Online Supplementary Materials

For:

Hypothesized drivers of the bias blind spot—cognitive sophistication, introspection bias, and conversational processes

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Part A: Bias Blind Spot (BBS) Items

Experiment 1

Items (All Biases): To what extent do you believe that you show this effect or tendency?

To what extent do you believe the average survey respondent shows this effect or tendency?

Response Options: 1 (Not At All); 2; 3; 4; 5; 6; 7 (Very Much)

Action-Inaction Bias
Some people show a tendency to judge a harmful action as worse than an equally harmful inaction. For example, this tendency leads to thinking it is worse to falsely testify in court that someone is guilty, than not to testify that someone is innocent.

Bandwagon Effect
Psychologists have claimed that some people show a tendency to do or believe a thing only because many other people believe or do that thing, to feel safer or to avoid conflict.

Confirmation Bias
Many psychological studies have shown that people react to counterevidence by actually strengthening their beliefs. For example, when exposed to negative evidence about their favorite political candidate, people tend to implicitly counterargue against that evidence, therefore strengthening their favorable feelings toward the candidate.

Disconfirmation Bias
Psychologists have claimed that some people show a "disconfirmation" tendency in the way they evaluate research about potentially dangerous habits. That is, they are more critical and skeptical in evaluating evidence that an activity is dangerous when they engage in that activity than when they do not.

Diffusion of Responsibility
Psychologists have identified an effect called "diffusion of responsibility," where people tend not to help in an emergency situation when other people are present. This happens because as the number of bystanders increases, a bystander who sees other people standing around is less likely to interpret the incident as a problem, and also is less likely to feel individually responsible for taking action.

Escalation of Commitment
Research has found that people will make irrational decisions to justify actions they have already taken. For example, when two people engage in a bidding war for an object, they can end up paying much more than the object is worth to justify the initial expenses associated with bidding.

Fundamental Attribution Error
Psychologists have claimed that some people show a tendency to make "overly dispositional inferences" in the way they view victims of assault crimes. That is, they are overly inclined to

view the victim's plight as one he or she brought on by carelessness, foolishness, misbehavior, or naivetë.

Halo Effect
Psychologists have claimed that some people show a "halo" effect in the way they form impressions of attractive people. For instance, when it comes to assessing how nice, interesting, or able someone is, people tend to judge an attractive person more positively than he or she deserves.

Ingroup Favoritism
Extensive psychological research has shown that people possess an unconscious, automatic tendency to be less generous to people of a different race than to people of their race. This tendency has been shown to affect the behavior of everyone from doctors to taxi drivers.

Ostrich Effect
Psychologists have identified a tendency called the "ostrich effect," an aversion to learning about potential losses. For example, people may try to avoid bad news by ignoring it. The name comes from the common (but false) legend that ostriches bury their heads in the sand to avoid danger.

Projection Bias
Many psychological studies have found that people have the tendency to underestimate the impact or the strength of another person's feelings. For example, people who have not been victims of discrimination do not really understand a victim's social suffering and the emotional effects of discrimination.

Self-Interest Bias
Psychologists have claimed that some people show a "self-interest" effect in the way they view political candidates. That is, people's assessments of qualifications, and their judgments about the extent to which particular candidates would pursue policies good for the American people as a whole, are influenced by their feelings about whether the candidates' policies would serve their own particular interests.

Self-Serving Bias
Psychologists have claimed that some people show a "self-serving" tendency in the way they view their academic or job performance. That is, they tend to take credit for success but deny responsibility for failure. They see their successes as the result of personal qualities, like drive or ability, but their failures as the result of external factors, like unreasonable work requirements or inadequate instructions.

Stereotyping
Psychologists have argued that gender biases lead people to associate men with technology and women with housework.

**All BBS items presented in Study 1 were taken from Scopelliti et al. (2015).*
***Study 1 BBS items were divided into two sets of 7 items. Participants randomly assigned to complete Set 1 were presented with action-inaction bias, bandwagon effect, confirmation bias,*

disconfirmation bias, diffusion of responsibility, escalation of commitment, and fundamental attribution error items while those assigned to complete Set 2 responded to halo effect, ingroup favoritism, ostrich effect, projection bias, self-interest bias, self-serving bias, and stereotyping items

Self-Assessment Bias (All Participants)
Studies have shown that on the whole, people show a "better than average" effect when assessing themselves relative to other members within their group. That is, 70-80% of individuals consistently rate themselves "better than average" on qualities that they perceive as positive, and conversely, evaluate themselves as having "less than average" amounts of characteristics they believe are negative. For the purposes of our study, it would be useful to know the accuracy of your self-assessments on the previous pages. Please indicate how you would be rated on the relevant dimensions by the "most accurate, valid, and objective" resources available.

