



Giving the Future a Chance

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Wise Intertemporal Decisions are Hard

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- Time delays
 - Introduce risk and ambiguity
 - Result in abstract construal that lacks visceral quality
- Intra- and interpersonal distance
 - Obesity epidemic
 - Insufficient pension savings
- Collective action complications for
 - Infrastructure investments
 - Pro-environmental action



Immediate Consumption Frequently the Status Quo
→ Status Quo Bias

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“WHEN OUR CHILDREN'S CHILDREN LOOK US IN THE EYE AND ASK IF WE DID ALL WE COULD TO LEAVE THEM A SAFER, MORE STABLE WORLD, WITH NEW SOURCES OF ENERGY, I WANT US TO BE ABLE TO SAY YES, WE DID.”
—BARACK OBAMA, JANUARY 2014

How to Give the Future a Chance?

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- Cognitive interventions
 - Make future-benefits the default option
 - Query theory: Weber et al., *Psychological Science*, 2007
 - Concretize future self
 - (Bartels & Urminsky, 2011; Hershfield, Goldstein, Sharpe, 2011)

 - Motivational interventions
 - Induce mortality salience
 - (Wade-Benzoni et al., 2012)
 - Prime legacy motives
 - Zaval, Markowitz, Weber, *Psychological Science*, 2014
 - Priming a long & good past that appears to be mirrored into the future
 - Hershfield, Bang, Weber, *Psychological Science*, 2014
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How to Give the Future a Chance? Part 1

(Johnson et al, 2007; Weber et al., 2007)

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■ Query Theory

- Judgment and choice tasks involve (implicit) generation of arguments for different courses of action (*queries*)
 - “arguing with yourself”
 - Queries issued sequentially
 - Normatively inconsequential variations in context influence *order* of queries
 - Query order matters
 - lower recall success for later queries
-

„Delay“:

Typical *default*: immediate-benefit option

amazon.com.

Assigned to get:

\$ 58.30

today



Can change to:

\$ 72.90

2 weeks



„Accelerate“:

Possible to assign future-benefit option as choice default

amazon.com.

Assigned to get:

\$ 72.90

2 weeks



Can change to:

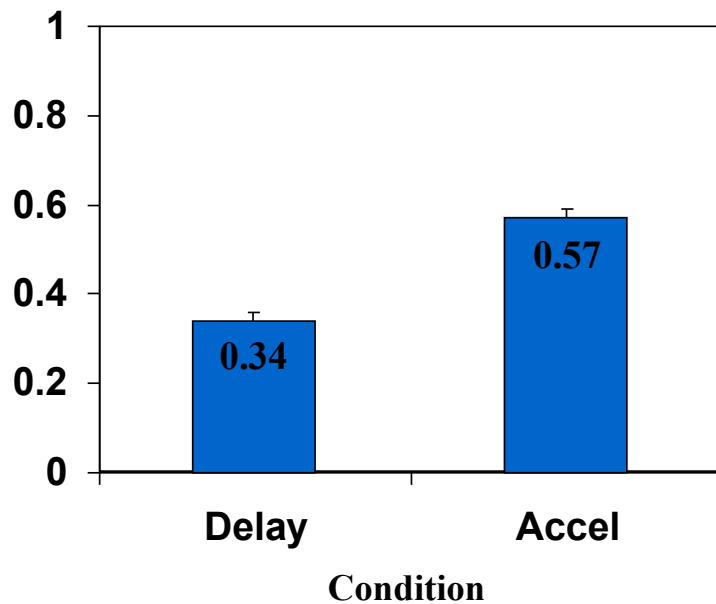
\$ 65.40

today

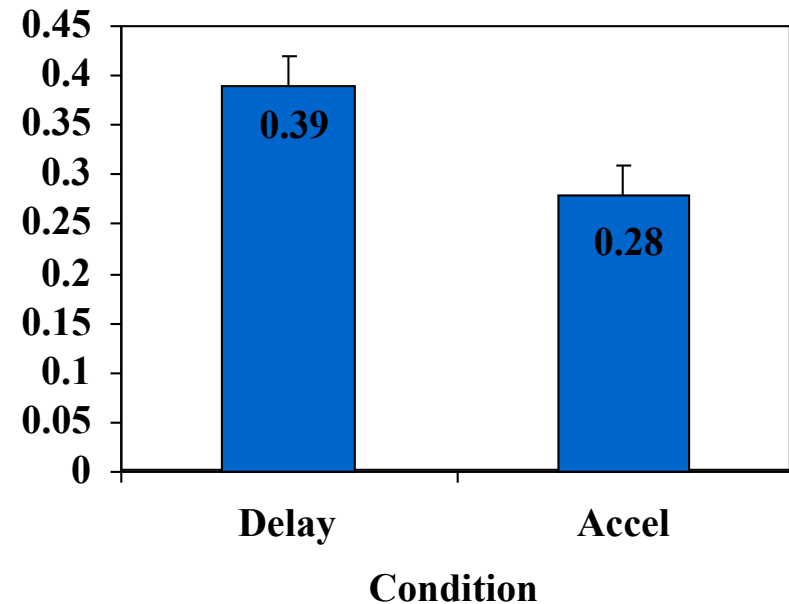


Results, Study 1

Weber, Johnson et al., *Psych Sci*, 2007)

