coefficient name refers to the corresponding pathway in Figure 2.

**Supplementary Table 5**

*Model of Pre-Ejection Period (PEP) with Token Donation in the Antisocial Condition for the Transition from Direct Influence (DI) to Continuing Influence (CI) during the Public Goods Game*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Antisocial Condition | | | |
|  | Estimate | (SE) | z | *p* |
| Intercepts |  |  |  |  |
| Token Donation DI | 1.53 | 0.97 | 1.58 | .11 |
| Token Donation CI | 0.00 | 0.00 | 999.00 | -- |
| PEP DI | -1.41 | 0.46 | -3.10 | .002 |
| PEP CI | 0.00 | 0.00 | 999.00 | -- |
| Token Donation DI |  |  |  |  |
| Gender | -0.11 | 0.13 | -0.84 | .40 |
| Emotion Regulation | -0.01 | 0.12 | -0.12 | .91 |
| PEP DI |  |  |  |  |
| Gender | 0.04 | 0.04 | 1.08 | .28 |
| Emotion Regulation | 0.04 | 0.05 | 0.87 | .38 |
| Baseline PEP | 0.95 | 0.02 | 53.02 | <.001 |
| Token Donation CI |  |  |  |  |
| Token Donation DI (μ1) | 0.94 | 0.04 | 21.92 | <.001 |
| PEP CI |  |  |  |  |
| PEP DI (μ2) | 1.07 | 0.02 | 49.78 | <.001 |
| Change in Token Donation |  |  |  |  |
| Token Donation DI (β1) | -0.09 | 0.12 | -0.82 | .41 |
| Token Donation CI (λ1) | 0.45 | 0.07 | 6.63 | <.001 |
| PEP DI (γ2) | -0.11 | 0.09 | -1.24 | .22 |
| Gender | 0.09 | 0.12 | 0.81 | .42 |
| Emotion Regulation | 0.11 | 0.10 | 1.02 | .31 |
| Change in PEP |  |  |  |  |
| PEP DI (β2) | -1.68 | 0.28 | -5.93 | <.001 |
| PEP CI (λ2) | 0.26 | 0.03 | 7.51 | <.001 |
| Token Donation DI (γ1) | -0.09 | 0.13 | -0.67 | .50 |
| Gender | 0.03 | 0.11 | 0.25 | .81 |
| Emotion Regulation | 0.14 | 0.08 | 1.60 | .11 |
| Baseline PEP | 1.35 | 0.27 | 4.99 | <.001 |
| Covariances |  |  |  |  |
| Change in Token Donation with Change in PEP (ρ) | -0.06 | 0.13 | -0.42 | .68 |
| Token Donation DI with PEP DI (Φ) | -0.28 | 0.13 | -2.14 | .03 |

*Note.* Estimates are standardized. DI = Direct Influence Block; CI = Continuing Influence Block; PEP = Pre-Ejection Period. The notation following each coefficient name refers to the corresponding pathway in Figure 2.