Response Options:
1. The objective measures would rate me lower on positive characteristics and higher on negative characteristics than I rated myself.
2. The objective measures would rate me neither more positively nor more negatively than I rated myself.
3. The objective measures would rate me higher on positive characteristics and lower on negative characteristics than I rated myself.

Experiment 2

Self-Block

Instructions: Throughout the following task you will be asked to make judgments with respect to yourself (e.g., indicate to what extent you show a certain tendency). Following these judgments you will be asked about the strategy you used to respond. This will consist of two questions (1) How much did you try to 'get inside your head' to find evidence of the sorts of thoughts and motives that could underlie this tendency and (2) How much did you try to consider how well this description fits the way that people in general tend to behave.

Please proceed to the task.

Questions (Self-Block; All Biases): To what extent do you believe that you show this effect or tendency?

How much did you try to 'get inside your head' to find evidence of the sorts of thoughts and motives that could underlie this tendency?

How much did you try to consider how well this description fits the way that people in general tend to behave?

Response Options: 1 (Not At All); 2; 3; 4; 5; 6; 7 (Very Much)

Other-Block

Instructions: Throughout the following task you will be asked to make judgments with respect to "survey respondents" (e.g., indicate to what extent the average survey respondent shows a certain tendency). By survey respondents we mean other individuals who are completing the survey you are currently completing. The survey will only be made available to adults between the ages of 18 and 60 years of age who have English as their first language. In addition, we aim to have an approximately even distribution of males and females and US and Canadian citizens.

Following these judgments you will be asked about the strategy you used to respond. This will consist of two questions (1) How much did you try to 'get inside the head of the average survey respondent' to find evidence of the sorts of thoughts and motives that could underlie this tendency and (2) How much did you try to consider how well this description fits the way that people in general tend to behave.

Please proceed to the task.

Questions (Other-Block; All Biases): To what extent do you believe the average survey respondent shows this effect or tendency?

How much did you try to 'get inside the head of the average survey respondent' to find evidence of the sorts of thoughts and motives that could underlie this tendency?

How much did you try to consider how well this description fits the way that people in general tend to behave?

Response Options: 1 (Not At All); 2; 3; 4; 5; 6; 7 (Very Much)

Social Biases (adapted from Scopelliti et al., 2015)

Halo Effect
Psychologists have claimed that some people show a "halo" effect in the way they form impressions. That is, they allow their knowledge of one characteristic of an individual to influence their judgment of other characteristics (even if those characteristics are unrelated). For example, when it comes to assessing how nice, interesting, or able someone is, people tend to judge an attractive person more positively than he or she deserves.

Self-Serving Bias
Psychologists have claimed that people show a "self-serving" tendency in the way they view their academic or job performance. That is, they tend to take credit for success but deny responsibility for failure; they see their successes as the result of personal qualities, like drive or ability, but their failures as the result of external factors, like unreasonable work requirements or inadequate instruction. For example, if a car dealer met her sales goals for the year, she may attribute it to her being a great salesperson. However, if she did not meet her sales goals, she may blame the economy.

Cognitive Biases Related to Cognitive Ability (Outcome Bias adapted from West et al., 2012)

Outcome Bias
Psychologists have found that people tend to judge the quality of a decision based on how the decision worked out. That is, people sometimes forget that the quality of the decision must be judged on what was known at the time the decision was made, not how it worked out, because the outcome is not known at the time of the decision. For example, if a weatherperson reports a 75% chance of rain and as a result tells viewers to bring an umbrella if they go outside, people will often praise the weatherperson's advice if it rains, but criticize the weatherperson's advice if it does not even though it was arguably the best advice to give at the time.

Belief Bias
Psychologists have found that people's beliefs can influence the evaluation of logical arguments. This bias is often assessed using problems where the believability of the conclusion conflicts with the logical validity. Here, people tend to accept as valid conclusions that are consistent with their personal beliefs even if they do not logically follow from the premises. For example, when given the syllogism "all vehicles have wheels, a boat is a vehicle, therefore, a boat has wheels", many people will judge this conclusion as invalid, by relying on their prior beliefs about boats, despite it actually being a logically valid conclusion given the information in the premises.

