THE NATURE OF BIAS IN DECISION-MAKING

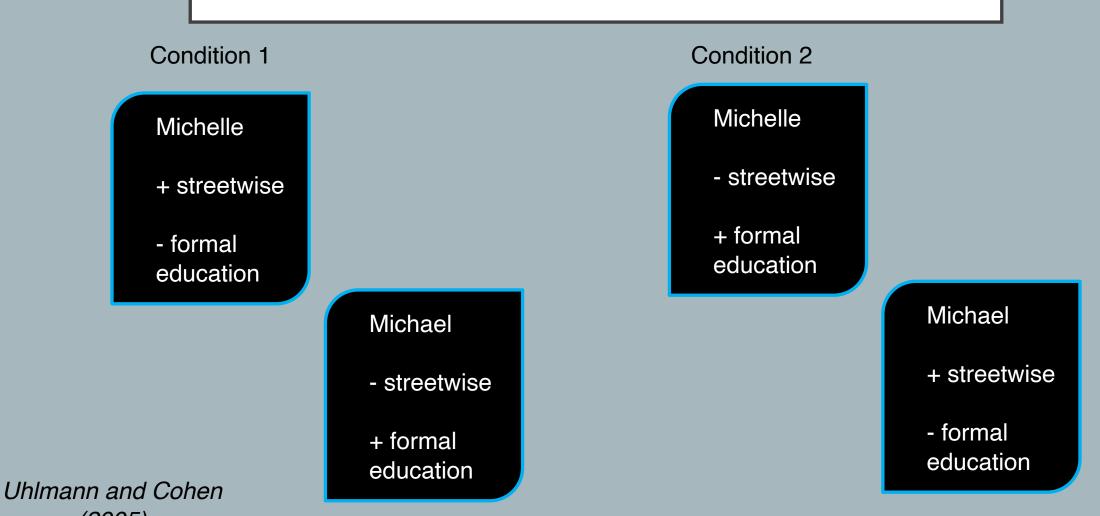
Lieke Asma Workshop Algorithmic Injustice

June 27th, 2023

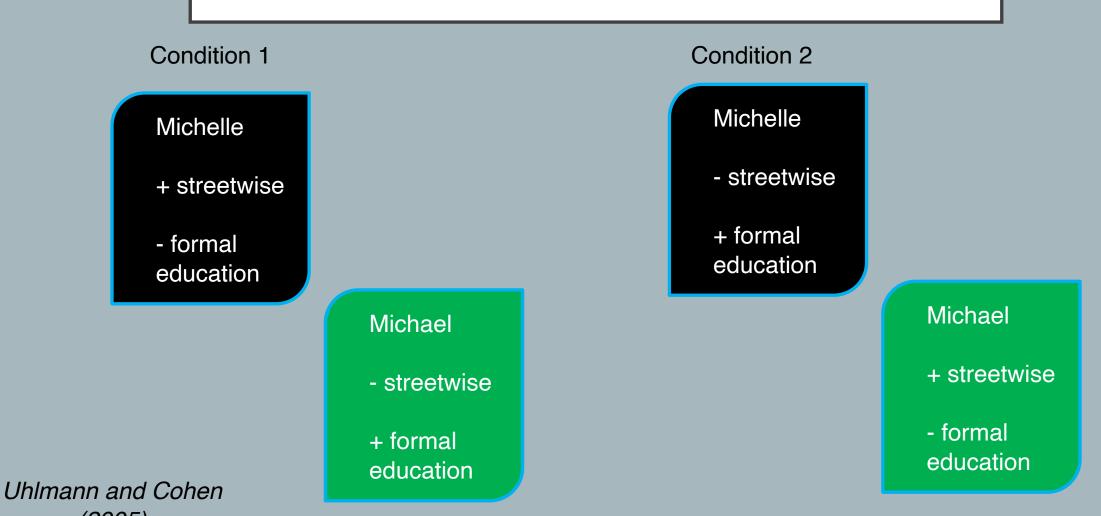


FG Deutsche Forschungsgemeinschaft

BIAS IN DECISION-MAKING: AN EXAMPLE



BIAS IN DECISION-MAKING: AN EXAMPLE



THE NATURE OF BIAS

Some recent proposals:

- Danks & London (2017, p. 2) "bias' [...] refers to deviation from a standard".
- De Houwer (2019, p. 1) "behavior that is (automatically) influenced by cues indicative of the social group to which others belong".
- Gawronski et al. (2022, p. 140) biases are "effects of social category cues […] on behavioral responses".
- Payne & Correll (2020, p. 4) "bias represents a shift in the decision rule that guides an individual's behavior".

