**Supplemental Material**

**Data excluded from analyses based on debriefing responses to economic game experiment**

Data from 22 subjects (12 female) were excluded from all analyses, figures, and tables (including supplemental material) because they expressed skepticism during debriefing that they had been interacting with other people. Decisions to exclude individual subjects were made without knowledge of their experimental data. The number of subjects excluded did not vary by condition, *χ2* (3, *N* = 292) = .909, *p* = .823, suggesting that none of the conditions induced greater skepticism than any other.

Additionally, we re-ran all of the analyses with flagged subjects included and found that the results did not change qualitatively in any way—all of the significant relationships presented in the main text remained significant when flagged subjects were added to the analyses.

**Multiple Group Comparison of Sex Differences**

The model was initially estimated twice: first with all structural components constrained to be equal between sexes, and then with the constraints released such that all structural components were free to vary between sexes. The unconstrained model, χ2 (17) = 12.95, *p* = .740, fit the data better than the constrained model, χ2 (39) = 93.18, *p* < .001; χ2­diff (22) = 80.23, *p* <.001, suggesting that one or more parameters varied significantly between men and women. See main text and supplementary Table S2 for full results.

**Supplementary Tables**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table S1. *Overall Model (No Sex-Specific Paths)* | | | | |
| Parameter | Estimate | SE | *p* |
| Paths |  |  |  |
| Family conflict, neglect violence →Code of honor | 0.28 | 0.07 | < .001 |
| Socioeconomic status→ Code of honor | 0.01 | 0.03 | 0.786 |
| Neighborhood crime/violence → Code of honor | 0.04 | 0.04 | 0.322 |
| Police efficacy→ Code of honor | -0.14 | 0.06 | 0.012 |
| Code of honor →Anger | 0.13 | 0.06 | 0.037 |
| Code of honor →Envy | 0.24 | 0.07 | 0.001 |
| Covariances |  |  |  |
| Family conflict, neglect violence, Socioeconomic status | -0.06 | 0.03 | 0.035 |
| Family conflict, neglect violence, Neighborhood crime/violence | 0.07 | 0.02 | 0.001 |
| Family conflict, neglect violence, Police efficacy | -0.04 | 0.02 | 0.022 |
| Socioeconomic status, Neighborhood crime/violence | -0.07 | 0.05 | 0.167 |
| Socioeconomic status, Police efficacy | 0.12 | 0.04 | 0.001 |
| Neighborhood crime/violence, Police efficacy | -0.23 | 0.03 | < .001 |
| Anger, Envy | 0.75 | 0.09 | < .001 |
| Intercepts |  |  |  |
| Code of honor | -0.03 | 0.30 | 0.913 |
| Anger | 0.64 | 0.06 | < .001 |
| Envy | 0.86 | 0.07 | < .001 |
| Residual Variances |  |  |  |
| Code of honor | 0.96 | 0.05 | < .001 |
| Anger | 1.05 | 0.09 | < .001 |
| Envy | 1.36 | 0.12 | < .001 |

