Moral Cosmopolitanism

Moral Cosmopolitans in Eight Countries Bestow Equitable Benefits and Security on Outsiders

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The World Bank

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Princeton University

Main findings preview
World Bank dilemma

- climate change
- global poverty
- migration mobility
- refugee crisis
- trade policy
Ingroup biases in intergroup moral judgments

- parochial empathy, parochial trust, parochial harm sensitivity, parochial cooperation\(^1\), etc.

\(^1\)Bruneau, Cikara, & Saxe, 2017; Hughes, Ambady, & Zaki, 2017; Romano, et al., 2017; Molenberghs, et al., 2014; Choi & Bowles, 2007; De Dreu, Balliet, & Halevy, 2014

\(^2\)Haidt & Greene, 2002; Ellemers, 2017; Janoff-Bulman, 2013
Ingroup biases in intergroup moral judgments

- parochial empathy, parochial trust, parochial harm sensitivity, parochial cooperation\(^1\), etc.
- groups as moral anchors \(^2\)

---

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Morality beyond borders, seems missing

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Main findings preview
Morality beyond borders, seems missing

NOT a downstream effect of intragroup morality, but a new territory of moral reasoning capacity.
Morality beyond borders, seems missing

NOT a downstream effect of intragroup morality, but a new territory of moral reasoning capacity.

define as overcoming a comparative preference for one's own nation, relative to the concept of the world as a whole.
Morality beyond borders, a question of reasoning?

- philosophical ideal

---

3 Singer, 2016; Appiah, 2008
4 Rand & Nowak, 2013; Macro & Weesie, 2016
Morality beyond borders, a question of reasoning?

- philosophical ideal\(^3\)
- NOT interpersonal or intergroup altruism\(^4\)

---

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Morality beyond borders, a question of reasoning?

- philosophical ideal\(^3\)
- NOT interpersonal or intergroup altruism\(^4\)
- NOT group identification (e.g., moral circle expansion, identification with humanity at large, enthusiasm for group-based equality\(^5\))

---

\(^3\) Singer, 2016; Appiah, 2008

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Morality beyond borders, a question of reasoning?

- philosophical ideal

- NOT interpersonal or intergroup altruism

- NOT group identification (e.g., moral circle expansion, identification with humanity at large, enthusiasm for group-based equality)

- how about cosmopolitan moral reasoning?

---

3 Singer, 2016; Appiah, 2008

4 Rand & Nowak, 2013; Macro & Weesie, 2016

Transcend borders

(a) Moral patriot

(b) Moral cosmo
Methods and results

Overview
- Where
- How
- Who
- Why
Examine cosmopolitan moral reasoning to understand:

1. its nature and prevalence;
2. who exhibits it psychologically, demographically, and experientially;
3. its relationship to policy preferences and real-world behaviors;
4. the cognitive mechanisms that explain or produce it.
Outline

1 Methods and results
   • Overview
   • Where
     • How
     • Who
   • Why
Study 1. Moral cosmos in 8 countries bestow equitable benefit and security

Multiple group factor analysis (measurement invariance)

US, Guatemala, Colombia, Spain, UK, Germany, China, Japan

N = 720 from each country
Study 1. Moral cosmos in 8 countries bestow equitable benefit and security

Moral cosmopolitanism scale: 1 strongly disagree to 6 strongly agree

<table>
<thead>
<tr>
<th>Full scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equitable benefits ($\alpha = 0.72 - 0.90$)</strong></td>
</tr>
<tr>
<td>1. Citizens in our country should accept a reduction in their standard of living if doing so increases global equality.</td>
</tr>
<tr>
<td>2. Citizens in our country are obliged to lower their standard of living if doing so substantially contributes to global justice.</td>
</tr>
<tr>
<td>3. Citizens in our country must lower their standard of living if that is necessary to achieve a higher standard of living for every person in the world.</td>
</tr>
<tr>
<td>4. It is a problem if most people in our country generally agree on the principle of putting our own citizens first.</td>
</tr>
<tr>
<td>5. It is wrong to always prioritize citizens over people in other countries.</td>
</tr>
<tr>
<td><strong>Equitable security ($\alpha = 0.55 - 0.80$)</strong></td>
</tr>
<tr>
<td>6. It is as bad when terrorist attacks happen elsewhere as when they happen in our nation.</td>
</tr>
<tr>
<td>7. When a hostage is being held by terrorists, it is equally bad if the hostage is from other nations and from our nation.</td>
</tr>
<tr>
<td>8. It is as bad when our military accidentally kills foreign civilians as when a foreign military accidentally kills our civilians.</td>
</tr>
<tr>
<td>9. When our friend, who is a fellow-citizen, makes a distasteful joke about others, it is equally inappropriate when the joke concerns foreigners as when it concerns fellow citizens.</td>
</tr>
</tbody>
</table>