THE NATURE OF BIAS

Some recent proposals:

- Danks & London (2017, p. 2) "'bias' [...] refers to deviation from a standard".
- De Houwer (2019, p. 1) "behavior that is (automatically) influenced by cues indicative of the social group to which others belong".
- Gawronski et al. (2022, p. 140) biases are "effects of social category cues [...] on behavioral responses".
- Payne & Correll (2020, p. 4) "bias represents a shift in the decision rule that guides an individual's behavior".

This would make the category of bias too broad; sometimes we *should* respond to social cues.

THE NATURE OF BIAS

Some recent proposals:

- Danks & London (2017, p. 2) "'bias' [...] refers to deviation from a standard".
- 2 De Houwer (2019, p. 1) "behavior that is (automatically) influenced by cues indicative of the social group to which others belong".
- Gawronski et al. (2022, p. 140) biases are "effects of social category cues […] on behavioral responses".
- Payne & Correll (2020, p. 4) "bias represents a shift in the decision rule that guides an individual's behavior".

This would make the category of bias too broad; sometimes we *should* respond to social cues.

And sometimes we should deviate from the rules or standard. Plus: not every deviation of shift seems to count as a bias.

-> what does non-biased decisionmaking look like?

THE REASONS FOR WHICH WE ACT

In this paper I want to defend the ancient—and common-sense —position that rationalization is a species of ordinary causal explanation. The defense no doubt requires some redeployment, but not more or less complete abandonment of the position, as urged by many recent writers.¹

Ι

A reason rationalizes an action only if it leads us to see something the agent saw, or thought he saw, in his action—some feature, consequence, or aspect of the action the agent wanted, desired, prized, held dear, thought dutiful, beneficial, obligatory, or agreeable. We cannot explain why someone did what he did simply by saying the particular action appealed to him; we must indicate what it was about the action that appealed. Whenever someone does something for a reason, therefore, he can be characterized as (a) having some sort of pro attitude toward actions of a certain kind, and (b) believing (or knowing, perceiving, noticing, remembering) that his action is of that kind. Under (a) are to be *Motivating reasons*, the reasons for which agents act, should:

- (Causally) *explain* the action taking place (i.e., be an explanatory reason)
- 2. The agent should take it to *justify* or *speak in favor* of the action

Davidson (1963)

THE REASONS FOR WHICH WE ACT

In this paper I want to defend the ancient—and common-sense —position that rationalization is a species of ordinary causal explanation. The defense no doubt requires some redeployment, but not more or less complete abandonment of the position, as urged by many recent writers.¹

Ι

A reason rationalizes an action only if it leads us to see something the agent saw, or thought he saw, in his action—some feature, consequence, or aspect of the action the agent wanted, desired, prized, held dear, thought dutiful, beneficial, obligatory, or agreeable. We cannot explain why someone did what he did simply by saying the particular action appealed to him: we must indicate what it was about the action that appealed. Whenever someone does something for a reason, therefore, he can be characterized as (a) having some sort of pro attitude toward actions of a certain kind, and (b) believing (or knowing, perceiving, noticing, remembering) that his action is of that kind. Under (a) are to be *Motivating reasons*, the reasons for which agents act, should:

- (Causally) *explain* the action taking place (i.e., be an explanatory reason)
- 2. The agent should take it to *justify* or *speak in favor* of the action

Davidson: (1963): Motivating reasons are pro-attitudes – combinations of psychological states.

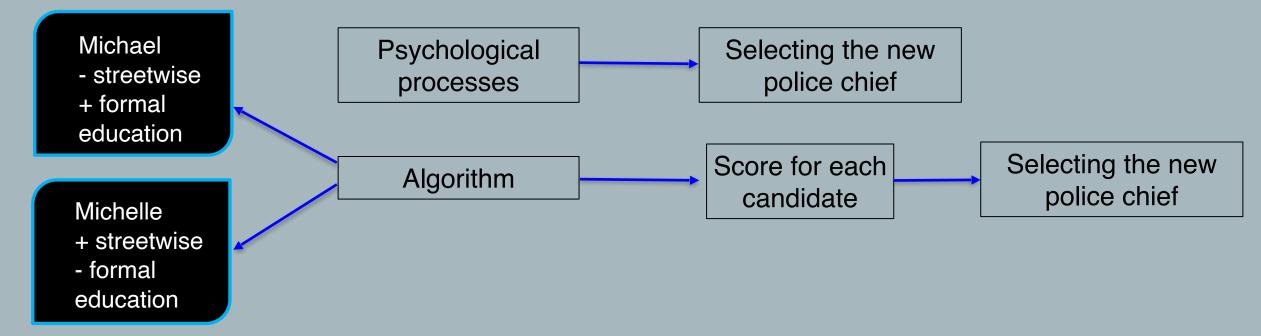
Davidson (1963)