*Note.* Parameter estimates are unstandardized.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table S2. *Overall Model (With Specification of Sex-Specific Paths)* | | | |  |
| Parameter | Estimate | SE | *p* |
| Paths |  |  |  |
| Family conflict, neglect violence →Code of honor | 0.28 | 0.06 | < .001 |
| Family conflict, neglect violence →Code of honor (men) | 0.45 | 0.07 | < .001 |
| Family conflict, neglect violence →Code of honor (women) | 0.19 | 0.07 | 0.004 |
| Socioeconomic status→ Code of honor | 0.01 | 0.03 | 0.702 |
| Neighborhood crime/violence→ Code of honor | 0.04 | 0.04 | 0.303 |
| Police efficacy→ Code of honor | -0.14 | 0.04 | 0.001 |
| Police efficacy → Code of honor (men) | -0.06 | 0.06 | 0.298 |
| Police efficacy → Code of honor (women) | -0.21 | 0.06 | < .001 |
| Code of honor →Anger | 0.13 | 0.06 | 0.041 |
| Code of honor →Envy | 0.23 | 0.07 | 0.001 |
| Covariances |  |  |  |
| Family conflict, neglect violence, Socioeconomic status | -0.06 | 0.03 | 0.025 |
| Family conflict, neglect violence, Neighborhood crime/violence | 0.07 | 0.02 | 0.001 |
| Family conflict, neglect violence, Police efficacy | -0.04 | 0.02 | 0.020 |
| Socioeconomic status, Neighborhood crime/violence | -0.07 | 0.05 | 0.154 |
| Socioeconomic status, Police efficacy | 0.12 | 0.04 | 0.001 |
| Neighborhood crime/violence, Police efficacy | -0.23 | 0.03 | < .001 |
| Anger, Envy | 0.81 | 0.09 | < .001 |
| Intercepts |  |  |  |
| Code of honor | -0.07 | 0.05 | 0.913 |
| Code of honor (men) | -0.38 | 0.29 | 0.201 |
| Code of honor (women) | -0.18 | 0.29 | 0.493 |
| Anger | 0.64 | 0.06 | < .001 |
| Envy | 0.87 | 0.07 | < .001 |
| Residual Variances |  |  |  |
| Code of honor | 0.96 | 0.05 | < .001 |
| Anger | 1.04 | 0.09 | < .001 |
| Anger (men) | 1.29 | 0.16 | < .001 |
| Anger (women) | 0.86 | 0.10 | < .001 |
| Envy | 1.38 | 0.12 | < .001 |

*Note.* Parameter estimates are unstandardized and are from the constrained model except where noted to be specific to men and women. In those cases, estimates were derived from a model with all other parameters constrained to be equal between sexes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table S3. *Path from Envy to Anger (No Sex-Specific Paths)* | | | | |
| Parameter | Estimate | SE | *p* |
| Paths |  |  |  |
| Family conflict, neglect violence → Code of honor | 0.28 | 0.07 | < .001 |
| Socioeconomic status → Code of honor | 0.01 | 0.03 | 0.786 |
| Neighborhood crime/violence → Code of honor | 0.04 | 0.04 | 0.322 |
| Police efficacy → Code of honor | -0.14 | 0.06 | 0.012 |
| Code of honor →Anger | 0.00 | 0.05 | 0.981 |
| Code of honor →Envy | 0.24 | 0.07 | 0.001 |
| Envy→Anger | 0.55 | 0.04 | < .001 |
| Covariances |  |  |  |
| Family conflict, neglect violence, Socioeconomic status | -0.06 | 0.03 | 0.035 |
| Family conflict, neglect violence, Neighborhood crime/violence | 0.07 | 0.02 | 0.001 |
| Family conflict, neglect violence, Police efficacy | -0.04 | 0.02 | 0.022 |
| Socioeconomic status, Neighborhood crime/violence | -0.07 | 0.05 | 0.167 |
| Socioeconomic status, Police efficacy | 0.12 | 0.04 | 0.001 |
| Neighborhood crime/violence, Police efficacy | -0.23 | 0.03 | < .001 |
| Intercepts |  |  |  |
| Code of honor | -0.03 | 0.30 | 0.913 |
| Anger | 0.16 | 0.06 | 0.009 |
| Envy | 0.86 | 0.07 | < .001 |
| Residual Variances |  |  |  |
| Code of honor | 0.96 | 0.05 | < .001 |
| Anger | 0.63 | 0.05 | < .001 |
| Envy | 1.36 | 0.12 | < .001 |

*Note.* Parameter estimates are unstandardized.