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Study 1. Moral cosmos in 8 countries bestow equitable benefit and security

![Country means and variances on moral cosmopolitanism scale](image)

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Study 1. Moral cosmos in 8 countries bestow equitable benefit and security
Partial correlations with Equitable security

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Study 1. Moral cosmos in 8 countries bestow equitable benefit and security
Partial correlations with Equitable benefits

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Outline

1 Methods and results
   - Overview
   - Where
   - How
   - Who
   - Why
Study 2. Moral cosmo’s dimensions predict moral choices: donation

We invite you to make a donation to a charitable cause.

You can donate up to 10 of your Shells to one or both of the following organizations:

**Teach for All**, an international NGO, or **Teach for America**, a national NGO.

The mission of both organizations is to improve education and expand opportunities for children in disadvantaged communities. Teach for All works worldwide, while Teach for America works in the USA.

Your donation decision will have a real-world effect, as we will donate the way you suggest.

Please indicate how much you would like to donate to:

```
              0  1  2  3  4  5  6  7  8  9  10
  Teach for All
  Teach for America
```
Study 2. Moral cosmo’s dimensions predict moral choices: donation

Analytic model:

- hierarchical structure, individual \((i)\) nested within country \((j)\);
- IVs: individual scores on the two subscales.
- DVs: proportion donation to international NGO.
- control: demographics and convergent/divergent scales\(^6\).

\[ Y_{ij} = \beta_0 + \beta_1 X_{ij} + \epsilon_{ij} \]  
\[ \beta_0 \sim \mathcal{N}(\beta_0, \nu_0) \]  
\[ \beta_1 \sim \mathcal{N}(\beta_1, \nu_1) \]

\(^6\) Oxford utilitarianism scale, Moral expansiveness, Parochial empathy, Trait empathy, Identification with all humanity, Social dominance orientation, Political orientation, Moral foundations

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Study 2. Moral cosmo’s dimensions predict moral choices: donation above and beyond other scales
Study 2. Moral cosmo’s dimensions predict moral choices: trolley

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Main findings preview
Study 2. Moral cosmo’s dimensions predict moral choices: trolley

above and beyond other scales, except instrumental harm
Outline

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Study 3. Competing hypothesis: Demographics or experiences

US example
Study 3. Competing hypothesis: Demographics or experiences

US example

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Study 3. Competing hypothesis: Demographics or experiences

US example

- Conservative (political orientation) vs. Liberal
- Male vs. Female
- 16 vs. 90 (age)

- Equitable security
- Equitable benefits

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Study 3. Competing hypothesis: Demographics or experiences

US example

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Study 3. Competing hypothesis: Demographics or experiences

US example
If not lifetime experience, perhaps immediate experience, in the form of cognitive availability of key concepts, explains it.

Linguistic evidence.
We invite you to make a donation to a charitable cause.

You can donate up to 10 of your Shells to one or both of the following organizations:

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The mission of both organizations is to improve education and expand opportunities for children in disadvantaged communities. Teach for All works worldwide, while Teach for America works in the USA.

Your donation decision will have a real-world effect, as we will donate the way you suggest.

