

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

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Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

# Negotiating Epistemic Authority via Expressive Content

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Why do we trust what other people say, and form beliefs on the basis of their speech?

- ▶ One answer: they are taken to have *epistemic authority*.
- ▶ Intuitively this means that the other person (or institution, or group) is taken to be authoritative in what they say, at least with respect to a particular domain.

Question: How can one acquire epistemic authority?

# Being reliable

One way to be authoritative, in the sense of having one's speech consistently believed, is to be a speaker who is judged reliable with respect to speaking truth.

- ▶ McCready (2015a): use past performance on communication to project future reliability.

Initial judgements about reliability:

- ▶ Assign a probability of reliability based on properties of the source relevant to expectations about accurate information transmission.

This heuristic gives a first guess about reliability which is then modified by interaction.

- ▶ Embeddable in a general model of information dynamics (McCready, 2015a).

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

The notion of authoritativeness here is (in a sense) a passive one.

- ▶ One becomes authoritative by speaking the truth and by looking reasonably trustworthy.
- ▶ This is a kind of authority acquired by being a good citizen in the testimonial sense.
- ▶ But is there a more active way to acquire epistemic authority (EA) by linguistic means?

We think yes: by use of argumentative and other linguistic devices.

# Types of content

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Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

Natural language (conventional) content can be separated into two types.

1. At-issue content: roughly, the content comprising the ‘main claim’ of a sentence [declarative case], analyzable via the notion of truth conditions.
2. Not-at-issue content: content which is in some sense secondary to the main claim (i.e. the rest).

Employing at-issue content to acquire EA is a direct method and works only given sufficient existing authority.

- ▶ We therefore focus on not-at-issue content here.

There are various types of not-at-issue content.

- ▶ Presupposition: put conditions on context and/or common ground of speaker and hearer.
- ▶ Conventional implicature: a kind of secondary assertion or claim, but one which is in a sense taken for granted and difficult to challenge.

Here, our main interest is *expressive content*.

- ▶ Very roughly, content with following two key features:
  - ▶ ineffability: impossibility of nonexpressive paraphrase
  - ▶ unchallengeability: unamenable to direct challenge via truth; even if challenged, tends to have its intended effect

Following: a few examples of such content and how it might play into EA judgements.

# Particles.

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Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

Particles like the Japanese *yo* (with falling intonation) work to try to 'force' the hearer to accept the content of the sentence (McCready, 2008; Davis, 2009).

- ▶ Northrup (2014): an analysis of this particle in terms of epistemic authority.
- ▶ His idea is that *yo* indicates that the speaker has at least as much epistemic authority as anyone else wrt the content of the sentence.

Implication: the particle can be used strategically to try to claim such epistemic authority for the speaker.

# Examples.

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

A failed attempt: The speaker requests belief via the claim of teacherhood.

- (1) watashi-wa anata-no sensei desu yo  
1P.Formal-Top 2P.Formal-Gen teacher Cop.Hon PT  
'I am your teacher, don't forget.'

But: the use of strengthening *yo* implicates that the speaker doesn't have authority already

- ▶ Suzuki Kose (1997): falling *yo* infelicitous in e.g. instructions from commanding officer in army.

And this one is even worse, because of the additional content mismatch.

- (2) Respect my authority, please!



# Honorifics.

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

Honorifics operate on a separate dimension from epistemic claims (Potts and Kawahara, 2004; Potts, 2007; McCready, 2010, 2014, 2015b).

- ▶ But: to the extent that one's social status influences her epistemic authority,
- ▶ the use of (anti-)honorifics should count as a strategy for assuming it, or taking it from others.

Notably: 'raising' the addressee could cede some epistemic authority to them.

# Honorific plus particle.

The following might work, but there is a sad mismatch between content, honorific tone and particle: it's as if the speaker is desperately trying to assert himself.

(3) watashi-no itteiru koto-o shinjite kudasai yo  
1P.Formal-Gen saying thing believe please.Pol PT  
'Believe what I'm saying, please.'

This excessive politeness and request for hearer belief seems to be mutually counteracting.

- ▶ Observation: Japanese-language 2D advertising exhibits very few honorifics.
- ▶ Hypothesis: use of honorifics lowers speaker authority, hence epistemic authority, perhaps via distancing of speaker and addressee.

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

# Expressives indicating social groupings

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

Our main focus in this talk is testimony.