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| --- | --- | --- | --- | --- | --- |
| Table S4. *Path from Anger to Envy (No Sex-Specific Paths)* | | | | |  |
| Parameter | Estimate | SE | *p* |
| Paths |  |  |  |
| Family conflict, neglect violence → Code of honor | 0.28 | 0.07 | < .001 |
| Socioeconomic status → Code of honor | 0.01 | 0.03 | 0.786 |
| Neighborhood crime/violence → Code of honor | 0.04 | 0.04 | 0.322 |
| Police efficacy → Code of honor | -0.14 | 0.06 | 0.012 |
| Code of honor →Anger | 0.13 | 0.06 | 0.037 |
| Code of honor →Envy | 0.14 | 0.06 | 0.009 |
| Anger→Envy | 0.71 | 0.05 | < .001 |
| Covariances |  |  |  |
| Family conflict, neglect violence, Socioeconomic status | -0.06 | 0.03 | 0.035 |
| Family conflict, neglect violence, Neighborhood crime/violence | 0.07 | 0.02 | 0.001 |
| Family conflict, neglect violence, Police efficacy | -0.04 | 0.02 | 0.022 |
| Socioeconomic status, Neighborhood crime/violence | -0.07 | 0.05 | 0.167 |
| Socioeconomic status, Police efficacy | 0.12 | 0.04 | 0.001 |
| Neighborhood crime/violence, Police efficacy | -0.23 | 0.03 | < .001 |
| Intercepts |  |  |  |
| Code of honor | -0.03 | 0.30 | 0.913 |
| Anger | 0.64 | 0.06 | < .001 |
| Envy | 0.41 | 0.07 | < .001 |
| Residual Variances |  |  |  |
| Code of honor | 0.96 | 0.05 | < .001 |
| Anger | 1.05 | 0.09 | < .001 |
| Envy | 0.82 | 0.07 | < .001 |

*Note.* Parameter estimates are unstandardized.

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| --- | --- | --- | --- | --- |
| Table S5. *Economic Game Conditions (No Sex-Specific Paths)* | | | | |
| Parameter | Estimate | SE | *p* |
| Paths |  |  |  |
| Family conflict, neglect violence → Code of honor | 0.28 | 0.07 | < .001 |
| Socioeconomic status → Code of honor | 0.01 | 0.03 | 0.780 |
| Neighborhood crime/violence → Code of honor | 0.04 | 0.04 | 0.319 |
| Police efficacy → Code of honor | -0.15 | 0.06 | 0.011 |
| Code of honor →Anger | 0.05 | 0.06 | 0.453 |
| Recipient →Anger | 0.87 | 0.12 | < .001 |
| Observer →Anger | 0.17 | 0.12 | 0.162 |
| Recipient x Code of honor →Anger | 0.05 | 0.11 | 0.607 |
| Observer x Code of honor →Anger | -0.21 | 0.11 | 0.054 |
| Envy→Anger | 0.44 | 0.04 | < .001 |
| Code of honor →Envy | 0.10 | 0.09 | 0.246 |
| Recipient →Envy | 1.13 | 0.15 | < .001 |
| Observer →Envy | 1.17 | 0.15 | < .001 |
| Recipient x Code of honor →Envy | 0.43 | 0.14 | 0.003 |
| Observer x Code of honor →Envy | -0.02 | 0.16 | 0.914 |
| Covariances |  |  |  |
| Family conflict, neglect violence, Socioeconomic status | -0.06 | 0.03 | 0.035 |
| Family conflict, neglect violence, Neighborhood crime/violence | 0.07 | 0.02 | 0.001 |
| Family conflict, neglect violence, Police efficacy | -0.04 | 0.02 | 0.022 |
| Socioeconomic status, Neighborhood crime/violence | -0.07 | 0.05 | 0.168 |
| Socioeconomic status, Police efficacy | 0.12 | 0.04 | 0.001 |
| Neighborhood crime/violence, Police efficacy | -0.23 | 0.03 | < .001 |
| Recipient, Code of honor | 0.00 | 0.03 | 0.897 |
| Recipient, Family conflict, neglect violence | 0.02 | 0.02 | 0.189 |
| Recipient, Socioeconomic status | -0.03 | 0.03 | 0.290 |
| Recipient, Neighborhood crime/violence | 0.01 | 0.03 | 0.737 |
| Recipient, Police efficacy | -0.05 | 0.02 | 0.019 |
| Observer, Code of honor | 0.02 | 0.03 | 0.567 |
| Observer, Family conflict, neglect violence | -0.04 | 0.02 | 0.023 |
| Observer, Socioeconomic status | 0.03 | 0.03 | 0.407 |
| Observer, Neighborhood crime/violence | -0.02 | 0.03 | 0.551 |
| Observer, Police efficacy | 0.02 | 0.02 | 0.451 |
| Observer, Recipient | -0.06 | 0.01 | < .001 |
| Recipient x Code of honor, Code of honor | 0.26 | 0.03 | < .001 |
| Recipient x Code of honor, Family conflict, neglect violence | 0.06 | 0.02 | 0.001 |
| Recipient x Code of honor, Socioeconomic status | -0.01 | 0.04 | 0.699 |
| Recipient x Code of honor, Neighborhood crime/violence | -0.01 | 0.03 | 0.851 |
| Recipient x Code of honor, Police efficacy | -0.03 | 0.02 | 0.166 |
| Recipient x Code of honor, Recipient | 0.01 | 0.01 | 0.675 |
| Recipient x Code of honor, Observer | 0.00 | 0.01 | 0.928 |
| Observer x Code of honor, Code of honor | 0.22 | 0.03 | < .001 |
| Observer x Code of honor, Family conflict, neglect violence | 0.01 | 0.02 | 0.418 |
| Observer x Code of honor, Socioeconomic status | -0.08 | 0.03 | 0.020 |
| Observer x Code of honor, Neighborhood crime/violence | 0.05 | 0.03 | 0.073 |
| Observer x Code of honor, Police efficacy | -0.03 | 0.02 | 0.121 |
| Observer x Code of honor, Recipient | 0.00 | 0.01 | 0.844 |
| Observer x Code of honor, Observer | 0.00 | 0.01 | 0.732 |
| Observer x Code of honor, Recipient x Code of honor | 0.00 | 0.02 | 0.984 |
| Intercepts |  |  |  |
| Code of honor | -0.03 | 0.30 | 0.933 |
| Anger | 0.02 | 0.06 | 0.757 |
| Envy | 0.32 | 0.08 | < .001 |
| Residual Variances |  |  |  |
| Code of honor | 0.96 | 0.05 | < .001 |
| Anger | 0.52 | 0.05 | < .001 |
| Envy | 0.99 | 0.09 | < .001 |