Please indicate how much would you like to donate to:

![Donation slider](image)

Please tell us, briefly, why you decided as you did.
Attention with bidirectional Long-Short Term Memory Neural Network\(^7\)

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\(^7\) Hochreiter & Schmidhuber, 1997; Lin et al., 2017
Study 3. Mechanisms of moral cosmo: Computational linguistic evidence

Attention with bidirectional Long-Short Term Memory Neural Network

"both are important"

---

7 Hochreiter & Schmidhuber, 1997; Lin et al., 2017

Study 3. Mechanisms of moral cosmo: Computational linguistic evidence

Attention with bidirectional Long-Short Term Memory Neural Network\(^7\)

“both are important”
Model prediction: moral cosmo

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Study 3. Mechanisms of moral cosmo: Computational linguistic evidence

Attention with bidirectional Long-Short Term Memory Neural Network\(^7\)

"both are important"

Model prediction: moral cosmo

Attention weight for each word: .42, .14, .23

\(^7\) Hochreiter & Schmidhuber, 1997; Lin et al., 2017
Study 3. Mechanisms of moral cosmo: Computational linguistic evidence

More examples:

(c) Moral cosmos say

True score: 0.5
because both have the same miss

True score: 0.5
i believe in education all the child of the world should have this opportun

(d) Moral patriots say

True score: 0.2
i like to help at home first before other countri

True score: 0
i feel that there is a great need for help for some child in the american education system
Study 3. Mechanisms of moral cosmo: Computational linguistic evidence

Relative word importance in cosmo - patriot donations

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Study 3. Mechanisms of moral cosmo: Computational linguistic evidence

<table>
<thead>
<tr>
<th>Default group:</th>
<th>Moral patriot</th>
<th>Moral cosmo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impartiality:</td>
<td>own [country]</td>
<td>world</td>
</tr>
<tr>
<td>Target objective:</td>
<td>charity</td>
<td>education</td>
</tr>
</tbody>
</table>

**Hypothesis**

If we make moral cosmo concepts cognitively accessible, can it change moral behaviors?
Outline

Methods and results

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- Why
Study 4. Cognitive nudge: Manipulate the mechanism

2 by 2 between subject:

Main IV (treatment): world, both, education vs. our own, first, charity

Second IV (encouragement): pros and cons\textsuperscript{8} vs. personal story\textsuperscript{9}

DV: donation proportion to international organizations

\(n = 285\) per condition, pre-registered, complete random assignment

\textsuperscript{8} Elaboration Likelihood Model, Petty & Cacioppo, 1980

\textsuperscript{9} Narrative Paradigm, Fisher, 1985
Study 4. Cognitive nudge: Manipulate the mechanism

You will read 8 participants' statements. The following statements are from previous participants choosing between nonprofits working for education.

After reading their statements, please write your thoughts. Please give us your personal story. [pros and cons]

"I think we should help our own first then broaden the scope."

["I think providing education across world is important than just America."]

The forward arrow will appear in a few moments, to allow time for your response.
Study 4. Cognitive nudge: Manipulate the mechanism

We would like to invite you to make donations to nonprofit organizations.

In addition to your participation compensation, we are providing an extra $1 to make this donation. You can donate up to $1 total, divided among one to six of the following organizations.

We will donate the money as you choose; must total $1.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teach for America</td>
<td>0</td>
</tr>
<tr>
<td>Teach for All</td>
<td>0</td>
</tr>
<tr>
<td>Poverty Alleviation and Development International</td>
<td>0</td>
</tr>
<tr>
<td>International Red Cross</td>
<td>0</td>
</tr>
<tr>
<td>Poverty Alleviation and Development USA</td>
<td>0</td>
</tr>
<tr>
<td>American Red Cross</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>0.00</strong></td>
</tr>
</tbody>
</table>
Study 4. Cognitive nudge: Manipulate the mechanism

baseline: 35.7% to Intl NGO (last study)
Moral cosmopolitanism

- exists in sizeable sub-populations in eight countries;
Moral cosmopolitanism

- exists in sizeable sub-populations in eight countries;
- predicts worldwide donation and protection beyond other tested scales;
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- exists in sizeable sub-populations in eight countries;
- predicts worldwide donation and protection beyond other tested scales;
- involves as the relevant mechanism of reasoning and the availability of key cognitive concepts, rather than life experiences or a Common Ingroup Identity;

