

Support document for:

“Why Do People Tend to Infer *Ought* from *Is*? The Role of Biases in Explanation”

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Note: Only key variables of interest are described below; identifying information has been removed (e.g., ip address, date of birth). If you need any additional information or clarifications about the relevant datasets, please contact Christina Tworek (ctworek2@illinois.edu).

STUDIES 1, 2, & 4 (ADULTS)

Variable	Description and relevant codes
excluded	1= Excluded; 0= Not Excluded
gender	1= Male; 2=Female
educ	Education Level; [1 = Less than high school; 2= High school/GED; 3= Some college; 4= Bachelor's (B.A., B.S.); 5=Master's (M.A., M.S.); 6 = Doctoral (Ph.D., J.D., M.D.)]
income	What is your yearly household income?
relig	What is your religious affiliation?
ethnic	What is your racial or ethnic identity?
age	What is your age in years?
conserv	Conservatism; How would you describe your political attitudes? [1 =Strongly liberal; 5= Moderate; 9= Strongly conservative]
english	Please rate your overall ability in the English language [1 = Native [learned from birth]; 2 = Not native, but fully competent in speaking, listening, reading, and writing; 3= Limited but adequate competence in speaking, reading, and writing]
attention	You will not be penalized for your answer to this question. Since you completed the whole survey, you will receive payment no matter what answer you give here. It is very important to the quality and scientific aims of our study that participants pay attention [i.e., read the survey carefully, consider the response options, and avoid distractions]. Were you paying attention while completing this survey? [1= Yes; 2=No]

STUDY 1 (ADULTS)

rpmsum	Number of Correct Items on Raven's Progressive Matrices [includes rpm1-rpm12; 1= correct, 0= incorrect for each item]
inhav	Average of items from Inherence Bias Measure [includes ih01stop, ih01stop, ih02beds, ih03diamon, ih04dollar, ih05chipmu, ih06oj, ih07pink, ih08white, ih09black, ih10mint, ih117days, ih12weeken, ih13limbs, ih14eyes, ih15sounds; items scored on 1 to 9 scale]
shouldav	Average of answers to the "should" questions from the Ought Measure [includes shouldemail, shouldpizza, shouldtv; items scored on a 1 to 9 scale]
goodav	Average of answers to the "good" questions from the Ought Measure [includes goodcoffee, goodfootball, goodwork; items scored on a 1 to 9 scale]
oughtav	Average of items in Ought Measure [includes goodcoffee, goodfootball, goodwork, shouldemail, shouldpizza, shouldtv]
bjwav	Average of items in Belief in a Just World Scale [includes bjw1-bjw17; items scored on a 1 to 9 scale; see below for reverse scored items]
ih01stop	We use red in traffic lights to mean "stop" because of something about the color red or about stop lights—maybe the color red inherently acts as a warning.
ih02beds	Parents and children sleep in different beds because of something about the parentchild relationship or about the act of sleeping in separate beds—maybe one of the critical components of the parentchild relationship is teaching children independence.
ih03diamon	Engagement rings typically have diamonds because of something about engagement rings or about diamonds—maybe diamonds' rarity and value is a match for the value of romantic love.
ih04dollar	Dollar bills are green because of something about dollar bills or about the color green—maybe since green is the color of trees it symbolizes endurance and trust and thus was chosen for money.
ih05chipmu	We don't keep chipmunks as pets because of something about chipmunks or about pets—maybe because chipmunks don't like to be picked up or held.
ih06oj	We drink orange juice for breakfast because of something about orange juice or about breakfast— maybe the citrus aroma is refreshing and helps us to wake up.
ih07pink	Pink is the color associated with girls because of something about the color pink or about girls— maybe because pink's flowerlike appearance matches girls' dainty nature.
ih08white	Wedding dresses are white because of something about the color white or about wedding dresses—maybe because the untainted nature of white reminds people