*Note.* Parameter estimates are unstandardized.

**Measures**

***Exposure to family neglect, conflict, and violence.*** (Based on Taylor, Lerner, Sage, Lehman, & Seeman, 2004)

The following are questions about your childhood and early adolescence (age 5 – 15). Please think over your family life, and answer these questions by putting the relevant number next to each statement to indicate how much you agree with it.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Not at all** |  |  |  | **Very Often (or Very Much)** |
| **1** | **2** | **3** | **4** | **5** |

\_\_\_\_\_1. How often did a parent or other adult in the household make you feel that you were loved, supported, and cared for? (RC)

\_\_\_\_\_2. How often did a parent or other adult in the household swear at you, insult you, put you down, or act in a way that made you feel threatened?

\_\_\_\_\_3. How often did a parent or other adult in the household express physical affection for you, such as hugging, or other physical gestures of warmth and affection? (RC)

\_\_\_\_\_4. How often did a parent or other adult in the household push, grab, shove, or slap you?

\_\_\_\_\_5. How often would you say that a parent or other adult in the household behaved violently toward a family member or visitor in your home?  
  
\_\_\_\_\_6. How often would you say there was quarreling, arguing, or shouting between your parents?  
  
\_\_\_\_\_7. How often would you say there was quarreling, arguing, or shouting between a parent and you?  
  
\_\_\_\_\_8. How often would you say there was quarreling, arguing, or shouting between a parent and one of your siblings

\_\_\_\_\_9. How often would you say there was quarreling, arguing, or shouting between your sibling(s) and you?  
  
\_\_\_\_\_10. How often would you say you were neglected while you were growing up, that is, left on your own to fend for yourself?