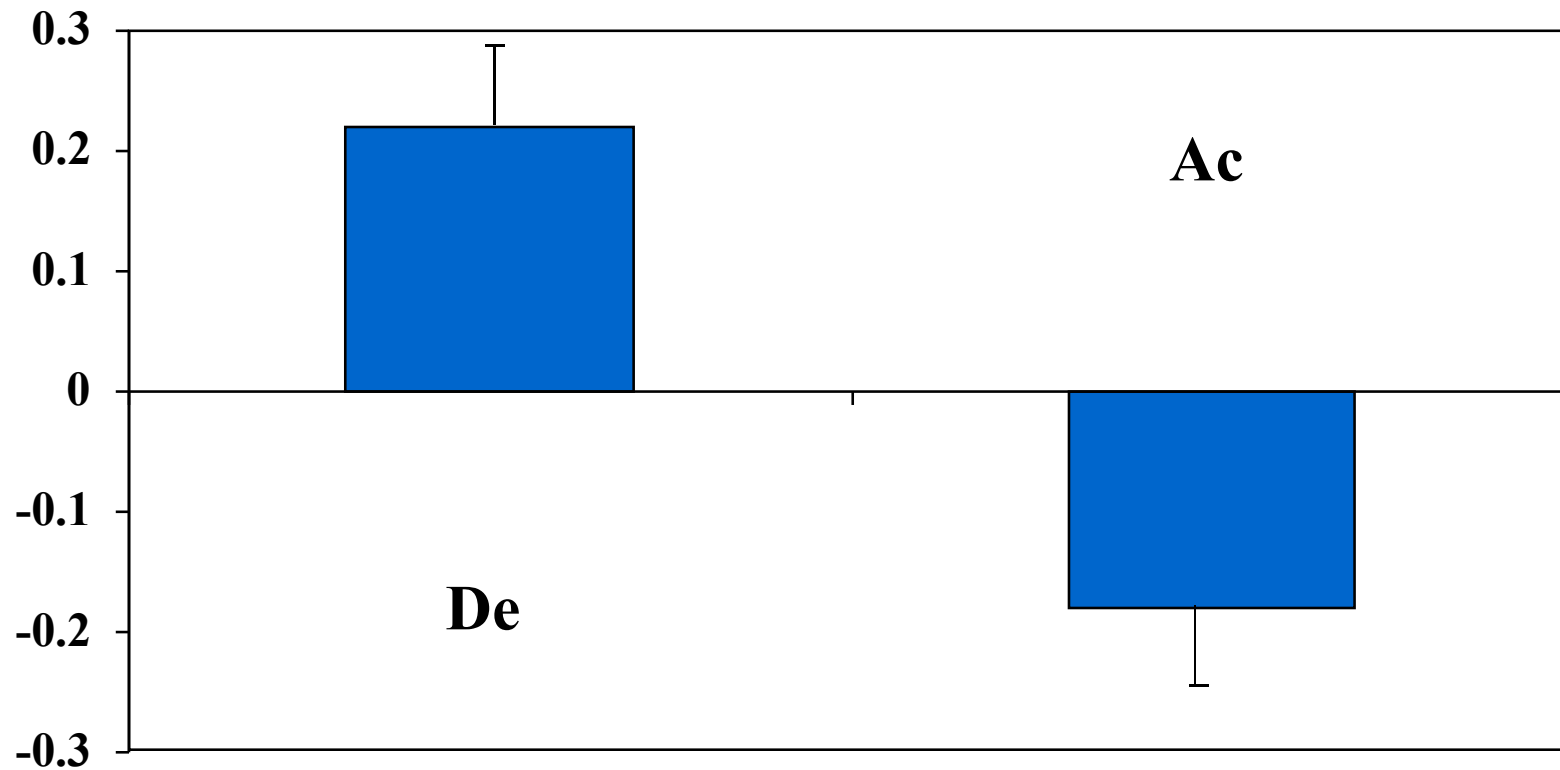


**Discount
Factor differs
 $p < 0.0001$**



**Prop. of Impatient
Aspects Differs
 $p < 0.05$**

Result – Aspect Clustering

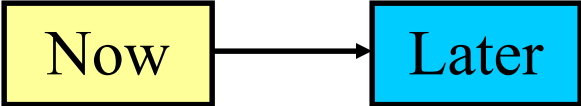
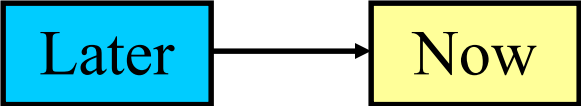
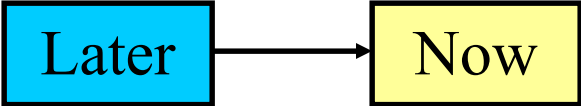
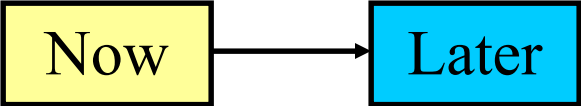