	of pure love.
ih09black	Black is associated with funerals because of something about the color black or about funerals—maybe because the darkness of black conveys how people feel at funerals.
ih10mint	Toothpaste is flavored with mint because of something about toothpaste or about mint—maybe the tingling sensation of mint makes one's teeth and gums feel extra clean.
ih117days	There are 7 days in a week because of something about the quantity of 7 days or about the week as a marker of time—maybe the week is meant to align with phases of the moon, which are about 7 days long.
ih12weeken	Weekends consist of Saturday and Sunday because of something about weekends or about Saturday and Sunday—maybe Saturday and Sunday are holy days for many people, so people wouldn't be able to work.
ih13limbs	Intelligent organisms on Earth have 2 arms and 2 legs because of something about intelligent organisms or about having 2 arms and 2 legs—maybe having 2 arms and 2 legs is the perfect balance between tool use and locomotion for intelligent organisms.
ih14eyes	Intelligent organisms on Earth have eyes and ears because of something about intelligent organisms or about eyes and ears—maybe eyes and ears work well for perceiving the world.
ih15sounds	Intelligent organisms on Earth communicate through sound because of something about intelligent organisms or about communicating through sounds—maybe communicating through sound allows intelligent organisms to communicate over longer distances or while engaged in other activities.
ihc1	This item was designed to assess whether participants are paying attention while filling out the survey. Please click on the number three below to indicate that you are in fact paying attention.
ihc2	This item was designed to assess whether participants are paying attention while filling out the survey. Please click on the number seven below to indicate that you are in fact paying attention.
rpm1	Correct Answer = 7
rpm2	Correct Answer = 1
rpm3	Correct Answer = 3
rpm4	Correct Answer = 6
rpm5	Correct Answer = 2
rpm6	Correct Answer = 2

rpm7 Correct Answer = 1

rpm8 Correct Answer = 5

rpm9 Correct Answer = 4

rpm10 Correct Answer = 2

rpm11 Correct Answer = 6

rpm12 Correct Answer = 5

* below indicates reversed scoring

bjw1 I've found that a person rarely deserves the reputation he has. *

bjw2 Basically, the world is a just place.

bjw3 People who get lucky breaks have usually earned their good fortune.

bjw4 Careful drivers are just as likely to get hurt in traffic accidents as careless ones. *

bjw5 It is a common occurrence for a guilty person to get off free in American courts.*

bjw6 Students almost always deserve the grades they receive in school.

bjw7 Men who keep in shape have little chance of suffering a heart attack.

bjw8 The political candidate who sticks up for his principles rarely gets elected. *

bjw9 It is rare for an innocent man to be wrongly sent to jail.

bjw10 In professional sports, many fouls and infractions never get called by the referee.
*

bjw11 By and large, people deserve what they get.

bjw12 When parents punish their children, it is almost always for good reasons.

bjw13 Good deeds often go unnoticed and unrewarded. *

bjw14 Although evil men may hold political power for a while, in the general course of history good wins out.

bjw15 In almost any business or profession, people who do their job well rise to the top.

bjw16 American parents tend to overlook the things to be most admired in their children. *

bjw17 It is often impossible for a person to receive a fair trial in the USA. *

bjw18 People who meet with misfortune have often brought it on themselves.

bjw19 Crime doesn't pay.

bjw20 Many people suffer through absolutely no fault of their own. *

goodcoffee	Do you think that it's good that so many Americans drink coffee?
goodfootball	Do you think that it's good that so many Americans watch football?
goodwork	Do you think that it's good that so many Americans drive to work?
shouldemail	Do you think it should be that so many Americans use email?
shouldpizza	Do you think it should be that so many Americans eat pizza?
shouldtv	Do you think it should be that so many American households own a TV?

STUDY 2 (ADULTS)

oughtcatch1	For this question, please select somewhat agree below to indicate that you are paying attention. (1 [strongly agree] to 7 [strongly disagree] scale)
oughtcatch2	For this question, please select strongly disagree below to indicate that you are paying attention. (1 [strongly agree] to 7 [strongly disagree] scale)
ihcatch1	Intelligent organisms on Earth fully pay attention when taking surveys—because of something about intelligent organisms or about taking surveys—maybe paying attention allows intelligent organisms to contribute to research productively. For this item can you please choose choice five?
ihcatch2	Intelligent organisms on Earth fully pay attention when taking surveys because of some historical or contextual reason— maybe because taking surveys became a popular way to make money with the rise of technology over time. For this item can you please choose choice three?
ext01stop	We use red in traffic lights to mean "stop" because of some historical or contextual reason—maybe the color was arbitrarily assigned to this meaning a long time ago and we simply continued using it since.
ext02beds	Parents and children sleep in different beds because of some historical or contextual reason—maybe it became popular to sleep in separate beds when wealthy people began to have nannies who would watch children at night.
ext03diamon	Engagement rings typically have diamonds because of some historical or contextual reason—maybe some marketing campaigns from the past are responsible for the association of diamonds with romantic love.
ext04dollar	Dollar bills are green because of some historical or contextual reason—maybe green dyes were plentiful and cheap when dollar bills were first made and then the tradition just continued.
ext05chipmu	We don't keep chipmunks as pets because of some historical or contextual reason—maybe because they happened to be absent from the geographical areas where humans started to domesticate animals thousands of years ago.
ext06oj	We drink orange juice for breakfast because of some historical or contextual reason—maybe because orange growers a long time ago promoted orange juice for breakfast in an effort to sell more oranges.
ext07pink	Pink is the color associated with girls because of some historical or contextual reason—maybe because businesses promoted pink products for girls over the last century.