- ▶ How to assign probabilities of likely reliability to individuals?
- ▶ Fricker (2007): make use of stereotypes about groups
- ▶ ‘Women are not logical’, ‘Asians are well educated’, ...

Many expressives tag groups which can be relevant to determinations of epistemic authority via social status (also cf. honorifics, particles).

- ▶ We can call these *social expressives*.

Yield a ‘proactive’ method of authority modification:

- ▶ ascribe other individuals membership in groups which are associated with some stereotype;
- ▶ use that (lack of) privilege to implicate something about their epistemic authority.

# Two examples

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Epistemic  
Authority via  
Expressive  
Content

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Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

1. **Slurs.** By definition, negative and subordinating (cf. Stanley 2015), so can be used emphasize one's own epistemic authority over categorized individual.
2. **Gendered language.** Deployment of stereotypes about gender to acquire epistemic authority.
  - ▶ Common claim (e.g. Fricker 2007): the overt or covert primary position of males in society, and their consequent authority, can lead to differences in epistemic authority as well.
  - ▶ e.g. claims of men are often believed over the claims of women, all else being equal.

We will focus on the use of gender stereotypes in argumentation.

# Stereotypes and authority

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Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

Stereotypes are associated with complexes of properties:

- ▶ Personae (Burnett), as developed based on the work of Eckert and others in 3rd Wave sociolinguistics.

Here is a possible way to spell out stereotypes associated with masculinity and femininity.

(4) Masculine and feminine stereotypes.

- Male: logical, decisive, competent, physically strong, active, sporty, interested in functionality
- Female: emotional, passive, nurturing, physically weak, indoor, interested in appearance

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

The properties above relate to decisions about credibility.

- ▶ Judging someone competent leads to assigning them a higher credibility than incompetence;
- ▶ judging someone to be interested in sports yields a higher credibility for that person on issues of sport.

Thus stereotypes like the ones above will have an impact on judgements about epistemic authority and reliability.

# Deploying social expressives

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

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Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

Consider (4) and their personae = sets of properties.

- ▶ Suppose that there is a property in one of these sets that has an adverse impact on epistemic authority
  - ▶ e.g. the property of being emotional (and hence not logically oriented) in (4b).
- ▶ Then: observing someone's feminine gender would tend to decrease the perceived reliability of that person;
- ▶ further, drawing attention to the feminine gender of some information source would induce this decrease.

# Source-based Arguments

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

- ▶ Source-based arguments rely on the credibility of the source of an information as a reason to accept/refute the information or its consequences (Walton et al., 2008).
- ▶ Two very common form of these arguments:
  - ▶ The argument from appeal to *authority* (or “position to know”)
  - ▶ The *ad hominem* argument
- ▶ In both cases, the core of the argument is whether the source of an information should be trusted or not.
- ▶ Both kind of arguments are traditionally considered to be *fallacies* (Hamblin, 1970) (because the status of the source of an information should not affect how that information is treated).



# Argument schemes

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Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

From Walton et al. (2008):

- ▶ Direct (abusive) ad hominem
  - ▶ Source  $a$  is a person of bad character / has bad character for veracity
  - ▶  $a$  argues that  $\alpha$
  - ▶ **Conclusion:**  $\alpha$  should not be accepted
- ▶ Argument from authority (position to know):
  - ▶ Source  $a$  is in a position to know about things in a certain subject domain  $S$  containing proposition  $A$
  - ▶  $a$  asserts that  $A$  is true
  - ▶ **Conclusion:**  $A$  is true

# Previous approaches

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

- ▶ The pragma-dialectic approach to argumentation investigated the conditions under which the *ad hominem* is judged to be *reasonable* (van Eemeren et al., 2009).
  - ▶ They argue that the direct form of the argument is judged to be reasonable, provided some “discussion rules” are met.
- ▶ Hahn et al. (2009); Oaksford and Hahn (2013) adopt a Bayesian perspective and contend this conclusion by showing that the *convincingness* of the argument does not depend on the stage of discussion, but rather depends on the content of the argument.
- ▶ This also applies to the argument from authority.