BIAS IN DECISION-MAKING: FIRST PASS

The belief-desire pair may *causally explain* the action, but it does not, potentially at least, *justify* the action. When asked why we do what we do, we cite the facts or what we take to be the *facts*, not our psychological states (Alvarez, 2009; Dancy, 2000).

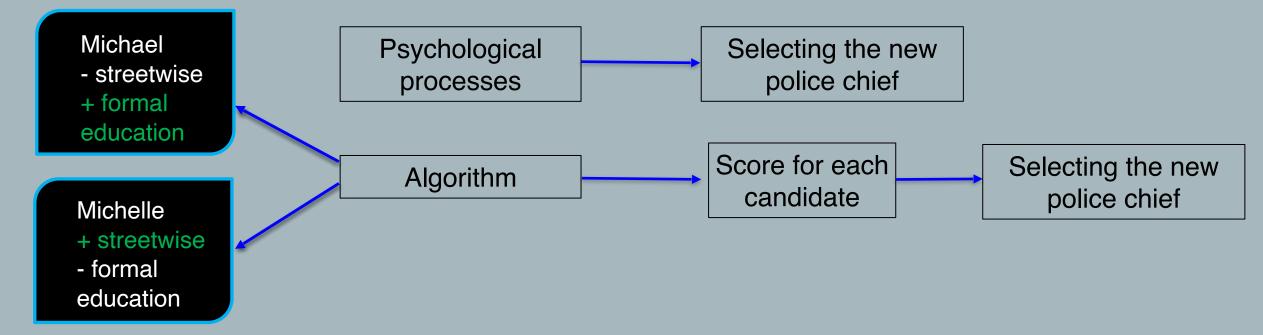
BIAS IN DECISION-MAKING: FIRST PASS

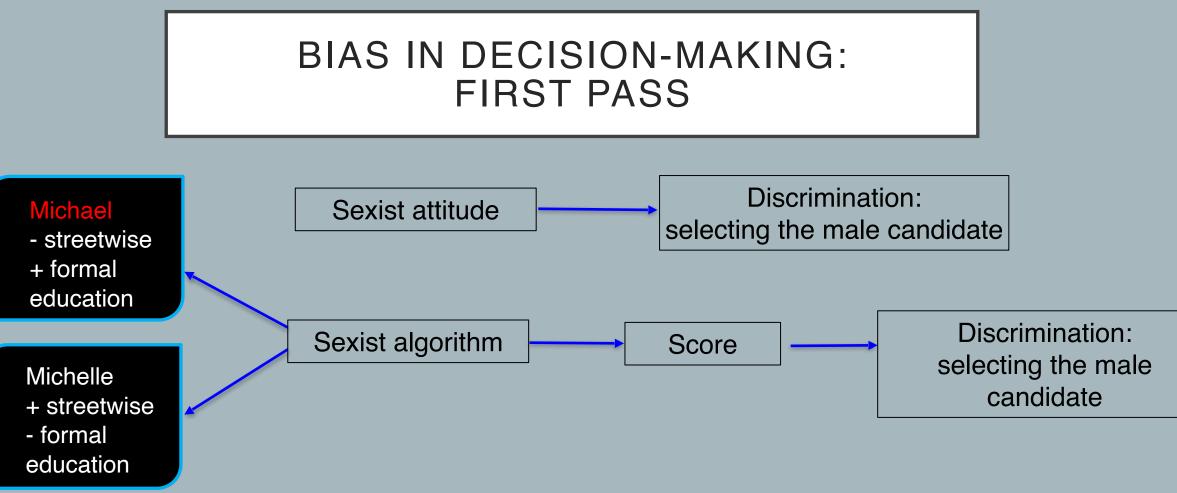
The belief-desire pair may *causally explain* the action, but it does not, potentially at least, *justify* the action. When asked why we do what we do, we cite the facts or what we take to be the *facts*, not our psychological states (Alvarez, 2009; Dancy, 2000).