ext08white	Wedding dresses are white because of some historical or contextual reason—maybe because someone famous wore a white wedding dress, which started a trend that continues to this day.
ext09black	Black is associated with funerals because of some historical or contextual reason—maybe because an ancient people originated the practice for some idiosyncratic reason and then spread it to many parts of the world.
ext10mint	Toothpaste is flavored with mint because of some historical or contextual reason—maybe because mint was cheap and readily available in the US at the time modern toothpaste began being made.
ext117days	There are 7 days in a week because of some historical or contextual reason—maybe because ancient calendar-makers happened to pick this number and then the convention just continued.
ext12weeken	Weekends consist of Saturday and Sunday because of some historical or contextual reason—maybe because the labor movement of the early 20th century made a push for more free time for workers.
ext13limbs	Intelligent organisms on Earth have 2 arms and 2 legs because of some historical or contextual reason—maybe because the animals they just happened to evolve from had similar appendages.
ext14eyes	Intelligent organisms on Earth have eyes and ears because of some historical or contextual reason—maybe because of some of the randomness of evolution, which means that other sensory organs would have been just as effective.
ext15sounds	Intelligent organisms on Earth communicate through sound because of some historical or contextual reason—maybe because the Earth's atmosphere just happens to support far-reaching sound transmission.
ih01stop	We use red in traffic lights to mean "stop" because of something about the color red or about stop lights—maybe the color red inherently acts as a warning.
ih02beds	Parents and children sleep in different beds because of something about the parentchild relationship or about the act of sleeping in separate beds—maybe one of the critical components of the parentchild relationship is teaching children independence.
ih03diamon	Engagement rings typically have diamonds because of something about engagement rings or about diamonds—maybe diamonds' rarity and value is a match for the value of romantic love.
ih04dollar	Dollar bills are green because of something about dollar bills or about the color green—maybe since green is the color of trees it symbolizes endurance and trust and thus was chosen for money.

ih05chipmu	We don't keep chipmunks as pets because of something about chipmunks or about pets—maybe because chipmunks don't like to be picked up or held.
ih06oj	We drink orange juice for breakfast because of something about orange juice or about breakfast— maybe the citrus aroma is refreshing and helps us to wake up.
ih07pink	Pink is the color associated with girls because of something about the color pink or about girls— maybe because pink's flowerlike appearance matches girls' dainty nature.
ih08white	Wedding dresses are white because of something about the color white or about wedding dresses—maybe because the untainted nature of white reminds people of pure love.
ih09black	Black is associated with funerals because of something about the color black or about funerals—maybe because the darkness of black conveys how people feel at funerals.
ih10mint	Toothpaste is flavored with mint because of something about toothpaste or about mint—maybe the tingling sensation of mint makes one's teeth and gums feel extra clean.
ih117days	There are 7 days in a week because of something about the quantity of 7 days or about the week as a marker of time—maybe the week is meant to align with phases of the moon, which are about 7 days long.
ih12weeken	Weekends consist of Saturday and Sunday because of something about weekends or about Saturday and Sunday—maybe Saturday and Sunday are holy days for many people, so people wouldn't be able to work.
ih13limbs	Intelligent organisms on Earth have 2 arms and 2 legs because of something about intelligent organisms or about having 2 arms and 2 legs—maybe having 2 arms and 2 legs is the perfect balance between tool use and locomotion for intelligent organisms.
ih14eyes	Intelligent organisms on Earth have eyes and ears because of something about intelligent organisms or about eyes and ears—maybe eyes and ears work well for perceiving the world.
ih15sounds	Intelligent organisms on Earth communicate through sound because of something about intelligent organisms or about communicating through sounds—maybe communicating through sound allows intelligent organisms to communicate over longer distances or while engaged in other activities.
ihav	Average of "Inherent" items from Inherence Bias Measure [includes ih01stop,ih01stop, ih02beds, ih03diamon, ih04dollar, ih05chipmu, ih06oj, ih07pink, ih08white, ih09black, ih10mint, ih117days, ih12weeken, ih13limbs, ih14eyes, ih15sounds; items scored on 1 to 9 scale]