$p < 0.01$

Rationale for Experiment 2

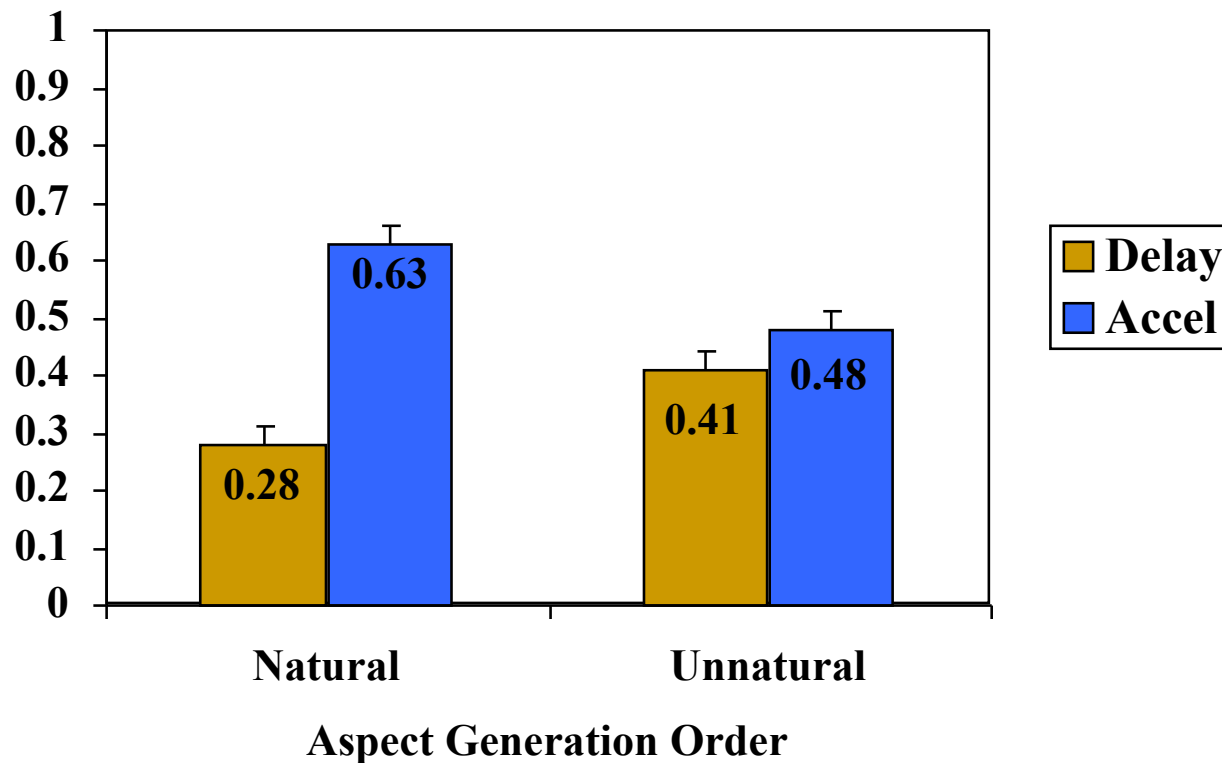
- Can asymmetry in discounting under the two frames be reduced or eliminated by reversing the natural order of queries?

Aspect Generation Order

	Natural order	Unnatural order
Delay		
Accel		

Study 2 “unnatural” order makes the asymmetry disappear

Discount Factor



Making the “Future Option” the Default Works for Environmental Decisions

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- CFL vs. incandescent bulbs
 - Dinner, Johnson, Goldstein, Liu, 2011
- Green vs. brown electricity sources
 - Pitchert& Katsikopoulos, 2008

How to Give the Future a Chance? Part 2

Zaval, Markowitz & Weber, *Psych Science*, 2015

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- **Legacy motivation** favors pro-social, intergenerational action (Wade-Benzoni, Tost, Hernandez, Larrick, 2012)
 - Legacy motives and climate change action?
 - Two studies, Mturk, n=245 and 312
 - New 3-item metric, based on Loyola Generativity Scale ($\alpha = .82$)
 - *"It is important to me to leave a positive legacy"*
 - *"It is important for me to leave a positive mark on society"*
 - *"I care about what future generations think of me"*
 - Study 1 provides correlational evidence
 - Study 2 provides causal evidence
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Study 1

