Moral Salience, Conditional Altruism and Virtue: Reconciling Jekyll and Hyde Paradoxes Online Appendix

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Math Test

Instructions
Participants can earn a bonus in this experimental study for making decisions about the allocation of real money. It is important, therefore, that all decision-makers first pass a test consisting of three short questions involving addition and subtraction. You have at most two attempts at each question to get the correct answer and to proceed to the experiment.

Please read the question below, fill in the blank with the correct answer, and then press “Proceed” to go to the next question.

Question 1
Please complete the following subtraction problem:

\[
\begin{align*}
43 & \quad - 19 \\
\hline
\end{align*}
\]

Question 2
The sum of Columns 1 and 2 on Line 1 below equals \(-5\), as seen in the final Column for Line 1. The sum of Columns 1 and 2 on Line 2 below equals \(+16\), as seen in the final Column for Line 2. Please fill in the blanks under Column 2 with numbers such that these two equations are satisfied.

<table>
<thead>
<tr>
<th>Line 1</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Sum of Cols. 1 + 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line 1</td>
<td>(-7)</td>
<td>(\Box)</td>
<td>(-5)</td>
</tr>
<tr>
<td>Line 2</td>
<td>(+5)</td>
<td>(\Box)</td>
<td>(+16)</td>
</tr>
</tbody>
</table>

Question 3
Below are two equations involving two numbers, which we will call \(A\) and \(B\). Equation 1 involves the sum of these two numbers and Equation 2 the difference between the two numbers. Please fill in the blanks below with the numbers, \(A\) and \(B\), such that both equations are true.

<table>
<thead>
<tr>
<th>Equation 1</th>
<th>Equation 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) + (B)</td>
<td>(A) - (B)</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
</tr>
</tbody>
</table>

The value of \(A\) is \(\Box\)
The value of \(B\) is \(\Box\)
General Instructions

Task
This is an experimental study of decision-making involving the allocation of real money. In addition to a reward of $2, which everyone receives, participants can earn a bonus, the amount of which can depend on decisions in the experiment.

Random Assignment
Participants will be randomly assigned to different types and will be randomly matched with other participants.

Anonymity
Participants will remain anonymous, that is, decisions and payments will be private, and no participant will ever be told the identity of any other person with whom he or she is matched.

Now we will go over the instructions that explain your participant type and your decision.

Instructions for Person <X> [Y] {Z}

Quiz about Instructions
Please make sure you read these instructions carefully, because afterwards you must answer some questions about them {in order to continue with the experiment. You will have at most two attempts to answer all questions correctly, or your participation will be terminated}.

Groups
You have been randomly assigned to a group consisting of participants called Persons <X> [Y] {Z}. Other participants have been randomly assigned to groups consisting of participants called Persons <Y> [X] {X and Persons Y}. Each Person [<X>] {Z} is randomly matched with [<one Person Y>] {a Pair consisting of one Person X and one Person Y}.

{Z Payment
For making a decision about X and Y, each Person Z will receive a fixed bonus of $5 ($2 in the Benevolent dictator treatment), which is in addition to the reward of $2. The amount of Person Z’s bonus has nothing to do with the eventual payments received by Persons X and Y.}

X and Y Endowments
Each X/Y Pair has been provisionally allocated a certain number of points we will call “endowments,” which are in addition to their reward of $2 each. Specifically, Person X is endowed with 15 points and Person Y is endowed with 5 points, whereby each point is always worth $0.20 in this experiment. The difference in X and Y endowments is completely arbitrary: in other words, participants are randomly assigned to be either Person X or Person Y, and the difference in their endowments has nothing to do with any other differences between them.

(Double Dictator Treatments
continues below with Instructions for Person <X> [Y] {Z})
Decision of Person X

<As Person X, your decision> {{The decision of Person X}} is to choose how many points to transfer between Persons X and Y. {Your decision, as Person Z, will be described momentarily.} Person Y makes no decisions. Specifically, (you) {{[Person X]}} may:

(the following appears only where negative transfers are possible, where L is the most negative number)

- Transfer 1 to L points from Y to X.
- That is, <you> {{[Person X]}} may choose a negative transfer to Y of –1 to –L points.

(in some cases, only 1 negative point can be transferred rather than a range of points, in which case above it reads “Transfer 1 point from Y to X”)

OR

(the following appears where zero transfers are possible in combination with positive and/or negative transfers.)

- Leave the points of X and Y unchanged.
- That is, <you> {{[Person X]}} may choose a transfer to Y of 0 points.