extav	Average of "Extrinsic" items from Inherence Bias Measure [includes ext01stop, ext02beds, ext03diamon, ext04dollar, ext05chipmu, ext06oj, ext07pink, ext08white, ext09black, ext10mint, ext117days, ext12weeken, ext13limbs, ext14eyes, ext15soundss; items scored on 1 to 9 scale]
diff	Inherence Bias: ihav - extav
crt1	Correct Answer = 2
crt1score	1 = Correct; 0= Incorrect
crt2	Correct Answer = 2.25
crt2score	1=Correct; 0=Incorrect
crt3	Correct Answer = 5
crt3score	1= Correct; 0= Incorrect
crtav	Average score on Cognitive Reflection Test (includes crt1score; crt2score; crt3score)

Below are questions from the Ought Measure in the Typical vs. Atypical Behaviors Manipulation (**0_** indicates *Atypical*; **1_** indicates *Typical*)

should0_1	Should professionals wear clothing that has bright colors or bold patterns?
should0_2	Should people give sweaters as gifts on Valentine's Day?
should0_3	Should people touch elbows when they first meet?
should0_4	Should couples live in the same house as their relatives?
should0_5	Should people stay seated when the national anthem is played?
should0_6	Should people go play video games when they go on dates?
should0_7	Should children address their teachers by their first name?
should0_8	Should doctors wear purple coats?
should0_9	Should people pay money to watch others play video games?
should0_10	Should men and women share the same public bathrooms?
should0_11	Should people celebrate their birthdays by themselves?
should0_12	Should men wear their hair long?
should1_1	Should professionals wear dark-colored clothing?
should1_2	Should people give roses as gifts on Valentine's Day?
should1_3	Should people shake hands when they first meet?
should1_4	Should couples live in a different house than their relatives?

- should1_5** Should people stand when the national anthem is played?
- should1_6** Should people go watch a movie when they go on dates?
- should1_7** Should children address their teachers with “Ms.” “Mrs.” or “Mr.”?
- should1_8** Should doctors wear white coats?
- should1_9** Should people pay money watch others play sports?
- should1_10** Should men and women have separate public bathrooms?
- should1_11** Should people celebrate their birthdays with other people?
- should1_12** Should men wear their hair short?
-
- wrong0_1** Is it wrong or right for professionals to wear clothing that has bright colors or bold patterns?
- wrong0_2** Is it wrong or right for people to give sweaters as gifts on Valentine’s Day?
- wrong0_3** Is it wrong or right for people to touch elbows when they first meet?
- wrong0_4** Is it wrong or right for couple to live in the same house as their relatives?
- wrong0_5** Is it wrong or right for people to stay seated when the national anthem is played?
-
- wrong0_6** Is it wrong or right for people go play video games when they go on dates?
- wrong0_7** Is it wrong or right for children to address their teachers by their first name?
- wrong0_8** Is it wrong or right for doctors to wear purple coats?
-
- wrong0_9** Is it wrong or right for people to pay money to watch others play video games?
-
- wrong0_10** Is it wrong or right for men and women to share the same public bathrooms?
- wrong0_11** Is it wrong or right for people to celebrate their birthdays by themselves?
- wrong0_12** Is it wrong or right for men to wear their hair long?
-
- wrong1_1** Is it wrong or right for professionals to wear dark-colored clothing?
- wrong1_2** Is it wrong or right for people to give roses as gifts on Valentine’s Day?
- wrong1_3** Is it wrong or right for people to shake hands when they first meet?
-
- wrong1_4** Is it wrong or right for couples to live in a different house than their relatives?
- wrong1_5** Is it wrong or right for people to stand when the national anthem is played?
- wrong1_6** Is it wrong or right for people to go watch a movie when they go on dates?
-
- wrong1_7** Is it wrong or right for children address their teachers with “Ms.” “Mrs.” or “Mr.”?

