Supplemental Materials for Obrecht & Chesney (JDM#15811)

This study had a 2(congruency)×2(base-rate-statement)×2(stereotype-statement)×2(statement-structure) mixed-model design.

The six congruent and six incongruent scenarios are below, with the corresponding statements.

Scenarios, shown in black, are shown to all participants.

Stereotype statements, shown in blue, are only shown to participants in stereotype given conditions.

Base-rate statements, shown in red, are only shown to participants in base-rate given conditions.

Explanations, shown in italics, are only shown to participants in the explanation given conditions.

Note, the colors and italics are only used here for clarity. All stimuli were presented to the participants in a standard black font. Possible responses are provided for the first of the six scenarios but follow the same pattern for all statements.

Incongruent

1. In a study, 1000 people were tested. Among the participants there were 4 men and 996 women.

 Pat is a randomly chosen participant of this study. Pat is 23 years old and is finishing a degree in engineering. On Friday nights, Pat likes to go out cruising with friends while listening to loud music and drinking beer.

Sam argues that Pat is very likely to be a man because the person described is finishing a degree in engineering, and likes to go out cruising with friends while listening to loud music and drinking beer. *This description is more likely to fit a random man than a random woman.*

Please rate the value of Sam's argument:
   1 - Extremely Strong
   2
   3
   4
   5
   6
   7 - Extremely Weak

Sal argues that Pat is very likely to be a woman because 996 out of the 1000 people in the sample were women*; thus, the probability of randomly selecting a woman is much higher than the probability of selecting a man.*

Please rate the value of Sal's argument:
   1 - Extremely Strong
   2
   3
   4
   5
   6
   7 - Extremely Weak

Do you think Pat is a man or woman? Please select one of the following:
    1 - Very confident that Pat is a man
    2 - Moderately confident that Pat is a man
    3 - Slightly confident that Pat is a man
    4 - Slightly confident that Pat is a woman
    5 - Moderately confident that Pat is a woman
    6 - Very confident that Pat is a woman

2. In a study, 1000 people were tested. Among the participants there were 5 engineers and 995 lawyers.

Jack is a randomly chosen participant of this study. Jack is 36 years old. He is not married and is somewhat introverted. He likes to spend his free time reading science fiction and writing computer programs.

Sam argues that Jack is very likely to be an engineer because Jack is 36 years old, not married, and is somewhat introverted. Also, Jack likes to spend his free time reading science fiction and writing computer programs. *This description is more likely to fit a random engineer than a random lawyer.*

Sal argues that Jack is very likely to be a lawyer because 995 out of the 1000 people in the sample were lawyers; *thus, the probability of randomly selecting a lawyer is much higher than the probability of selecting an engineer.*

3. In a study, 1000 people were tested. Among the participants there were 3 who live in a condo and 997 who live in a farmhouse.

Kurt is a randomly chosen participant of this study. Kurt works as an investment banker and is single. He works long hours and wears Armani suits to work. He likes wearing shades.
Sam argues that Kurt is very likely to live in a condo because Kurt works as an investment banker, is single, works long hours and wears Armani suits to work. Also, he likes wearing shades. *This description is more likely to fit a random condo dweller than a random farmhouse dweller.*

Sal argues that Kurt is very likely to live in a farmhouse because 997 out of the 1000 people in the sample live in a farmhouse; *thus, the probability of randomly selecting a farmhouse dweller is much higher than the probability of selecting a condo dweller.*

4. In a study, 1000 people were tested. Among the participants there were 3 doctors and 997 nurses.

Paul is a randomly chosen participant of this study. Paul is 34 years old. He lives in a beautiful home in a posh suburb. He is well spoken and very interested in politics. He invests a lot of time in his career.

Sam argues that Paul is very likely to be a doctor because Paul is 34 years old, lives in a beautiful home in a posh suburb, is well spoken and very interested in politics. Also, he invests a lot of time in his career. *This description is more likely to fit a random doctor than a random nurse.*

Sal argues that Paul is very likely to be a nurse because 997 out of the 1000 people in the sample are nurses; *thus, the probability of randomly selecting a nurse is much higher than the probability of selecting a doctor.*

5. In a study, 1000 people were tested. Among the participants there were 4 whose favorite series is Star Trek and 996 whose favorite series is Days of Our Lives.