OR

(the following appears only where positive transfers are possible, where H is the highest positive number)

- Transfer 1 to H points from X to Y.
- That is, <you> {{[Person X]}} may choose a positive transfer to Y of +1 to +H points.

When you have understood these instructions, click “Continue” below to proceed to the quiz about these instructions.

Quiz about Instructions

We now need to make sure that you have understood the instructions thus far. Please carefully select one answer to each of the three questions below. You have at most two chances to answer all questions correctly, or your participation will be terminated. When you are satisfied with your answers, click “Submit” below.

Question 1
Which of the following statements about endowments is true?

A. Participants are assigned to be either Person X or Person Y based on their relative performance on a task.
B. Person X is endowed with 5 points and Person Y with 15 points.
C. Persons X and Y are randomly assigned to their types, and the difference in their endowments has nothing to do with any other differences between them.

Question 2
What was the value of the lowest (or minimum) possible transfer from X to Y?

Choose (This runs from -5 to +5)

Question 3
What was the value of the highest (or maximum) possible transfer from X to Y?

Choose (This runs from -1 to +15)
<Your> [Person X’s] [Decision]

<Here again are the transfers you may choose for your decision. You may:

• Transfer 1 to L points from Y to X.
• That is, you may choose a negative transfer to Y of \( -1 \) to \( -L \) points.

[In some cases, only 1 negative point can be transferred rather than a range of points, in which case above it reads “Transfer 1 point from Y to X”]

OR

(the following appears where zero transfers are possible in combination with positive and/or negative transfers.)

• Leave the points of X and Y unchanged.
• That is, you may choose a transfer to Y of 0 points.

OR

(the following appears only where positive transfers are possible, where \( H \) is the highest positive number)

• Transfer 1 to H points from X to Y.
• That is, you may choose a positive transfer to Y of +1 to +H points.

Click on a number in the pull-down menu below in the field marked “Choose” to try out different values for your transfer. Below this, the Points after transfer will update for Persons X and Y. You may revise your choice at any time before submitting it. Once you are satisfied with your choice, click “Submit” below.>

[Below you can see a summary of the Endowments, the transfer chosen by Person X, and the Points after transfer. Please click “Continue” below to see information about an additional allocation.]

<table>
<thead>
<tr>
<th>Endowments</th>
<th>[&lt;Person X 15]</th>
<th>Person Y 5</th>
</tr>
</thead>
</table>

<I transfer> [Person X transferred] [this amount ]

Points after transfer]

[Further Instructions for Person Z]

Quiz about Further Instructions
Please make sure you read these instructions carefully, because afterwards you must answer some questions about them in order to continue with the experiment. You will have at most two attempts to answer all questions correctly, or your participation will be terminated.

Decision of Person Z
Your decision as Person Z is to allocate 40 additional points between Persons X and Y. These 40 points will be added to the amounts X and Y receive after the transfer Person X makes from the initial endowments, which total 20 points (15 to X and 5 to Y). You will be told an amount that
Person X chooses to transfer to Person Y, and then you will allocate an amount out of the 40 additional points to Person X. Any remaining points out of the 40 that you do not allocate to Person X will go to Person Y, so no points are lost.

Note that, at the time Person X makes their decision, Person X does not yet know about the 40 additional points or about the existence of Person Z or of any decision by Z. At the end of the experiment after all decisions have been made, however, the other participants will be told about Person Z and the decision by Z that applies to their payments.

Example of Z Choice
We will now go through an Example in order to familiarize you with your decision. We do not yet know which transfer Person X will choose, but, for this Example, suppose that X chooses to transfer +1 (or -1 if +1 is not an option in that treatment) point to Y. That is, suppose X chooses to transfer 1 point from X to Y (or transfer 1 point from Y to X). Your decision is to choose how to allocate the additional 40 points given this X transfer.

The table below summarizes for this Example a Transfer chosen by X and the Points of X and Y after X’s transfer. You choose how many, if any, of the 40 additional points you wish to allocate to X. You may try out different values from 0 to 40 to allocate to X from the pull-down menu in the field below marked “Choose.” The amount you choose will be added to Person X’s points, and the remaining amount from the 40 additional points will be added to Person Y’s points, so no points are lost. On the far right, you will see the Total Points to X and Y after X’s transfer and after your allocation of the 40 points. This is only an Example, and you can change your answer later.