# Gender and authority

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

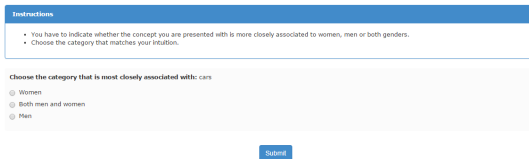
References

- ▶ **Issue:** Does the gender of the source of an information affects how well AH and authority arguments are received?
- ▶ People may have a bias towards men being more reliable in general.
- ▶ However, that bias might change depending on what is talked about.
- ▶ When the gender of the source is not mentioned, people should apply a default strategy to evaluate an argument.
- ▶ Experiments were run.

# Experiment: categorize bias

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Epistemic  
Authority via  
Expressive  
Content

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The screenshot shows a web-based experiment interface. At the top, a blue header contains the word "Instructions". Below this, a white box contains two bullet points: "You have to indicate whether the concept you are presented with is more closely associated to women, men or both genders." and "Choose the category that matches your intuition." Below the instructions, the text "Choose the category that is most closely associated with: cars" is displayed. Underneath, there are three radio button options: "Women", "Both men and women", and "Men". At the bottom right of the interface, there is a blue "Submit" button.

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

- ▶ Preliminary testing of the gender bias of some topics.
- ▶ Categorization task on Amazon Mechanical Turk.
- ▶ Participants were asked to choose the category most closely associated with a concept: Men, Women, Both.
- ▶ 17 concepts paired with a property were tested:
  - ▶ the safety of a car
  - ▶ ...
- ▶ Each item was categorized by 5 different participants.
- ▶ Each participant received 0.05\$ for each categorized item.

# Results

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

Item	Bias	Agreement
the performance of a power drill	Masc.	100%
the rating of a whisky by connoisseurs	Masc.	100%
the coaching of a football team	Masc.	100%
the value for money of a high fidelity audio system	Masc.	80%
the precision of high-end watches	Masc.	100%
how good a sun cream is for the skin	Fem.	100%
how easy to clean a cooking pan is	Fem.	100%
how trendy a coat is	Fem.	80%
the durability of a sewing machine	Fem.	100%
the election of shops at a shopping mall	Fem.	100%
the best time to avoid rush hour	Both.	80%
the amount of information in a travel guidebook	Both	100%
the classic albums of folk music	Both	100%
the authenticity of Japanese food	Both	100%
how influential a philosophy book is	Both	80%

# Experiment: judgments

- ▶ The goal of the core experiment was to test the effect of gender on the convincingness of an argument.
- ▶ Item example: authority
  - ▶ A and B are friends. A wants to buy a power drill and is thinking about which one to buy. A wants a **high performance drill** to perform heavy duty work.
  - ▶ A: I wonder if this one is a good choice.
  - ▶ B: I have a friend who says **he** knows a lot about **power tools**, and **he** says this model is really powerful.
- ▶ Item example: *ad hominem*
  - ▶ A and B are friends. A wants to buy a power drill and is thinking about which one to buy. A wants a **high performance drill** to perform heavy duty work.
  - ▶ A: I heard from Jamie that this model is really powerful.
  - ▶ B: **She** doesn't know anything about it.

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

# Protocol

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

- ▶ Questionnaire on Amazon MTurk
- ▶ 450 US-based participants were asked for their age range, gender, native language and region of origin.
- ▶ They then judged the convincingness of 5 different arguments (4 fillers+1 target item) presented in pseudo-random order. Convincingness was rated on a 5 point Likert scale.
- ▶ 15 target arguments, using the topics tested in the first experiment.
- ▶ Independent variables:
  - ▶ Gender of the **source**: fem, masc, neut
  - ▶ Gender bias of the **discussed topic**: fem, masc, both
- ▶ Linear mixed effect models with maximal random effect structure were fitted to the data using the lmer package in R. Effects of condition and group were confirmed by likelihood-ratio tests.

# General Results

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

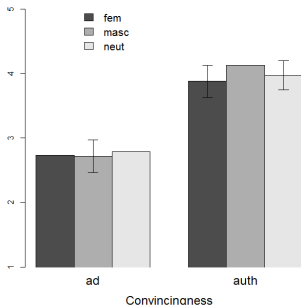


Figure: Type of argument and gender of the source

- ▶ Significant effect of the type of argument ( $\chi^2 = 145.38, p < 0.01$ ):
  - ▶ Authority arguments are judged more convincing than *ad hominem*
- ▶ No effect of the gender of the source



# Results: ad hominem

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

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Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

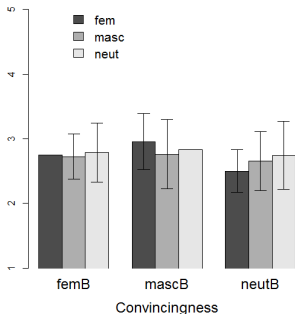


Figure: Ad hominem: source gender and topic gender bias

- ▶ No significant effects of any of the variables.
- ▶ The gender of the respondent did not have any significant effect either.
- ▶ The effectiveness of the argument does not seem to depend on the gender of the source or the topic being discussed.