Zaval, Markowitz & Weber, *Psych Science*, 2015

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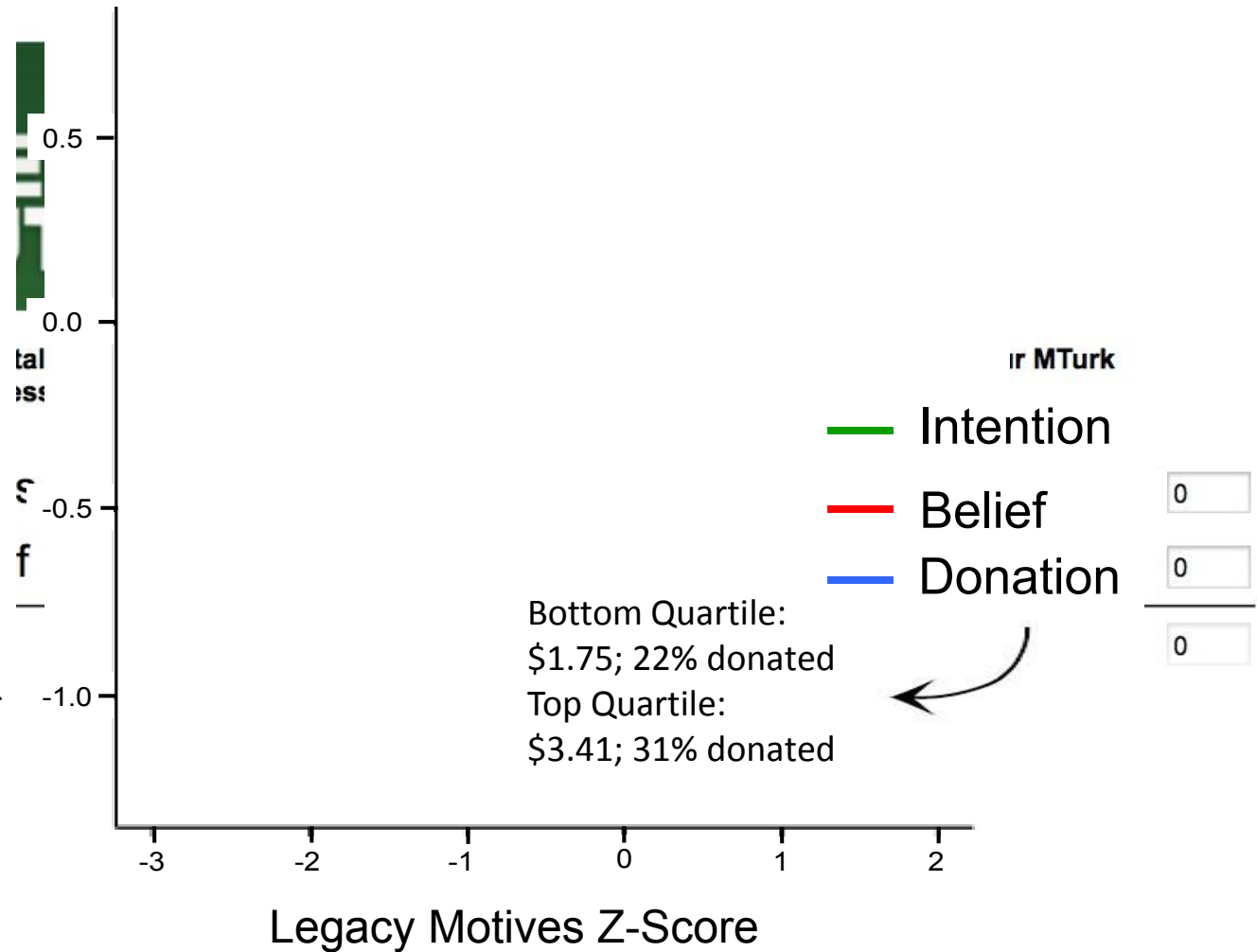
Please note that if you receive compensation for this study, you will be asked to donate to charity.

Donate to charity

Keep for myself

Total

Belief, Intention and Donation Z-Score



- Study 2
- Manipulate accessibility of legacy motives to enhance environmental action

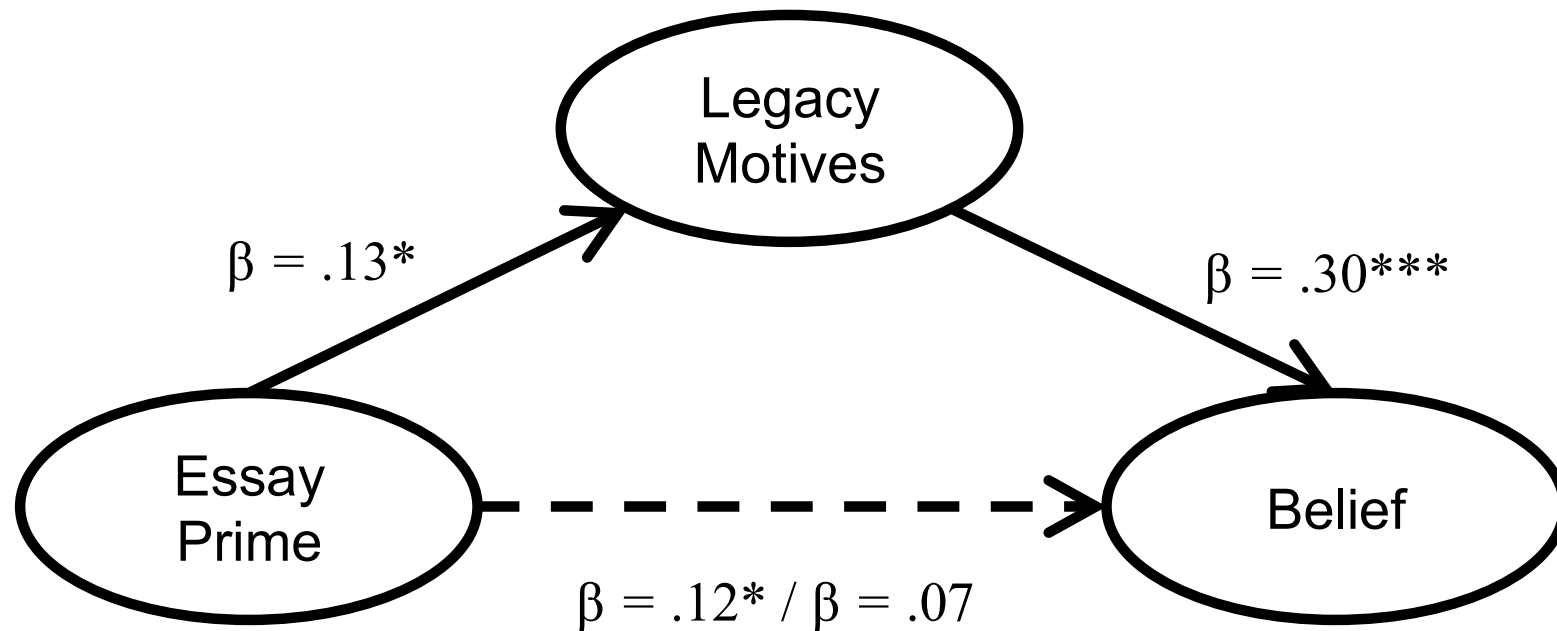
What do you want to be remembered for?