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Moral cosmopolitanism

- exists in sizeable sub-populations in eight countries;
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- involves as the relevant mechanism of reasoning and the availability of key cognitive concepts, rather than life experiences or a Common Ingroup Identity;
- complicates global governance, which is a more realistic account than “imagine there’s no countries”;
Moral cosmopolitanism

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- is not necessarily related to political ideology, and its predictive power goes beyond partisan affiliations;
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- complicates global governance, which is a more realistic account than “imagine there’s no countries”;
- is not necessarily related to political ideology, and its predictive power goes beyond partisan affiliations;
- crosses under-studied but highly relevant group boundary: nation;
Moral cosmopolitanism

- exists in sizeable sub-populations in eight countries;
- predicts worldwide donation and protection beyond other tested scales;
- involves as the relevant mechanism of reasoning and the availability of key cognitive concepts, rather than life experiences or a Common Ingroup Identity;
- complicates global governance, which is a more realistic account than “imagine there’s no countries”;
- is not necessarily related to political ideology, and its predictive power goes beyond partisan affiliations;
- crosses under-studied but highly relevant group boundary: nation;
- psychological experiment enhances NLP interpretability, NLP sheds lights on human cognition.
Thank you
EFA factor loadings

(g) Equitable benefits

(h) Equitable security

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CFA model fit comparisons

(i) $\chi^2$

(j) CFI

(k) NFI

(l) RMR

(m) SRMR

(n) GFI

(o) AGFI

(p) RMSEA

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# Measurement Invariance

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>Configural</th>
<th>Metric</th>
<th>Scalar</th>
<th>Free</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFI</td>
<td>.941</td>
<td>.934</td>
<td>.917</td>
<td>.873</td>
<td>.925</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.064</td>
<td>.07</td>
<td>.071</td>
<td>.08</td>
<td>.068</td>
</tr>
<tr>
<td>ΔCFI</td>
<td>.007</td>
<td>.017</td>
<td>.044</td>
<td>.008</td>
<td></td>
</tr>
<tr>
<td>ΔRMSEA</td>
<td>.006</td>
<td>.001</td>
<td>.021</td>
<td>.003</td>
<td></td>
</tr>
</tbody>
</table>

**Table: Measurement Invariance**

*Note.* To ensure the confirmed scale (M5) can be adequately compared across countries, we tested configural, metric, and scalar invariance (Boer, Hanke, & He, 2018). The factor structure and factor loadings were similar across countries (see column Configural and Metric). Parital scalar invariance was established after removing the equality constraints on intercepts for one item, "It is a problem if most people in our country generally agree on the principle of putting our own citizens first"."
Scale distributions in 8 sampled countries

(q) CN  
(r) CO  
(s) DE  
(t) ES

(u) GT  
(v) JP  
(w) UK  
(x) US
Initial item pool and references

- 81 survey items created from related scales\(^{10}\)
- Likert scale: 1. strong disagree to 6. strongly agree
- Recast from philosopher Peter Singers feedback

Predictive Validity (self-report)

Harm protectionism predicts:

- Loyal resistance to own countrys immoral behavior\(^\text{11}\).  
- Support for international organizations\(^\text{12}\).  
- Trolley dilemma, not sacrificing the foreigner\(^\text{13}\).  
- Among attitudes toward immigrants, only I would not like to have immigrants or foreign workers as my neighbors item (reverse).  
- Support CO2 reduction.

\(^\text{11}\) Sometimes a true patriot has to criticize our leaders; avoid ones country to have the biggest say in deciding world policies; track companies and governments human rights violations; anti-bribe, boycott companies who make products in other countries just to take advantage of their poor safety and health standards.

\(^\text{12}\) International organizations or the World Bank does valuable works.