# Results: authority

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

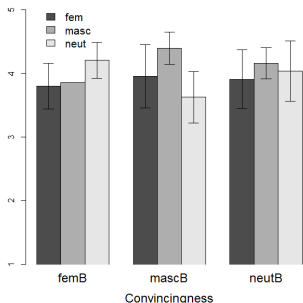


Figure: Authority: source gender and topic gender bias

- ▶ Significant interaction between the gender of the source and the gender bias of the topic ( $\chi^2 = 11.023, p = 0.026$ )
- ▶ In the `mascB` case, the difference between the `masc`-source and `neut`-source is significant ( $W = 168.5, p = 0.005$ )

# Discussion

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

- ▶ The results suggest that:
  - ▶ Generally, *ad hominem* are judged less convincing than authority arguments.
  - ▶ Gender differences are only observed in the argument from authority:
    - ▶ Men are judged more reliable for men-oriented topics
    - ▶ The converse is not true for women
    - ▶ The use of a neutral referent is less trusted for men-oriented topics (but not in the other cases)

# Explanations?

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

## Why is authority preferred?

- ▶ In authority argument, the only question is how reliable the reported source is.
- ▶ Speaker authority/reliability is constant across possible sources.
- ▶ The ad hominem argument is purely a contest between speaker and source reliability.
- ▶ Harder to be convincing, perhaps ...

## Why the particular patterns in authority arguments?

- ▶ Possibility: generally lower reliability for women;
- ▶ but overridden by particular topic in certain cases.

# Open issues

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

- ▶ The results confirm that in the case of the argument from authority, gender plays a role in how respondents evaluate the strength of an argument.
- ▶ There are still open issues:
  - ▶ The design was between participants, and thus the effect of the gender of the respondent is hard to evaluate
  - ▶ The strategy used when evaluating a neutral source is not clear: the respondents might attribute a default gender (the most probable one) or engage in more complex calculations.

# Experiment: Cantonese

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

- ▶ A second, within participants, experiment was run using Cantonese.
- ▶ Goals:
  - ▶ Confirm the results of the pilot and compare with speakers from a different social/linguistic background
  - ▶ Better control some features:
    - ▶ the stakes of the topics discussed
    - ▶ ignore the neutral source of information

# Preliminary experiment: bias categorization

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

- ▶ Preliminary testing of the gender bias of some topics, similar to the one for English.
- ▶ Participants were asked to choose the category most closely associated with a concept: Men, Women, Both.
- ▶ 24 concepts paired with a property were shown to participants (in Cantonese):
  - ▶ the performance of a power drill
  - ▶ ...
- ▶ Items were pre-selected based on intuitions about biases, and with a low stake profile (e.g. not involving life/death situations)
- ▶ 11 respondents, voluntary, all native Cantonese speakers, students at the Education University of Hong Kong.
- ▶ 12 items with the highest agreement scores level were selected for the core experiment (4 in each category).

# Results: Bias Categorization

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

Item	Bias	Agreement
Effectiveness of hair loss treatments	Masc.	8/11
Performance of power drills	Masc.	11/11
Antique cars maintenance shops	Masc.	6/9
How good a club is to pick up girls	Masc.	11/11
Selection of shops at a mall	Fem.	6/9
Freshness of groceries at a market	Fem.	6/11
Seriousness of a piano teacher	Fem.	9/9
Meaning of a bouquet in the language of flowers	Fem.	9/11
How classic a Cantopop album is	Both	9/11
Frequency of a bus line	Both	9/9
Suitability of a plant to HK climate	Both	8/9
Best time to avoid rush hour	Both	7/9

Table: Topics' biases (Cantonese)



# Core experiment: Factors

- ▶ The experiment replicated a protocol used by Oaksford and Hahn (2013) to investigate arguments.
- ▶ Participants were asked to rate how convincing an argument used in a conversation is.
- ▶ Three factors were taken into account:
  - ▶ **Source**: the gender of the source of the information (masc./fem.), marked by the use of gendered terms for older cousins
  - ▶ **TopicBias**: the bias of the topic (masc./fem./neut.), based on the preliminary experiment
  - ▶ **GenderResp**: the self-declared gender of the respondent (masc./fem./other)
- ▶ The significance of each factor was assessed by model comparison over fitted mixed linear models with maximal random factors (using the `lmer` package of R).