-
- wrong1_8** Is it wrong or right for doctors to wear white coats?
-
- wrong1_9** Is it wrong or right for people to pay money to watch others play sports?
-
- wrong1_10** Is it wrong or right for men and women to have separate public bathrooms?
-
- wrong1_11** Is it wrong or right for people to celebrate their birthdays with other people?
-
- wrong1_12** Is it wrong or right for men to wear their hair short?

STUDY 3 (CHILDREN)

Note: For simplicity, questions below are often described using one fact (e.g., “brides wear white at weddings”), but children were asked questions about a variety of facts. Please see the supplementary materials for a more detailed description of our stimuli.

excluded	0= Not Excluded; 1= Excluded
gender	M = male; F = Female
age	Children’s chronological age at time of test
oughtitem	One of the four facts described in the mock newspaper, listed in order seen by each participant (see supplementary materials) [brides= Brides wear white at weddings; dads= Dads have short hair; money= Money is green; pants= Boys wear pants]
good	Do you think it’s good that brides wear white at weddings? [items scored on a 4-point scale; 1 = “no” to 4 = “really good”]
bad	What if brides did wear yellow to weddings? Would that be bad? [items scored on a 4-point scale; 1 = “no” to 4 = “really bad”]
should	Is that the way that things should be? Brides wearing white? [items scored on a 2-point scale; 0 = “no”, 1 = “yes”]
interest	Do you think it’s interesting that brides wear white to weddings? [items scored on a 4-point scale; 1 = “no” to 4 = “really interesting”]
ihtem	One of the two patterns children were asked about: [birthdaycakes= Birthday cakes have candles; coins= Coins are round]
past	Do you think birthday cakes have always had candles, even way back when the first ever birthday cake was made? Have birthday cakes always had candles? [items scored on a 2-point scale; 0 = “no”, 1 = “yes”]
future	Do you think birthday cakes will always have candles, even way into the future, when the very last birthday cake is made? Will birthday cakes always have candles? [items scored on a 2-point scale; 0 = “no”, 1 = “yes”]
change	Imagine if people wanted birthday cakes to not have candles, and everyone agreed that they wanted birthday cakes to not have candles. Would it be okay to make a change so that birthday cakes don’t have candles, or would it not be okay? [items scored on a 4-point scale; 1 = “okay” to 4 = “really not okay”]
haveto	Ok, so one person said that birthday cakes have candles just because they are birthday cakes. And birthday cakes have to have candles. Is this person right or not right to think that birthday cakes have candles just because they’re birthday

	<p>cakes?</p> <p>[items scored on a 4-point scale; 1 = “really right” to 4 = “really not right”]</p>
donthaveto	<p>Ok, now another person had a different thought. This person said that birthday cakes have candles just because people thought it might be a nice idea. But birthday cakes don’t really have to have candles.</p> <p>Is this person right or not right to think that birthday cakes have candles just because people thought it might be a nice idea?</p> <p>[items scored on a 4-point scale; 1 = “really right” to 4 = “really not right”]</p>
realism	<p>...When people were first coming up with a name for this thing:</p> <p>Could they have called it something else, like “a diby” or “a pearly” OR, did they have to call it “a candle”?</p> <p>[items scored on a 2-point scale; 1 = “had to”; 2 = “something else”]</p>
goodav	Average of children’s answers to the “good” question across items (i.e., brides, pants, money, dads)
badav	Average of children’s answers to the “bad” question across items (i.e., brides, pants, money, dads)
shouldav	Average of children’s answers to the “should” question across items (i.e., brides, pants, money, dads)
isoughtcomp	Composite score computed as an average of items in the Ought Measure [scores converted to a 0 to 1 scale; includes: good, bad, should]
Interestingav	Average of children’s answers to the “Yes” Bias Control question (“interesting”) across items (i.e., brides, pants, money, dads)
stabilityscore	Average of children’s answers to the “past” and “future” questions across items (i.e., birthdaycakes, coins), converted to a 0-1 scale
changescore	Average of children’s answers to the “change” questions across items (i.e., birthdaycakes, coins), converted to a 0-1 scale
havetoscore	Average of children’s answers to the “haveto” questions across items (i.e., birthdaycakes, coins), converted to a 0-1 scale *
donthavetoscore	Average of children’s answers to the “donthaveto” questions across items (i.e., birthdaycakes, coins), converted to a 0-1 scale
realismscore	Average of children’s answers to the “realism” questions across items (i.e., birthdaycakes, coins), converted to a 0-1 scale *
ihcomp	Composite score computed as an average of items in the Inherence Bias Measure [scores converted to a 0 to 1 scale; includes: stability, change, have/donthave, realism]

