People who endorse actively open-minded thinking (AOT) are sensitive to cues indicating AOT of sources

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Introduction

Actively open-minded thinking (AOT) is a standard for the evaluation of all goal-directed thinking. It is derived from the application of decision theory to a general framework for description of thinking (Baron, 1985). The idea is to optimize the setting of a few parameters such as duration of thinking, direction of search (in favor of, or against, possible answers that are already strong), weights applied to what search yields (again, in terms of the effect of current strentth), and confidence in the possible conclusions reached so far. AOT thus implies: thinking should stop when its costs exceed its benefits, so that more thinking is not always better; thinking should be fair to possible conclusions; and confidence in possible conclusions should depend on the balance and amount of evidence available so far. Endorsement of these standards can be assessed with a 10-item questionnaire about the nature of good thinking (below).

People who endorse AOT standards are more likely to follow them. Yet AOT has another important role. Thinking is often outsourced to various individuals and institutions: medical professionals and researchers for health decisions, scholars, journalists, clergy, and politicians for our thinking about political issues, and so on. AOT as a standard is involved in the evaluation of these sources. The form of sources' statements may provide useful cues: by indicating that alternative conclusions have been considered; or that high confidence is not warranted.

Overview of studies

Following other related studies (Baron, 1995; 2019), the present studies ask whether people who endorse the standards of AOT will use these cues to judge the trustworthiness, fairness and credibility of sources.

In Study 1, we asked 100 adult subjects from a volunteer panel about the trust they would place in sources of information, as a function of whether or not the wording of the sources' statements indicated consideration of alternatives, i.e., qualified statements. Short statements provide cues concerning the thinking behind the statements. Study 1 subjects were 100 adults (64 female, 36 male) from a panel used in previous studies, in return for pay at about the minumum wage in the U.S. for those who responde carefully. Median age was 45.5 (range 20–79).

Study 2 examines the use of obvious overconfidence as a cue. Subjects were 100 adults (68 female, 32 male) from the same panel as Study 1; median age was 53, range 19–83.

References

Baron, J. (1985). *Rationality and intelligence*. New York: Cambridge University Press.

Baron, J. (1995). Myside bias in thinking about abortion. *Thinking and Reasoning, 1*, 221–235.

Baron, J. (2019). Actively open-minded thinking in politics. *Cognition, 188*, 8–18.

Study 1: Missing qualifiers

We used 8 pairs of brief items. The members of each pair differed in the presence of reasonable qualifiers, which indicated that the writers had considered arguments on the other side of their position, e.g.:

"Obamacare has had a devastating impact on many hard-working Americans. There is no good reason to preserve the legislation.", vs.

"Yes, Obamacare has helped some citizens, but it has had a devastating impact on many hard-working Americans and should be repealed."

After each item, subjects were asked the following questions (without the labels):

Trust: How much can you trust the judgment of the person who said this? [not at all, somwhat, well, absolutely]

Agree: How much do you agree with the above statement? [disagree completely . . . agree completely]

Fair: How fairly has the speaker thought about the topic? [very unfairly, . . very fairly]

Reliabilities (α) of the *within-pair differences* were .46 for fairness and .32 for trust.

At the end, subjects completed a scale of AOT beliefs (below, with R indicating reverse scoring) (α=.82).

Finally, on the same page, the original 16 items were presented again, each following by this question:

"Which political party do you think the source of each of the following statements would identify themselves as a part of?" [Democrat (coded 1), Republican (−1), Not sure (0)]

These responses were multiplied time the responses to the corresponding Agree questions, centered, and summed to estimate the subject's party preference score. That is, agreement with the statements attributed to Democrats led to a positive preference score, and agreement with Republican-attributed items led to a negaive score.

Results

AOT endorsement correlates with use of qualified expressions to judge fairness and trust. Subject means of these differences correlated with endorsement of AOT standards as measured by the 10-item scale (r=.36 for trust, .37 for fairness). Note that, when corrected for attenuation, these correlations rise to .82 for trust and .60 for fairness. And, in both cases, the difference for each of the 8 pairs (except for one near-zero correlation for trust) was positively correlated with the AOT scale, so the results were consistent across the pairs.

Democrats (that is, those with higher party-preference scores) were higher in AOT (r=.360, p=.0002) but **no higher in their use of qualification cues (differences) for fairness or trust** (r=.104 for fairness; 95% c.i. [−.09,.29]) (r=.031 for trust; c.i. [−.17,.23]).

Study 2: Overconfidence

We used 14 pairs of items differing in unjustified high confidence, e.g.:

"Those tremors don't mean anything. An earthquake won't happen. (scientist)", vs.

"Those tremors probably don't mean anything. An earthquake is unlikely. (scientist)"

Overall the statements came from the following sources and were presented in this order: financial advisor (1); scientist (6); journalist (2); business (1); physician (1); politician (1); lawyer (1); military general (1).

Fourteen pairs of items were presented on the same page in the same fixed order for each subject. The two members of each pair were adjacent. After each item, we asked:

"Consider someone who made this statement. How would this affect your willingness to rely on what this person says? (The type of person is in parentheses.)" We call this *trust*.

Then all items were presented again in the same order on a new page, and subjects were asked:

"How credible is each statement by itself, when made by the source in parentheses?" We call this *credibility*.

Subjects then completed the AOT scale (α=.89).

Results

Confidence sensitivity was measured as the rating for appropriate confidence minus the rating for overconfidence, for both trust and credibility. For the 14 pairs, the reliability (α) of this measure was .83 for trust and .90 for credibility.

These measures of confidence sensitivity, averaged for each subject, correlated with AOT for both trust and credibility: r=.355 for trust (p=.0003) and r=.472 for credibility (p=.0000). Correction for attenuation had less effect than in Study 1 because of the high reliability for all measures: .413 for trust and .527 for credibility. This correlation was not a matter of extremity of scores; it remained significant when only the sign of the two summary measures was used (Kendall's τ=.257, p=.0094, for trust and τ=.206, p=.0357, for credibility).

AOT belief scale

Willingness to be convinced by opposing arguments is a sign of good character.
People should take into consideration evidence that goes against conclusions they favor.
Being undecided or unsure is the result of muddled thinking. (R)
People should revise their conclusions in response to relevant new information.
Changing your mind is a sign of weakness. (R)
People should search actively for reasons why they might be wrong.
It is OK to ignore evidence against your established beliefs. (R)
It is important to be loyal to your beliefs even when evidence is brought to bear against them. (R)
There is nothing wrong with being undecided about many issues.
When faced with a puzzling question, we should try to consider more than one possible answer before reaching a conclusion.