Jeremy is a randomly chosen participant of this study. Jeremy is 26 and is doing graduate studies in physics. He spends a lot of time online and likes to play video-games.

Sam argues that it is very likely that Jeremy's favorite series is Star Trek because Jeremy is 26, is doing graduate studies in physics, spends a lot of time online and likes to play video-games. *This description is more likely to fit a random Star Trek fan than a random Days of Our Lives fan.*

Sal argues that it is very likely that Jeremy's favorite series is Days of Our Lives because 996 out of the 1000 people in the sample report that is their favorite series; *thus, the probability of randomly selecting a person whose favorite series is Days of our Lives is much higher than the probability of selecting a person whose favorite is Star Trek.*

6. In a study, 1000 people were tested. Among the participants there were 5 sixteen-year olds and 995 fifty-year olds.

Ellen is a randomly chosen participant of this study. Ellen likes to listen to Lady Gaga and Miley Cyrus. She enjoys wearing tight shirts and jeans. She's fond of dancing and has a small nose piercing.

Sam argues that Ellen is very likely sixteen because she likes to listen to Lady Gaga and Miley Cyrus, enjoys wearing tight shirts and jeans, and is fond of dancing. Also, she has a small nose piercing. *This description is more likely to fit a random sixteen-year old than a random fifty-year old.*

Sal argues that Ellen is very likely to be fifty because 995 out of the 1000 people in the sample are fifty; *thus, the probability of randomly selecting a fifty-year old is much higher than the probability of selecting a sixteen-year old.*

Congruent

1. In a study, 1000 people were tested. Among the participants there were 5 who buy their clothes at Wal-Mart and 995 who buy their clothes at high-end retailers.

Karen is a randomly chosen participant of this study. Karen is a 33-year-old female. She works in a business office and drives a Porsche. She lives in a fancy penthouse with her boyfriend.

Sam argues that Karen is very likely to buy her clothes at high end retailers because she is a 33-year-old female, works in a business office, drives a Porsche, and lives in a fancy penthouse with her boyfriend. *This description is more likely to fit a random person who buys clothes at high end retailers than a random person who buys clothes at Walmart.*

Please rate the value of Sam's argument:
    1 - Extremely Strong
    2
    3
    4
    5
    6
    7 - Extremely Weak

Sal argues that Karen is very likely to buy her clothes at high end retailers because 995 out of the 1000 people in the sample buy their clothes at high-end retailers; *thus, the probability of randomly selecting a person who buys clothes at high-end retailers is much higher than the probability of selecting a person who buys clothes at Wal-Mart.*

Please rate the value of Sal's argument:
    1 - Extremely Strong
    2
    3
    4
    5
    6
    7 - Extremely Weak

Do you think Karen buys her clothes at Wal-Mart or high end retailers? Please select one of the following:
    1 - Very confident that Karen buys her clothes at Wal-Mart
    2 - Moderately confident that Karen buys her clothes at Wal-Mart
    3 - Slightly confident that Karen buys her clothes at Wal-Mart
    4 - Slightly confident that Karen buys her clothes at high end retailers
    5 - Moderately confident that Karen buys her clothes at high end retailers
    6 - Very confident that Karen buys her clothes at high end retailers

2. In a study, 1000 people were tested. Among the participants there were 3 boys and 997 girls.

Jamie is a randomly chosen participant of this study. Jamie is 13 years old. Jamie's favorite subject is art. Jamie's favorite things to do are shopping and having sleepovers with friends to gossip about other kids at school.

Sam argues that Jamie is very likely to be a girl because Jamie is a 13-year-old whose favorite subject is art and whose favorite things to do are shopping and having sleepovers with friends to gossip about other kids at school. *This description is more likely to fit a random girl than a random boy.*

Sal argues that Jamie is very likely to be a girl because 997 out of the 1000 people in the sample are girls*; thus, the probability of randomly selecting a girl is much higher than the probability of selecting boy.*

3. In a study, 1000 people were tested. Among the participants there were 3 without tattoos and 997 who had a tattoo.

Jay is a randomly chosen participant of this study. Jay is a 29-year-old male. He has served a short time in prison. He has been living on his own for 2 years now. He has an older car and listens to punk music.