Cognitive Biases Unrelated to Cognitive Ability (adapted from West et al., 2012)

Conjunction Fallacy
Psychologists have found that people tend to rate conjunctions of events (situations where two or more truth conditions must be met) as too likely. Conjunctions of events become less likely as the number of truth conditions grow. For example, suppose (A) 90% of the objects in a jar are marbles and (B) 90% of objects in the jar are red, people may be prone to assign a higher probability to the probability of drawing a red marble at random from the jar than simply drawing a marble at random, even though "red marbles" are a subset of "marbles" and therefore cannot be more likely.

Anchoring
Psychologists have found that people making numerical estimations tend to focus on any number that is available to help them. This is a good strategy, except in situations where the available numbers are unrelated to the quantity we are trying to estimate. For example, people report fewer headaches when they are asked: "How many headaches do you have a month—0, 1, 2—how many?" than when they are asked: "How many headaches do you have a month—5, 10, 15—how many?"

BBS Comprehension Question: In the task you just completed you were presented with a series of different tendencies. We are interested in how well you understood the descriptions we provided. Please rate on the scale below your agreement with the following statement:

I understood the descriptions of the tendencies provided

Response Options: Completely Disagree; Mostly Disagree; Slightly Disagree; Slightly Agree; Mostly Agree; Completely Agree

**Presented at the end of both Self and Other blocks.*

Part B: Bias Items

Experiment 2

Instructions: You will next be presented with a series of word problems. In each case try to read the problem carefully and answer to the best of your ability. The problems are challenging. Please try your best.

Self-Serving Bias

Form A: Think of a time when you experienced something really positive. To what extent was this due to things you did or to factors beyond your control?

Form B: Think of a time when you experienced something really negative. To what extent was this due to things you did or to factors beyond your control?

Response Options (Forms A and B): -3 (Totally beyond my control); -2; -1; 0 (About even); 1; 2; 3 (Totally within my control)

Halo Effect

Form A: Professor T is a college teacher who works hard, solves problems quickly, and treats students coldly.

Please answer the following: Professor T is good-looking

Form B: Professor T is a college teacher who works hard, solves problems quickly, and treats students warmly.

Please answer the following: Professor T is good-looking

Response Options (Forms A and B): Strongly Disagree; Disagree; Somewhat Disagree; Neither Agree nor Disagree; Somewhat Agree; Agree; Strongly Agree

Outcome Bias

Form A: A 55-year-old man had a heart condition. He had to stop working because of chest pain. He enjoyed his work and did not want to stop. His pain also interfered with other things, such as travel and recreation. A successful heart bypass operation would relieve his pain and increase his life expectancy by five years. However, 8% of the people who have this operation die from the operation itself. His physician decided to go ahead with the operation. The operation succeeded. Evaluate the physician's decision to go ahead with the operation.

Form B: A 55-year-old man had a heart condition. He had to stop working because of chest pain. He enjoyed his work and did not want to stop. His pain also interfered with other things, such as travel and recreation. A successful heart bypass operation would relieve his pain and

increase his life expectancy by ten years. However, 2% of the people who have this operation die from the operation itself. His physician decided to go ahead with the operation. The operation failed and the patient died. Evaluate the physician's decision to go ahead with the operation.

Response Options (Forms A and B): Clearly incorrect, a very bad decision; Incorrect, all things considered; Incorrect, but not unreasonable; The decision and its opposite are equally good; Correct, but the opposite would be reasonable too; Correct, all things considered; Clearly correct, an excellent decision

Belief Bias

Instructions (Forms A and B): For the following two syllogisms (i.e., deductive arguments featuring two premises followed by a conclusion), assuming that the premises are true, evaluate whether the conclusion follows logically from the premises.

Believable Invalid Syllogism (Form A):
First Premise: Everything with a motor needs oil.
Second Premise: Cars need oil.
Conclusion: Therefore, cars have a motor.

Does the conclusion follow logically?

Response Options: Yes; No

Believable Valid Syllogism (Form A):
First Premise: All birds have wings.
Second Premise: Crows are birds.
Conclusion: Therefore, crows have wings.

Does the conclusion follow logically?

Response Options: Yes; No

Unbelievable Invalid Syllogism (Form B):
First Premise: All African countries are warm countries.
Second Premise: Spain is a warm country.
Conclusion: Therefore, Spain is an African country.