<table>
<thead>
<tr>
<th>Suppose Person X transfers</th>
<th>Points after X’s transfer</th>
<th>I allocate this amount to Person X</th>
<th>Total points</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1 (or -1) points to Y</td>
<td>X</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>□</td>
<td></td>
</tr>
</tbody>
</table>

Multiple Choices by Person Z
Since Person X’s transfer is not yet available, you need to make multiple choices: you decide how many of the additional 40 points to allocate to X for each possible transfer Person X can make to Person Y. That is, your decision is to choose allocations to X from the 40 points assuming X makes transfers to Y of –L points, -L+1 points, -L+2 points, etc. Later, when X’s choice about how much to transfer to Person Y is available, it will be matched with your corresponding choice about the allocation of the additional 40 points. The final bonus payments to X and Y are based on their Endowments adjusted for X’s transfer plus the points you allocate in your corresponding choice.

When you have understood these instructions, click “Continue” below to proceed to the quiz about these instructions.

Quiz about Further Instructions
We now need to make sure that you have understood these further instructions. Please carefully select one answer to each of the three questions below. You have at most two chances to answer all questions correctly, or your participation will be terminated. When you are satisfied with your answers, click “Submit” below.

**Question 1**
Which of the following statements is true?
A. Any of the 40 points Person Z does not allocate to Person X are lost.
B. The payments of Persons X and Y will be based on a randomly chosen allocation of Person Z.
C. Person Z makes multiple choices: Z chooses how many of 40 additional points to allocate to Person X for each possible transfer Person X can make to Y.

**Question 2**
Which of the following statements is true?
A. The maximum number of points any Person X can possibly receive after Person X’s transfer and Person Z’s allocation is 50 points.
B. At the time Person X chooses a transfer to Person Y, Person X does not yet know about the existence of Person Z or about the 40 additional points.
C. When choosing an allocation of the 40 points, Person Z knows which transfer Person X chose.

**Question 3**
Which of the following statements is true?
A. At the end of the experiment, Person Y’s final bonus payment is based on an endowment of 5 adjusted for any transfers chosen by Person X plus any points received from Person Z’s allocation.
B. Person Z chooses how much to transfer between Persons X and Y from their initial endowments of 15 and 5.
C. Person X chooses how to allocate 40 additional points between X and Y.

**Decision of Person Z**

Remember that Person X may:

*(the following appears only where negative transfers are possible, where L is the most negative number)*
- Transfer 1 to L points from Y to X.
- That is, Person X may choose a negative transfer to Y of –1 to –L points.

*(in some cases, only 1 negative point can be transferred rather than a range of points, in which case above it reads “Transfer 1 point from Y to X”)*

OR

*(the following appears where zero transfers are possible in combination with positive and/or negative transfers.)*
- Leave the points of X and Y unchanged.
- That is, Person X may choose a transfer to Y of 0 points.

OR
(the following appears only where positive transfers are possible, where H is the highest positive number)

- Transfer 1 to H points from X to Y.
- That is, Person X may choose a positive transfer to Y of +1 to +H points.

For each possible transfer by Person X, you may try out different values from 0 to 40 to allocate to X from the pull-down menu in the field below marked “Choose.” This amount will be added to Person X’s points, and the remaining amount from the 40 points will be added to Person Y’s points. You may revise any choices at any time before submitting them. Once you are satisfied with all choices, click on “Submit final decisions” at the bottom.

### Additional Allocation

**Persons Z**
In addition to Persons X and Y, other participants have been randomly assigned to a third group consisting of participants called Persons Z. Each Person Z is randomly matched with a Pair consisting of one Person X and one Person Y.

**Z Payment**
For making a decision about X and Y, each Person Z receives a fixed bonus, which has nothing to do with the eventual payments received by Persons X and Y.

**Decision of Person Z**
Each Person Z allocates 40 additional points between Persons X and Y. These 40 points will be added to the amounts X and Y receive after the transfer you (Person X) made from the initial endowments, which total 20 points (15 to X and 5 to Y). Person Z is told the amount Person X transferred to Person Y and then allocates an amount out of the 40 additional points to Person X. Any remaining points out of the 40 that Z does not allocate to Person X goes to Person Y, so no points are lost.