Sam argues that Jay is very likely to have a tattoo because he is a 29-year-old male who has served a short time in prison and has been living on his own for 2 years now. Also, he has an older car and listens to punk music. *This description is more likely to fit a random person with a tattoo than a random person without a tattoo.*

Sal argues that Jay is very likely to have a tattoo because 997 out of the 1000 people in the sample have tattoos*; thus, the probability of randomly selecting a person with a tattoo is much higher than the probability of selecting a person without a tattoo.*

4. In a study, 1000 people were tested. Among the participants there were 4 executive managers and 996 kindergarten teachers.

Lilly is a randomly chosen participant of this study. Lilly is 37 years old. She is married and has 3 kids. She is committed to her family and always watches the daily cartoon shows with her kids.

Sam argues that Lilly is very likely to be a kindergarten teacher because she is a 37 years old who is married and has 3 kids. Also, she is committed to her family and always watches the daily cartoon shows with her kids. *This description is more likely to fit a random kindergarten teacher than a random executive manager.*

Sal argues that Lilly is very likely to be a kindergarten teacher because 996 out of the 1000 people in the sample were kindergarten teachers*; thus, the probability of randomly selecting a kindergarten teacher is much higher than the probability of selecting an executive manager.*

5. In a study, 1000 people were tested. Among the participants there were 4 Bruce Springsteen fans and 996 Justin Bieber fans.

Tara is a randomly chosen participant of this study. Tara is 15. She loves to go shopping at the mall and to talk with her friends about their crushes at school.

Sam argues that Tara is very likely to be a Justin Bieber fan because she is a 15 years old who loves to go shopping at the mall and talk with her friends about their crushes at school. *This description is more likely to fit a random Justin Bieber fan than a random Bruce Springsteen fan.*

Sal argues that Tara is very likely to be a Justin Bieber fan because 996 out of the 1000 people in the sample were Justin Bieber fans; *thus, the probability of randomly selecting a Justin Bieber fan is much higher than the probability of selecting a Bruce Springsteen fan.*

6. In a study, 1000 people were tested. Among the participants there were 5 Americans and 995 French people.

Martine is a randomly chosen participant of this study. Martine is 26 years old. She is bilingual and reads a lot in her spare time. She is a very fashionable dresser and a great cook.

Numeracy scale from:

Weller, J., Dieckmann, N. F., Tusler, M., Mertz, C. K., Burns, W., & Peters, E. (2013).
    Development and testing of an abbreviated numeracy scale: A Rasch Analysis approach.
    Journal of Behavioral Decision Making, 26,198-212. doi:10.1002/bdm.1751

1. Imagine that we roll a fair, six-sided die 1,000 times. Out of 1,000 rolls, how many times do you think the die would come up as an even number?
   (Answer: Half the time, 50%, any number between 490-510, 1:2)

2. In the BIG BUCKS LOTTERY, the chances of winning a $10.00 prize are 1%. What is your best guess about how many people would win a $10.00 prize if 1,000 people each buy a single ticket from BIG BUCKS?
   _____people
   (Answer: ___10__people)

3. In the ACME PUBLISHING SWEEPSTAKES, the chance of winning a car is 1 in 1,000. What percent of tickets of ACME PUBLISHING SWEEPSTAKES win a car?
   _____%
   (Answer: ___.1__%)

4. If the chance of getting a disease is 10%, how many people would be expected to get the disease:
   Out of 1000: _____people
   (Answer: __100___people)

5. If the chance of getting a disease is 20 out of 100, this would be the same as having a ____% chance of getting the disease.
   (Answer: __20%)

6. Suppose your friend just had a mammogram. The doctor knows from previous studies that, of 100 women like her, 10 have tumors and 90 do not. Of the 10 who do have tumors, the mammogram correctly finds 9 with tumors and incorrectly says that 1 does not have a tumor. Of the 90 women without tumors, the mammogram correctly finds 80 without tumors and incorrectly says that 10 have tumors. The table below summarizes this information. Imagine that your friend tests positive (as if she had a tumor), what is the likelihood that she actually has a tumor?

	Tested Positive	Tested Negative	Totals
Actually has a tumor	9	1	10
Does not have a tumor	10	80	90
Totals	19	81	100

_____ out of _____
(Answer: (9 out of 19)

7. A bat and a ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost?
_____cents
(5 cents)

8. In a lake, there is a patch of lilypads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?
_____days
(47 days)