BIAS IN DECISION-MAKING: FIRST PASS

The belief-desire pair may *causally explain* the action, but it does not, potentially at least, *justify* the action. When asked why we do what we do, we cite the facts or what we take to be the *facts*, not our psychological states (Alvarez, 2009; Dancy, 2000).





But this is not the whole story.

BUT FACTS DO NOT JUSTIFY EITHER

In this paper I want to defend the ancient—and common-sense —position that rationalization is a species of ordinary causal explanation. The defense no doubt requires some redeployment, but not more or less complete abandonment of the position, as urged by many recent writers.¹

Ι

A reason rationalizes an action only if it leads us to see something the agent saw, or thought he saw, in his action—some feature, consequence, or aspect of the action the agent wanted, desired, prized, held dear, thought dutiful, beneficial, obligatory, or agreeable. We cannot explain why someone did what he did simply by saying the particular action appealed to him; we must indicate what it was about the action that appealed. Whenever someone does something for a reason, therefore, he can be characterized as (a) having some sort of pro attitude toward actions of a certain kind, and (b) believing (or knowing, perceiving, noticing, remembering) that his action is of that kind. Under (a) are to be



A candidate's streetwiseness (or formal education) does not in itself justify or speak in favor choosing that candidate. Only in light of the end, i.e., choosing the best candidate as the new police chief certain information becomes relevant (and irrelevant).

ALTERNATIVE PROPOSAL: MOTIVATING REASONS ARE *ACTIONS* (AS WELL)

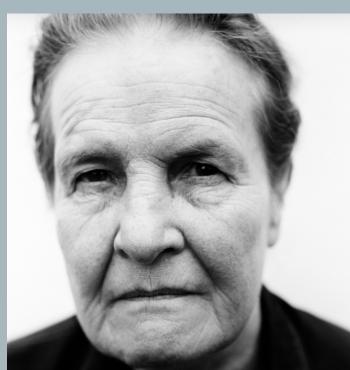
Motivating reasons are neither belief-desire pairs nor facts: they are *actions* (e.g., Anscombe, 1963; Fritt, 2021; Thompson, 2008; Wiland, 2012).

Actions have and are part of a *means-end structure*. When we act, we do one thing in order to do something else, and we are doing both things at the same time. Certain sense of the question '*Why?*' given application (Anscombe, 1963, p. 9).

Action at a high level of description *explains* and *justifies* the actions at lower levels of description.

At the highest level of description, for that agent, the action is desirable – useful, pleasant, suitable - in itself (see, Frey, 2019). The aim of decision-making is to preserve *goodness*.

G. E. M. Anscombe (1963)



Aristotle's practical syllogism (see, e.g., Anscombe, 1963; Ford, 2016; Fritt, 2021):

1. Do A.

2. To do A, do B.

Conclusion: Do B.

Aristotle's practical syllogism (see, e.g., Anscombe, 1963; Ford, 2016; Fritt, 2021):

1. Select the best candidate for the job as police chief.

2. To select the best candidate, select this candidate.

Conclusion. Select Michael.

Michael Streetwise Formal education

Aristotle's practical syllogism (see, e.g., Anscombe, 1963; Ford, 2016; Fritt, 2021):

- 1. Select the best candidate for the job as police chief.
- 2. To select the best candidate, select this candidate.

Conclusion. Select Michael.

Bias in decision-making:

1. Systematically using information that, given your end, is irrelevant.

Michael Streetwise Formal education In order for practical reasoning to succeed, agents must recognize and use those facts that actually lead them to select the best candidate for the job.

Uhlmann and Cohen's (2005) study shows that they do not: they systematically use **irrelevant information** – the gender of the candidate.

Aristotle's practical syllogism (see, e.g., Anscombe, 1963; Ford, 2016; Fritt, 2021):

1. Select the best candidate for the job as police chief.

2. To select the best candidate, select this candidate.

Conclusion. Select the streetwise candidate.

Bias in decision-making:

1. Systematically using information that, given your end, is irrelevant.

Michael Streetwise Formal education

Aristotle's practical syllogism (see, e.g., Anscombe, 1963; Ford, 2016; Fritt, 2021):

- 1. Select the best candidate for the job as police chief.
- 2. To select the best candidate, select this candidate.

Conclusion. Select the streetwise candidate.