For this writing task, we would like you to think about what you want future generations to remember you for when you're gone. In answering this question, you might think about ways in which you will have a positive impact on other people, skills or knowledge you will teach others, or aspects of your personality that you would like to be remembered for. In the space below, please **write a brief essay** describing your response to this question and try to be as honest as you can be.

Study 2: Effect of legacy induction

Zaval, Markowitz & Weber, *Psych Science* (2015)

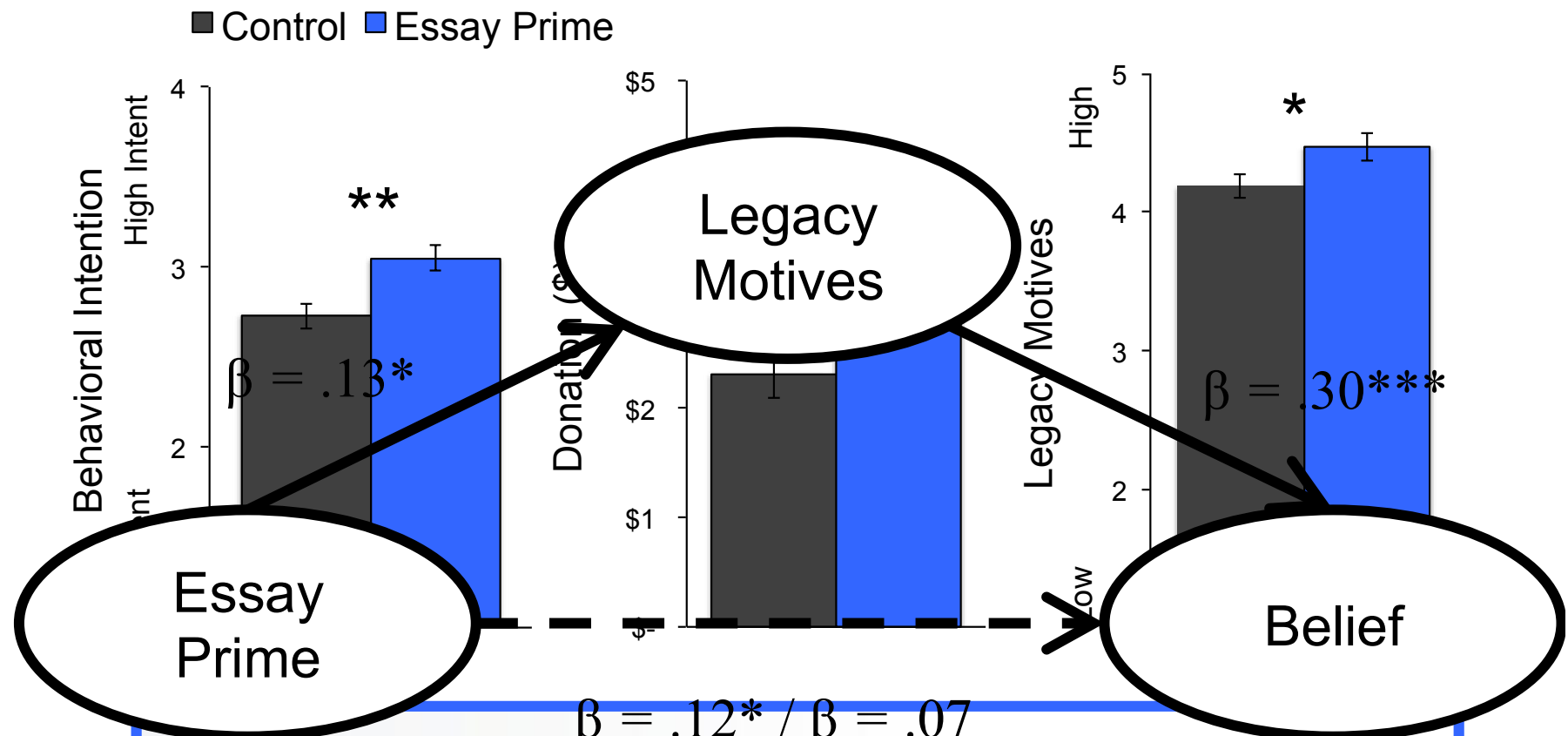
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β = standardized coefficients