**Final Payments**
The final bonus payments to X and Y are based on their Endowments adjusted for X’s transfer plus the points Person Z allocates to them.>]

<table>
<thead>
<tr>
<th>Suppose Person X transfers</th>
<th>Points after X’s transfer</th>
<th>I allocate this amount to Person X</th>
<th>Total points</th>
</tr>
</thead>
<tbody>
<tr>
<td>−L (or 0 or +1) points to Y</td>
<td>X</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>−5 (or −L or 0 or +1)</td>
<td>20</td>
<td>0</td>
<td>Choose</td>
</tr>
<tr>
<td>−4 (or whatever)</td>
<td>19</td>
<td>1</td>
<td>Choose</td>
</tr>
<tr>
<td>−3 (or whatever)</td>
<td>18</td>
<td>2</td>
<td>Choose</td>
</tr>
</tbody>
</table>
(Benevolent Dictator Treatments
continues below with Instructions for Person <X> [Y] {Z})

<Persons Z>
In addition to Persons X and Y, other participants have been randomly assigned to a third group consisting of participants called Persons Z. Each Person Z was randomly matched with a Pair consisting of one Person X and one Person Y.

Z Payment
For making a decision about X and Y, each Person Z received a fixed bonus, which had nothing to do with the eventual payments received by Persons X and Y.>

Decision of Person Z
[<The decision of Person Z was>] {As Person Z, your decision is} to choose how many points to transfer between Persons X and Y. [(As Person) <X> [Y]<, you make no decision. Specifically, Z may>] {Persons X and Y make no decisions. Specifically, you may}: (the following appears where negative transfers are possible, where L is the most negative number)

- Transfer 1 to L points from Y to X.
- That is, [<Z>] {you} may choose a negative transfer to Y of –1 to –L points. (in some cases, only 1 negative point can be transferred rather than a range of points, in which case above it reads “Transfer 1 point from Y to X”)

OR
(the following appears where zero transfers are possible)

- Leave the points of X and Y unchanged.
- That is, [<Z>] {you} may choose a transfer to Y of 0 points.

OR
(the following appears where positive transfers are possible, where H is the highest positive number)

- Transfer 1 to H points from X to Y.
- That is, [<Z>] {you} may choose a positive transfer to Y of +1 to +H points.

When you have understood these instructions, click “Continue” below to proceed to the quiz about these instructions.

Quiz about Instructions
(same as for the Double dictator treatment)

<Person X’s>] {Your} Decision

[<Below you can see a summary of the Endowments, the transfer chosen by Person Z, and the Points after transfer.>]

{Here again are the transfers you may choose for your decision. You may:}

- Transfer 1 to L points from Y to X.
- That is, you may choose a negative transfer to Y of –1 to –L points.
OR
• Leave the points of X and Y unchanged.
• That is, you may choose a transfer to Y of 0 points.

OR
• Transfer 1 to H points from X to Y.
• That is, you may choose a positive transfer to Y of +1 to +H points.

Click on a number in the pull-down menu below in the field marked “Choose” to try out different values for your transfer. Below this, the Points after transfer will update for Persons X and Y. You may revise your choice at any time before submitting it. Once you are satisfied with your choice, click “Submit” below.

<table>
<thead>
<tr>
<th>Endowments</th>
<th>Person X</th>
<th>Person Y</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>

[<Person Z transferred>] {I transfer} this amount

Points after transfer

Questions and Payment

Thank you for your participation in this study. Your payment is

$ 

To receive this payment, please complete the questions below. Your responses will never be associated with you personally. When you have completed all questions, click “Proceed to get code” below.

1. Age in years
   _______

2. Race: please choose the category that best describes your racial/ethnic background
   1. African-American (non-Hispanic)
   2. Asian-American/Pacific-Islander
   3. Caucasian (non-Hispanic)
   4. Hispanic/Latino
   5. Native-American (Indian, Eskimo, Hawaiian)
   6. Mixed Race

3. Gender
   1. Male
   2. Female

4. Marital status
   1. Married
   2. Widowed
   3. Divorced
4 Separated
5 Never married

5. Highest level of education or degree completed
   1 Less than high school degree
   2 High school degree or equivalent
   3 Some college but no degree
   4 Associate degree
   5 Bachelor degree
   6 Graduate degree

6. Employment status
   1 Employed, working 40 or more hours per week
   2 Employed, working 1-39 hours per week
   3 Not employed, looking for work
   4 Not employed, NOT looking for work
   5 Retired
   6 Unable to work

7. Total annual income of all members of your household in US dollars. Please enter without commas:
   $_________ per year

(For Z in the Benevolent Dictator treatments and X in the Double Dictator treatments)
{<8. Why did you choose the transfer of points between X and Y as you did?>}

(For Z in the Double Dictator treatments)
{8. Why did you choose to allocate the 40 points as you did?}