STUDY 4 (ADULTS)

condition	1= Manipulation; 0= Control
control01words	In most languages, there are specific words or phrases assigned to convey popularly held beliefs or feelings.
control02write	In the US, we generally write from left to right, and top to bottom.
control03comp	Digital computers tend to be the vehicle most often used for transferring and storing information.
control04books	Most books, paper, and money is rectangular in shape.
control05red	Red tends to be the most popular color for conveying feelings of love and passion.
control06toilets	In most homes, toilets and showers are both located in bathrooms.
control07cloth	Clothing that is longer in length (e.g., pants, gowns) is viewed as more formal than clothing that is shorter in length (e.g., shorts, miniskirts)
control08traffic	Modern stop lights--with three colors signaling three different speeds--is a popular way to direct traffic.
control09month	The calendar used most often in modern society is divided into twelve months.
control10flowers	People often give flowers as gifts on a variety of different occasions (e.g., Valentine's Day, funerals).
ihmanip01words	There are absolutely no good reasons why we use specific words to represent our thoughts. Any combination of sounds could in principle refer to any idea.
ihmanip02write	The fact that, in the US, we write from left to right, and top to bottom is simply coincidence. There is nothing ideal about that pattern.
ihmanip03comp	We store and transfer information largely on digital computers just because they happened to be invented at the right time. They're certainly not the optimal vehicles for such tasks.
ihmanip04books	The only reason our paper, money, and books are rectangular is historical happenstance.
ihmanip05red	We use the color red to convey feelings of love and passion entirely because of marketing strategies from the past. Green or brown could easily be used to convey the same feelings.
ihmanip06toilets	Toilets and showers are both placed in bathrooms simply to conserve space. There are no real reasons why they both need to be in the same room.
ihmanip07cloth	The fact that longer clothing (e.g., pants, gowns) is seen as more formal

than shorter clothing (e.g., shorts, miniskirts) is only a convention, and the opposite trend (e.g., shorter = more formal) could've been implemented just as easily.

ihmanip08traffic	The current design of traffic lights, with three different colors reflecting three different speeds, is entirely due to historical factors, and is by no means the most efficient or effective way to manage traffic.
ihmanip09month	There are no meaningful reasons why we divide the calendar year into twelve months. It's simply a historical convention.
ihmanip10flower	We give flowers as gifts for a variety of occasions (e.g., Valentine's Day, funerals) because of effective advertising and marketing by florists--not because flowers effectively convey a variety of sentiments.
agree	Average agreement score for manipulation or control scale, depending on condition [manipulation condition includes items: ihmanip01words, ihmanip02write, ihmanip03comp, ihmanip04books, ihmanip05red, ihmanip06toilets, ihmanip07cloth, ihmanip08traffic, ihmanip09month, ihmanip10flower; control condition includes items: control01words, control02write, control03comp, control04books, control05red, control06toilets, control07cloth, control08traffic, control09month, control10flowers; items scored on 1 to 4 scale; 1= Disagree, 2= Agree somewhat; 3= Agree; 4=Agree very strongly]
ih01stop	It seems natural to use red in a traffic light to mean "stop."
ih02beds	It seems natural for parents and children to sleep in separate beds.
ih03diamon	It seems natural that engagement rings typically have diamonds.
ih04dollar	There are good reasons why dollar bills are green.
ih05chipmu	There are good reasons why we don't keep chipmunks as pets.
ih06oj	There are good reasons why orange juice is typically consumed for breakfast.
ih07pink	It seems right that pink is the color typically associated with girls.
ih08white	It seems right to use white for wedding dresses.
ih09black	It seems right that black is the color associated with funerals.
ih10mint	It seems ideal that toothpaste is typically flavored with mint.
ih117days	It seems ideal that there are 7 days in a week.
ih12weeken	It seems ideal that weekends consist of Saturday and Sunday.
ih13limbs	If intelligent organisms were discovered on another planet, they would probably have 2 arms and 2 legs.