Sobel $z = 2.33, p < .05$

Indirect effect of legacy prime on belief: (CI = [0.01-0.09], $p = .029$)
Intent: $F(309) = 3.17, p = .002$; Donation: $F(1,309) = 8.79, p = .003$; Belief: $F(1,309) = 4.08, p = .040$
Legacy: $F(309) = 5.64, p = .018$



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β = standardized coefficients

Indirect effect of legacy prime on belief (Cly = 0.01, β = .03, p = .029)

Priming a long past

Part 3

Hershfield, Bang, Weber, *Psych Sci*, 2014

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- “The longer you can look back, the farther you can look forward” Churchill, 1944

 - Gott’s (1993) principle
 - Best estimate of future duration of an entity is its past duration

 - Environmental action
 - tradeoffs between current costs and future benefits (Wade-Benzoni, 2002)
-

Study 1:

Correlational Evidence at Country Level

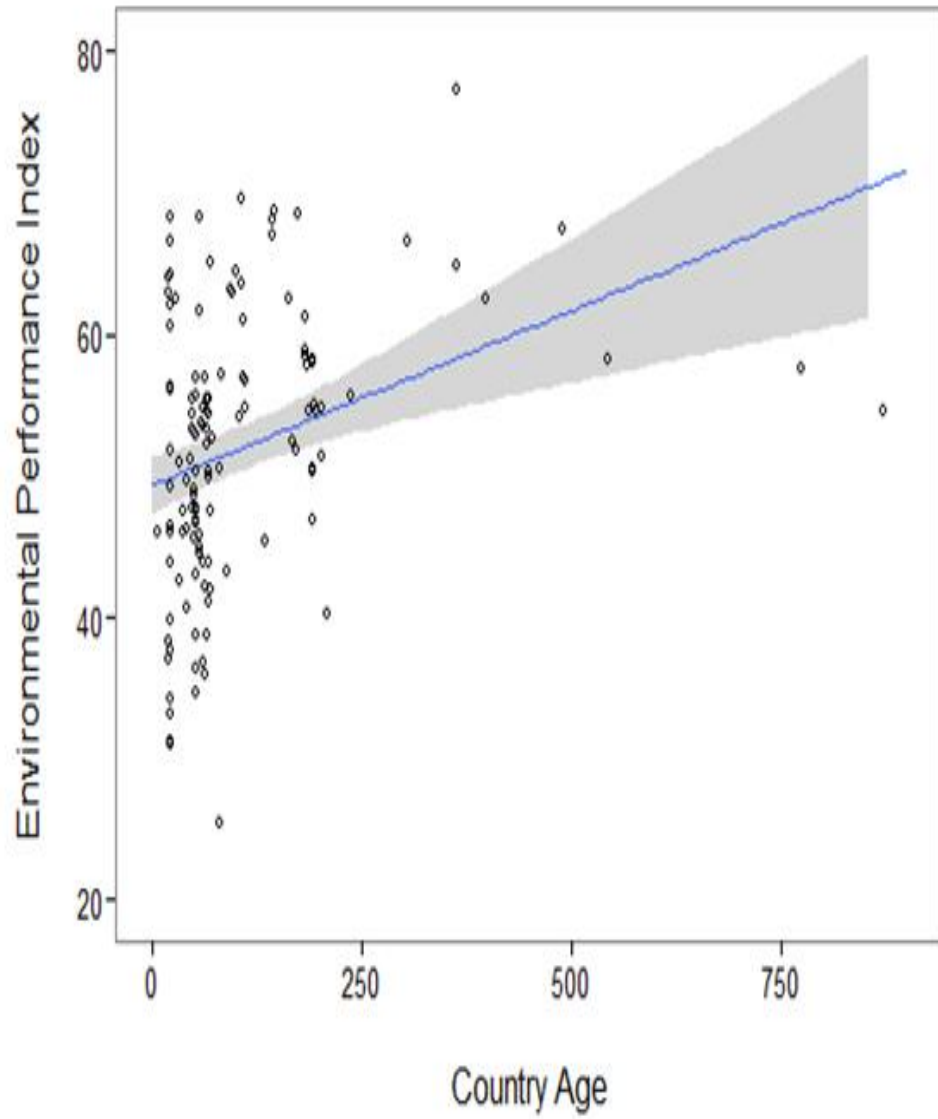
20

- Environmental Performance Index (EPI)
 - Yale U: 10 categories of environmental health and ecosystem vitality