***Exposure to neighborhood crime and violence.***

**How many times do you remember witnessing or hearing about the following events in your neighborhood when you were growing up?**

1 = Never

2 = Once or Twice

3 = Three to Five Times

4 = Six to Ten Times

5 = More than Ten Times

\_\_\_\_\_\_\_1. People getting into fistfights

\_\_\_\_\_\_\_2. Someone being injured during a fight so badly that he/she had to go to the hospital

\_\_\_\_\_\_\_3. Someone’s home or property being vandalized

\_\_\_\_\_\_\_4. Someone’s home being burglarized

\_\_\_\_\_\_\_5. Someone using violence to seek revenge against someone else

\_\_\_\_\_\_\_6. Someone being mugged or robbed on the streets

\_\_\_\_\_\_\_7. People drinking alcohol or using drugs on the streets

***Perceived efficacy of neighborhood policing.*** (Based on Tyler, 2005)

**Please answer the following four questions about the police in the neighborhood where you grew up. (“DK” = Don’t know)**

1. How effective are the police in your neighborhood in fighting crime? (Circle one):

DK Totally Ineffective Very Ineffective Somewhat effective Very effective Extremely Effective

2. When people in your neighborhood call the police to ask for help, how quickly do the police respond? (Circle one)

DK Not At All Very Slowly Somewhat Slowly Somewhat Quickly Very Quickly

3. How effective are the police in your neighborhood at helping people who ask for help? (Circle one)

DK Totally Ineffective Very Ineffective Somewhat effective Very effective Extremely Effective

4. How likely would the people in your neighborhood be to call the police if they were the victims of a serious crime or if they witnessed a serious crime? (Circle one)

DK Very unlikely Somewhat unlikely Maybe Somewhat Likely Very Likely

***Code of honor endorsement.*** (Based on Berry, Worthington, O'Connor, Parrott, & Wade, 2005; Brezina, Agnew, Cullen, & Wright 2004; Eisenberger, Lynch, Aselage, & Rohdieck, 2004; Stewart, Schreck, & Simons, 2006)

Using the scale below, write a number beside each statement to indicate how much you agree with it.

1 = strongly disagree

2 = disagree

3 = slightly disagree

4 = neutral

5 = slightly agree

6 = agree

7 = strongly agree

**Revenge Subscale**

\_\_\_\_\_If someone treats me badly, I feel I should treat them even worse.

\_\_\_\_\_If someone has treated you poorly, you should not return the poor treatment. (RC)

\_\_\_\_\_It is all right to beat up another person if he or she started the fight.

\_\_\_\_\_If someone says something nasty to you, you should say something nasty back.

\_\_\_\_\_It is all right to beat up another person if he or she called you a dirty name.

\_\_\_\_\_If someone treats me badly, I treat him or her the same.

\_\_\_\_\_If someone treats you badly, you should treat that person badly in return.

**Forgiveness**

\_\_\_\_\_I try to forgive others even when they don’t feel guilty for what they did.

\_\_\_\_\_There are some things for which I could never forgive even a loved one. (RC)

\_\_\_\_\_I always try to forgive people who hurt me.

\_\_\_\_\_I am a forgiving person.

\_\_\_\_\_I can forgive a friend for almost anything.

\_\_\_\_\_I can usually forgive and forget an insult.

\_\_\_\_\_People close to me probably think I hold grudges too long. (RC)

**Street Code**

\_\_\_\_\_Sometimes, you have to fight to uphold your honor or put someone in his or her place.

\_\_\_\_\_When someone insults you or harms you, it’s up to you to handle it yourself.

\_\_\_\_\_You have to convince people that you’re not a “chump” or a “sucker.”

\_\_\_\_\_When people disrespect you, you sometimes must use violence to teach them not to.

\_\_\_\_\_People will take advantage of you if you don’t let them know how tough you are.

\_\_\_\_\_People do not respect a person who is afraid to fight physically for his/her rights.

\_\_\_\_\_It is important to show others that you cannot be intimidated.

\_\_\_\_\_People tend to respect a person who is tough and aggressive.

\_\_\_\_\_If a person wants to be your enemy, you should treat them like an enemy.

\_\_\_\_\_Sometimes you need to threaten people in order to get them to treat you fairly.