Bias in decision-making:

- 1. Systematically using information that, given your end, is irrelevant.
- 2. Using relevant information and reaching your end, but at the same time creating (or maintaining) an unjust pattern.

Michael Streetwise Formal education Even if we use relevant information and reach our end, we may still create a pattern that is unjust.

E.g., if we prioritize formal education, but do not realize that equally suitable candidates may not have had the opportunity to receive the proper education.

Bias in decision-making:

- 1. Systematically using information that, given your end, is irrelevant.
- 2. Using relevant information and reaching your end, but at the same time creating (or maintaining) an unjust pattern.

Antony (2016): biases are a response to *underdetermination*. We need them to reduce hypothesis space. We should use biases that are ecologically valid.

Aristotle's practical syllogism (see, e.g., Anscombe, 1963; Ford, 2016; Fritt, 2021):

- 1. Select the best candidate for the job as police chief.
- 2. To select the best candidate, select this candidate.

Conclusion. Select the streetwise candidate.

Bias in decision-making:

- 1. Systematically using information that, given your end, is irrelevant.
- 2. Using relevant information and reaching your end, but at the same time creating (or maintaining) an unjust pattern.
- 3. Filling in the blanks in a systematic way.

Michael Streetwise Formal education Antony (2016): biases are a response to *underdetermination*. We need them to reduce hypothesis space. We should use biases that are ecologically valid.

The same often goes for decision-making.

U&C (2005): both credentials seem (equally) important. How should we fill in the blanks? At some point you have to take a leap. What is the best way to do

- Aristotle's practical syllogism (see, e.g., Anscombe, 1963; Ford, 2016; Fritt, 2021):
- 1. Select the best candidate for the job as police chief.
- 2. To select the best candidate, select this candidate.

Conclusion. Select the streetwise candidate.

Bias in decision-making:

- 1. Systematically using information that, given your end, is irrelevant.
- 2. Using relevant information and reaching your end, but at the same time creating (or maintaining) an unjust pattern.
- 3. Filling in the blanks in a systematic way.

Michael Streetwise Formal education What is the best way to do it?

1. Use the information that is directly relevant in relation to the end, even if the marker is ecologically valid and it is not the result of shallow mechanisms, using it is still not ideal (cf. Antony, 2016, pp. 183-185). E.g., avoid using gender as a marker for physical strength.

- Aristotle's practical syllogism (see, e.g., Anscombe, 1963; Ford, 2016; Fritt, 2021):
- 1. Select the best candidate for the job as police chief.
- 2. To select the best candidate, select this candidate.

Conclusion. Select the streetwise candidate.

Bias in decision-making:

- 1. Systematically using information that, given your end, is irrelevant.
- 2. Using relevant information and reaching your end, but at the same time creating (or maintaining) an unjust pattern.
- 3. Filling in the blanks in a systematic way.

Michael Streetwise Formal education What is the best way to do it?

- 1. Use the information that is directly relevant in relation to the end, even if the marker is ecologically valid and it is not the result of shallow mechanisms, using it is still not ideal (cf. Antony, 2016, pp. 183-185). E.g., avoid using gender as a marker for physical strength.
- 2. Take into account other ends?
- 3. Randomness?

BIAS IN DECISION-MAKING: CONCLUSIONS AND IMPLICATIONS

When we talk about bias in decision-making, we can mean different things. We do have to take into account the end to make sense of these different kinds.

BIAS IN DECISION-MAKING: CONCLUSIONS AND IMPLICATIONS

- When we talk about bias in decision-making, we can mean different things. We do have to take into account the end to make sense of these different kinds.
- 2. These different kinds of biases may involve different mechanisms and require different solutions and/or responses.

BIAS IN DECISION-MAKING: CONCLUSIONS AND IMPLICATIONS

- When we talk about bias in decision-making, we can mean different things. We do have to take into account the end to make sense of these different kinds.
- 2. These different kinds of biases may involve different mechanisms and require different solutions and/or responses.
- 8. In one sense, bias is often unavoidable and part of rational decision-making, but it involves different questions in comparison to bias in forming beliefs (cf. Antony, 2016).
- 4. Possible solutions: take into account other ends, or randomness to avoid (systemic) bias?

THANK YOU FOR YOUR ATTENTION!



Deutsche Forschungsgemeinschaft Lieke Asma

liekeasma@gmail.com

liekeasma.org

https://philpeople.org/profiles/lieke-asma