ih14eyes	If intelligent organisms were discovered on another planet, they would probably have eyes and ears.
ih15sounds	If intelligent organisms were discovered on another planet, they would probably communicate through sounds.
ihc1kill	It seems right to kill other people for fun.
ihc2head	It seems natural to stand on one's head.
ihc3hotels	It seems ideal for hotel rooms to have bathrooms.
ihc4reprod	If intelligent organisms were discovered on another planet, they would probably reproduce.
ihav	Average of items from Inherence Bias Measure [includes ih01stop, ih01stop, ih02beds, ih03diamon, ih04dollar, ih05chipmu, ih06oj, ih07pink, ih08white, ih09black, ih10mint, ih117days, ih12weeken, ih13limbs, ih14eyes, ih15sounds; items scored on 1 to 9 scale]
goodcoffee	Do you think that it's good that so many Americans drink coffee?
goodfootball	Do you think that it's good that so many Americans watch football?
goodwork	Do you think that it's good that so many Americans drive to work?
shouldemail	Do you think it should be that so many Americans use email?
shouldpizza	Do you think it should be that so many Americans eat pizza?
shouldtv	Do you think it should be that so many American households own a TV?
shouldav	Average of answers to the "should" questions from the Ought Measure [includes shouldemail, shouldpizza, shouldtv; items scored on a 1 to 9 scale]
goodav	Average of answers to the "good" questions from the Ought Measure [includes goodcoffee, goodfootball, goodwork; items scored on a 1 to 9 scale]
oughtav	Average of items in Ought Measure [includes goodcoffee, goodfootball, goodwork, shouldemail, shouldpizza, shouldtv]

STUDY 5 (CHILDREN)

Note: For simplicity, questions below are often described using one fact (e.g., “brides wear white at weddings”), but children were asked questions about a variety of facts. Please see the supplementary materials for a more detailed description of our stimuli.

excluded	0= Not Excluded; 1= Excluded
gender	M = Male; F = Female
age	Children’s chronological age at time of test
explanorder	Order in which manipulation explanations were presented: AB= inherent/extrinsic BA= extrinsic/inherent
manipitem	One of the four facts for which children were provided a manipulation explanation (i.e., inherent or extrinsic), listed in order seen by each participant (see supplementary materials) [brides= Brides wear white at weddings; dads= Dads have short hair; money= Money is green; pants= Boys wear pants; schoolbuses= School buses are yellow; birthdaycakes= Birthday cakes have candles]
expltype	A= Inherent; B= Extrinsic
good	Do you think it’s good that brides wear white at weddings? [items scored on a 4-point scale; 1 = “no” to 4 = “really good”]
bad	What if brides did wear yellow to weddings? Would that be bad? [items scored on a 4-point scale; 1 = “no” to 4 = “really bad”]
should	Is that the way that things should be? Brides wearing white? [items scored on a 2-point scale; 0 = “no”, 1 = “yes”]
change	Imagine if people wanted brides to not wear white, and everyone agreed that they wanted brides to not wear white. Would it be okay to make a change so that brides don’t wear white, or would it not be okay? [items scored on a 4-point scale; 1 = “okay” to 4 = “really not okay”]
goodav	Average of children’s answers to the “good” question across items (i.e., brides, pants, money, dads, schoolbuses, birthdaycakes)
badav	Average of children’s answers to the “bad” question across items (i.e., brides, pants, money, dads, schoolbuses, birthdaycakes)
shouldav	Average of children’s answers to the “should” question across items (i.e., brides, pants, money, dads, schoolbuses, birthdaycakes)
inhcomp	Composite score computed as an average of items in the Ought Measure in the inherent condition

	[scores converted to a 0 to 1 scale; includes: good, bad, should]
extcomp	Composite score computed as an average of items in the Ought Measure in the extrinsic condition [scores converted to a 0 to 1 scale; includes: good, bad, should]
diff	Inherence Bias: inhcomp - extcomp
changeinh	Average of children's answers to the "change" questions across items (i.e., brides, pants, money, dads, schoolbuses, birthdaycakes), converted to a 0-1 scale
changeext	Average of children's answers to the "change" questions across items (i.e., brides, pants, money, dads, schoolbuses, birthdaycakes), converted to a 0-1 scale
changediff	changeinh - changediff
fun	Do you think it's fun that brides wear white at weddings? [items scored on a 6-point scale; 1 = "really not fun" to 6 = "really fun"]
funav	Average of children's answers to the "Shallow Cues" Control ("fun") questions across items (i.e., brides, pants, money, dads, schoolbuses, birthdaycakes), converted to a 0-1 scale