\(^\text{13}\) We adjusted the question of classical trolley problem into pushing a foreigner to save five middle-class fellow citizens. Imagine this scenario. Suppose a runaway trolley is speeding down a track toward five middle-class citizens of our country. You are on a bridge over the tracks, and you can stop the trolley by putting something very heavy in front of it. As it happens, there is an immigrant next to you, and your only way to stop the trolley is to push him over the bridge and onto the track, killing him to save five. Is pushing him the right or wrong thing to do?
## Participants demographics

<table>
<thead>
<tr>
<th>Basic demographics</th>
<th>China (CN)</th>
<th>Colombia (CO)</th>
<th>Germany (DE)</th>
<th>Spain (ES)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>31 (6)</td>
<td>37 (14)</td>
<td>49 (16)</td>
<td>44 (16)</td>
</tr>
<tr>
<td>Gender (% female)</td>
<td>50%</td>
<td>54%</td>
<td>51%</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Political Orientation</strong></td>
<td>3.83 (1.08)</td>
<td>4.12 (1.26)</td>
<td>3.83 (1.21)</td>
<td>4.36 (1.14)</td>
</tr>
<tr>
<td><strong>Education Level</strong></td>
<td>69% bachelor’s degree</td>
<td>53% some college</td>
<td>36% high school</td>
<td>22% college</td>
</tr>
<tr>
<td>Household Income</td>
<td>42% 60,000-96,000 rmb</td>
<td>35% more than 50,000 mil COL peso</td>
<td>24% 10,000 - 29,999 euro</td>
<td>29% 10,000 - 19,999 euro</td>
</tr>
<tr>
<td>Social Ladder (9 = top)</td>
<td>5.62 (1.53)</td>
<td>4.95 (1.79)</td>
<td>5.56 (1.80)</td>
<td>5.26(1.61)</td>
</tr>
<tr>
<td>Foreign language proficiency</td>
<td>42% elementary</td>
<td>50% no</td>
<td>36% elementary</td>
<td>25% limited</td>
</tr>
<tr>
<td>Foreign country lived (%)</td>
<td>92.30%</td>
<td>80.60%</td>
<td>82.20%</td>
<td>77.60%</td>
</tr>
<tr>
<td>Has passport (%)</td>
<td>47.60%</td>
<td>56.10%</td>
<td>32.10%</td>
<td>39.90%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basic demographics cont</th>
<th>Guatemala (GT)</th>
<th>Japan (JP)</th>
<th>United Kingdom (UK)</th>
<th>United States (US)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>35 (12)</td>
<td>46 (14)</td>
<td>48 (17)</td>
<td>47 (16)</td>
</tr>
<tr>
<td>Gender (% female)</td>
<td>44%</td>
<td>49%</td>
<td>52%</td>
<td>53%</td>
</tr>
<tr>
<td><strong>Political Orientation</strong></td>
<td>3.63 (1.28)</td>
<td>3.03 (1.10)</td>
<td>3.72 (1.25)</td>
<td>3.47 (1.45)</td>
</tr>
<tr>
<td><strong>Education Level</strong></td>
<td>45% some college</td>
<td>45% bachelor’s degree</td>
<td>31% some college</td>
<td>34% bachelor’s degree</td>
</tr>
<tr>
<td>Household Income</td>
<td>29% less than Q10,000</td>
<td>20% 4 - 6 million yen</td>
<td>35% 10,000 - 29,999 pound</td>
<td>26% 50,000 - 79,999 US dollar</td>
</tr>
<tr>
<td>Social Ladder (9 = top)</td>
<td>5.21 (1.73)</td>
<td>5.31 (1.60)</td>
<td>5.12 (1.75)</td>
<td>5.49 (1.93)</td>
</tr>
<tr>
<td>Foreign language proficiency</td>
<td>39% no</td>
<td>60% no</td>
<td>58% no</td>
<td>68% no</td>
</tr>
<tr>
<td>Foreign country lived (%)</td>
<td>78.30%</td>
<td>92.50%</td>
<td>76.30%</td>
<td>82.90%</td>
</tr>
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<td>42.60%</td>
<td>54.60%</td>
<td>17.10%</td>
<td>46.80%</td>
</tr>
</tbody>
</table>

**Note.** Continuous variables are represented with mean and standard deviation. Categorical variables are represented with the mode summaries.
Multiple regressions - donations

(y) demographics

(z) utilitarianism

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Multiple regressions - trolley

() demographics

() utilitarianism
Linguistic model: Attention LSTM NN

both
are
Important

14 Lin et al., 2017 ICLR

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Linguistic model: Attention LSTM NN

1. text to number

both [0.73, 0.45, 0.09]  
are [0.11, 0.13, 0.00]  
important [0.5, 0.5, 0.97]

---

Lin et al., 2017 ICLR

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Main findings preview
Linguistic model: Attention LSTM NN

2. keep sequential information

"Hidden State" $H$

$\mathbf{h}_0 \rightarrow \mathbf{h}_1 \rightarrow \mathbf{h}_2 \rightarrow \mathbf{h}_3$

14 Lin et al., 2017 ICLR
Linguistic model: Attention LSTM NN

Say, $H$ $n$ by $2u$

$H^T$ $2u$ by $n$.