Does the conclusion follow logically?

Response Options: Yes; No

Unbelievable Valid Syllogism (Form B):
First Premise: All mammals can walk.
Second Premise: Whales are mammals.
Conclusion: Therefore, whales can walk.

Does the conclusion follow logically?

Response Options: Yes; No

Conjunction Fallacy

Item (Forms A and B): Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in anti-nuclear demonstrations.

Question 1 (Forms A and B): What is the probability that Linda is a teacher in an elementary school (from 0% chance to 100% chance)?

Response Options: 0% to 100% slider

Question 2 (Forms A and B): What is the probability that Linda works in a bookstore and takes Yoga classes (from 0% chance to 100% chance)?

Response Options: 0% to 100% slider

Question 3 (Form A): What is the probability that Linda is a bank teller (from 0% chance to 100% chance)?

Response Options: 0% to 100% slider

Question 3 (Form B): What is the probability that Linda is a bank teller and is active in the feminist movement (from 0% chance to 100% chance)?

Response Options: 0% to 100% slider

Anchoring

Form A: Is the tallest redwood tree in the world more than 85 feet tall?

Form B: Is the tallest redwood tree in the world more than 1,000 feet tall?

Response Options (Forms A and B): Taller; Shorter

Forms A and B: How tall do you think the tallest redwood tree in the world is (in feet)?

Response Option (Forms A and B): Free-entry text box

Part C: Actively Open-Minded Thinking Scale (AOT; Studies 1 and 2)
Baron, Scott, Fincher, & Metz (2015)

Instructions: Please respond to the following questions by using the following 5-point scale:

Response Options: Strongly Disagree; Slightly Disagree; Agree/Disagree about equally; Slightly Agree; Strongly Agree

1. Allowing oneself to be convinced by an opposing argument is a sign of good character.
2. People should take into consideration evidence that goes against their beliefs.
3. People should revise their beliefs in response to new information or evidence.
4. Changing your mind is a sign of weakness.
5. Intuition is the best guide in making decisions.
6. It is important to persevere in your beliefs even when evidence is brought to bear against them.
7. One should disregard evidence that conflicts with one's established beliefs.
8. People should search actively for reasons why their beliefs might be wrong.

**Responses were scored, from Strongly Disagree to Strongly Agree, as -2; -1; 0; 1; 2*
***Items 4, 5, 6, and 7 were reverse scored.*

Attention Check Questions

Experiment 1

The value of a quarter is what percentage of a dollar?

Response Options: 0% to 100% slider

Experiment 1 and 2

In the following alphanumeric series, what letter comes next? A B C D E

Response Options: I; H; G; F; J; K

Experiment 2

Most modern theories of decision making recognize the fact that decisions do not take place in a vacuum. Individual preferences and knowledge, along with situational variables can greatly impact the decision process. In order to facilitate our research on decision making we are interested in knowing certain factors about you, the decision maker. Specifically, we are interested in whether you actually take the time to read the directions; if not, then some of our manipulations that rely on changes in the instructions will be ineffective. So, in order to demonstrate that you have read the instructions, please ignore the sports items below. Instead, simply click on the blue button to proceed to the next screen. Thank you very much.

Which of these activities do you engage in regularly? (click on all that apply)

Response Options: skiing; soccer; snowboarding; running; hockey; football; swimming; tennis; basketball; cycling

Demographic Items (Studies 1 and 2)

1. Age in Years

Response Option: Free-entry text box

2. Sex:

Response Options: Female; Male; Other; Prefer not to say

3. What is the highest level of education you have completed?

Response Options: High School diploma; College diploma; University undergraduate degree; University graduate degree; None of the above

4. What is your nationality?

Response Option: Free-entry text box

5. Is English your first (i.e., native) language?

Response Option: Yes; No

6. Are you a citizen of Canada?

Response Options: Yes; No

7. Are you a citizen of the United States of America?

Response Options: Yes; No

References

Baron, J., Scott, S., Fincher, K., & Metz, S. E. (2015). Why does the Cognitive Reflection Test (sometimes) predict utilitarian moral judgment (and other things)? *Journal of Applied Research in Memory and Cognition*, *4*(3), 265-284.

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West, R. F., Meserve, R. J., & Stanovich, K. E. (2012). Cognitive sophistication does not attenuate the bias blind spot. *Journal of Personality and Social Psychology*, *103*(3), 506-519.