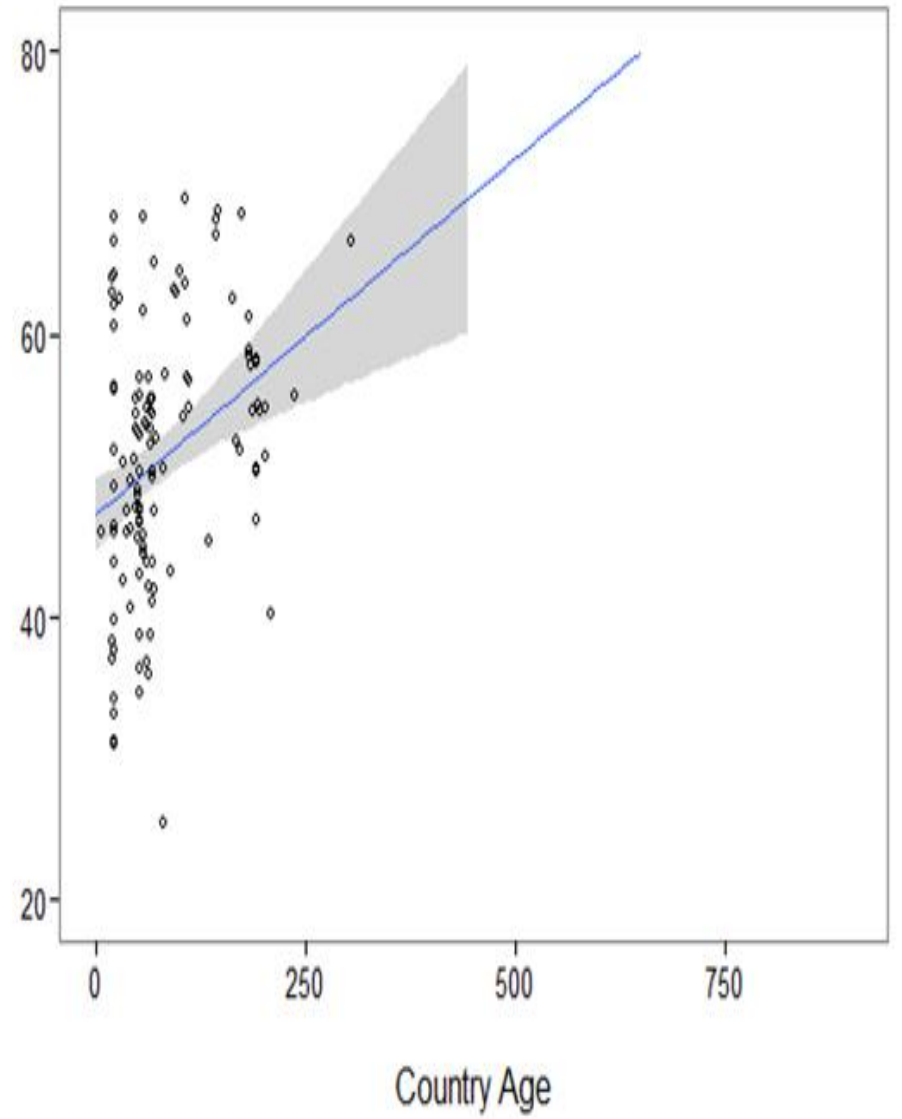
 - Country age
 - CIA World Factbook, for 131 countries

 - Covariates
 - GDP and Worldwide Governance Index (World Bank)
-

(A)



(B)



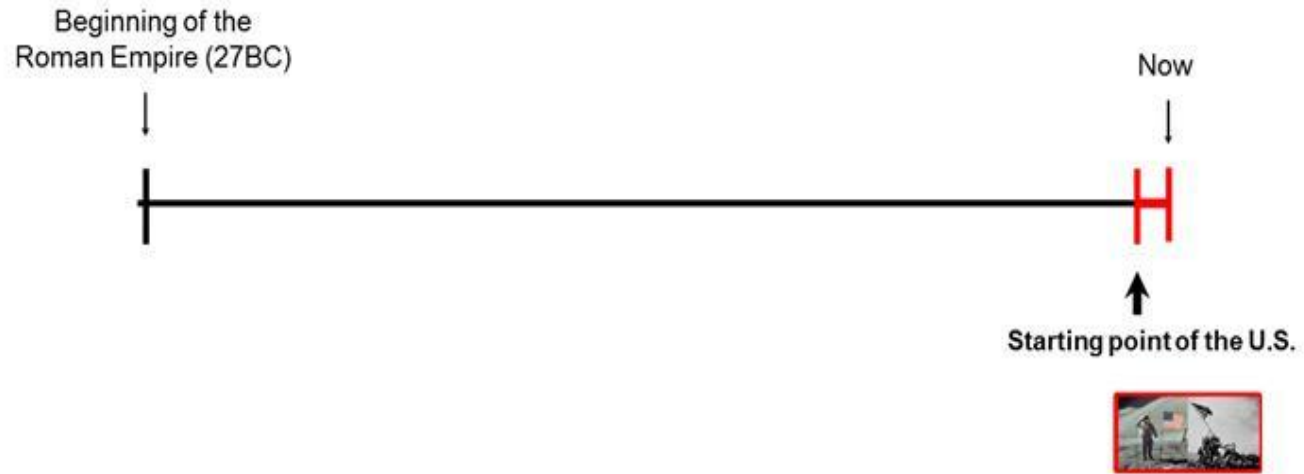
Study 2:

Causal Evidence at Individual Level

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- N = 499
 - Young-US vs. Old-US condition
 - DV = willingness to invest in environment
 - actual donation to NGO
 - Moderator
 - Closeness to Future Generations
 - Inclusion of others in self (Aron et al, 1992)
 - Future self continuity scale (Ersner-Hershfield et al, 2009)
-

(A) Young U.S. Condition



(B) Old U.S. Condition



Study 2:

Causal Evidence at Individual Level

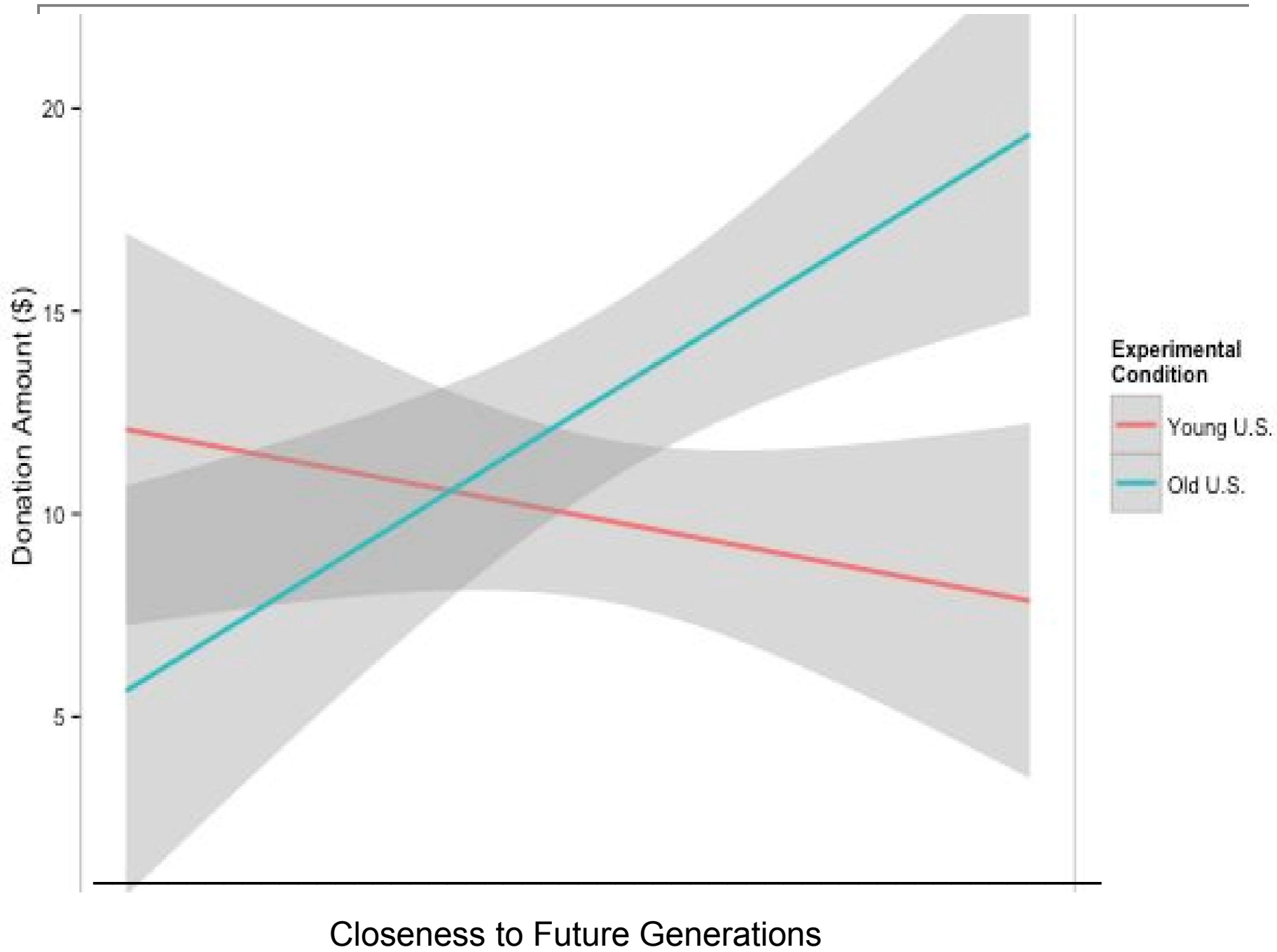
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-

Results

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- Effect of condition on donation
 - \$13.13 for old-US vs. \$9.84 for young-US
 - Interaction between condition and closeness to future generations
-



Conclusions

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- Future *can* be made more salient
 - Interventions often “signposts” not nudges
 - Ungemach, Camilleri, Johnson, Larrick, Weber, 2015
 - Multiple mechanisms
 - Cognitive
 - Motivational
 - Multiple tools
 - Future-option as default
 - Legacy goal activation
 - Creating a long(er) past as a mirror
 - Which tools work through which mechanisms?
 - What are best ensembles for choice architecture interventions?
-

Thank You

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Communicating Uncertainty Project



Center for Research on
Environmental Decisions



Center for Decision Sciences
Columbia Business School