Lin et al., 2017 ICLR

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Linguistic model: Attention LSTM NN

\[ W_{si} H^T \quad d_t \times 2u - 2u \times n \quad \text{tanh} \left( W_{si} H^T \right) \quad \text{nonlinearity} \]

Updated vector
Linguistic model: Attention LSTM NN

\[ W_s \tanh (W_s H^T) \]

\[ \text{softmax} [0, 1] \]

\[ 1 \times d_a \cdot d_a \times n \]

\[ \text{Attention weight} \cdot \xi \]

Lin et al., 2017 ICLR

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Moral Cosmopolitanism

Main findings preview
4. \[ A = \text{softmax} \left( W_s^2 \tanh \left( W_s^1 H^T \right) \right) \]

\[ M = A \cdot H \]

↑

updated vector, inculding

Attention weights

+ Hidden state weights
Linguistic model: Attention LSTM NN

\[ M = A \cdot H \]
\[ r \cdot u \n \cdot 2u \]
\[ r \cdot u \]
\[ \text{flatten} \]
\[ 2u, 2u, \ldots 2u \]
\[ 2u \cdot r \]
\[ 1 \cdot 2u \times 2u \cdot 2 = 1 \times 2 \]

Fully connected

predicted = \[ [0.7, 0.3] \]
truth = \[ [1, 0] \]

\[
\text{minimize}
\]
Cosmo nudge

- I think that anyone in the world has the right to education, it is something similar to food, so it must be donated in equal parts to both organizations.
- I believe everyone should have the same opportunity to earn a quality education, both in the US and all over the world. I would like to see other countries flourish and improve.
- There is an immediate need for education worldwide especially for women and children living in impoverished countries.
- Worldwide many students especially GIRLS cannot get an education any other way...
- Education is of paramount importance, both here and abroad.
- I chose to donate half of the money to Teach for All because I think international education needs more help. Though I am keenly aware of the educational issues in America, I think that the world problem is much larger and needs more help.
- I think providing education across world is important rather than just America.
- Because the first [organization] acts globally and that includes America.
I think we should help our own first then broaden the scope.

need to help our own country first.

We need to take care of our own people and stop help[ing] the world - our country needs help for our children.

I believe we should help Americans first.

While I would like to support children in other countries, domestic issues are a priority for me.

While education is needed throughout the world, we need to remember that our USA children are in need also.

I think education opportunities should begin at home in America. However, I do recognize the need for assistance in other countries as well.

Education is good for everyone but more should be put at home.
### Additional analysis for cognitive experiments

<table>
<thead>
<tr>
<th></th>
<th>$\hat{f}$</th>
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<tbody>
<tr>
<td>Cosmo concept</td>
<td>.118 (.019)***</td>
</tr>
<tr>
<td>Thinking style</td>
<td>.004 (.019)</td>
</tr>
<tr>
<td>Extreme cosmo</td>
<td>.100 (.060)</td>
</tr>
<tr>
<td>Extreme patriot</td>
<td>.168 (.032)***</td>
</tr>
<tr>
<td>Moderate</td>
<td>.118 (.019)***</td>
</tr>
<tr>
<td>Out-of-domain</td>
<td>.104 (.020)***</td>
</tr>
<tr>
<td>Equitable benefits</td>
<td>.099 (.007)***</td>
</tr>
<tr>
<td>Equitable security</td>
<td>.038 (.009)***</td>
</tr>
<tr>
<td>Political orientation</td>
<td>.022 (.006)***</td>
</tr>
</tbody>
</table>

**Table:** Additional analysis for study 4