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

# Questionnaire

- ▶ Total: 12 target items (6 experimental conditionsx2) + 24 filler items
- ▶ Item example (translated from Cantonese)
  - ▶ A and B are friends. A wants to buy a power drill and is thinking about which one to buy. A wants a **high performance drill** to perform heavy duty work.
  - ▶ A: I wonder if this one is a good choice.
  - ▶ B: My **older cousin** says she knows a lot about **power tools**, and she says this model is really powerful.
  - ▶ *How convincing do you think A finds B's suggestion?* (5-point Likert scale)
- ▶ 97 voluntary participants received a link to a questionnaire hosted on the **IbexFarm** platform (64 female, 32 male, 1 other, mean age 27 years old).

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

# General Results

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

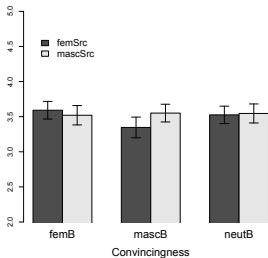


Figure: Topic bias and gender of the source

- ▶ There is no main effect of Source:
  - ▶ overall masc. sources are not judged more reliable than fem. sources
- ▶ There is a significant interaction bw. Source and TopicBias ( $\chi^2 = 6.8, p = 0.048$ )
  - ▶ Women are less trusted for masc. topics
  - ▶ But men are not less trusted for fem. topics

## Results (II)

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCreedy,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

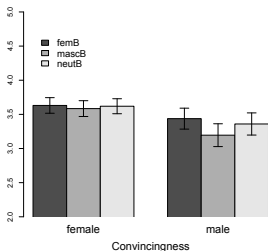


Figure: Gender of respondent and TopicBias

- ▶ There is a marginal effect of GenderResp ( $\chi^2 = 5.30$ ,  $p = 0.07$ )
  - ▶ male respondents tend to give lower scores
- ▶ There is a *significant interaction* bw GenderResp, Source and TopicBias ( $\chi^2 = 36.74$ ,  $p = 6.27e - 05$ )
  - ▶ men respondent are the most critical in the case of male oriented topics

# Discussion

Negotiating  
Epistemic  
Authority via  
Expressive  
Content

Eric McCready,  
Grégoire  
Winterstein

Reliability and  
Judgement

Experiment

Experiment: Cantonese

References

- ▶ The results further confirm:
  - ▶ the interaction between the gender of the source of an information and the topic being discussed
  - ▶ the asymmetry between men and women (men are generally trusted if they claim competency, unlike women)
- ▶ They also highlight the effect of the gender of the respondent.

# Bayesian view

- ▶ Consider scenarios like:
  - (5) I have a friend who says he knows a lot about power tools, and he says this model is really powerful.

Two distinct pieces of information are given:

- ▶ the friend is male:  $i \in T_{\text{male}}$
- ▶ the friend knows about power tools:  $i \in K_{\text{powertools}}$
- ▶ When observing that  $i$  is of type  $T$  we have (via Bayes' rule, with  $P(R_{i,D})$  the probability that  $i$  is reliable in domain  $D$ ):

$$(6) \quad P(R_{i,D} | i \in T) = \frac{P(i \in T | R_{i,D}) \times P(R_{i,D})}{P(i \in T)}$$

- ▶  $P(i \in T | R_{i,D})$  is the likelihood of being of type  $T$  if the agent is assumed to be reliable. This can be seen as a measure of personal biases (“if the person is reliable, he/she must be a man/woman”), which might be linked to the gender of the respondent.

# Bayesian view (II)

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Authority via  
Expressive  
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Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

- ▶ If we consider both informations given in the target arguments:

$$(7) \quad P(R_{i,D} | i \in A, i \in T) = \frac{P(i \in A | R_{i,D}, i \in T) \times P(i \in T | R_{i,D}) \times P(R_{i,D})}{P(i \in A, i \in T)}$$

- ▶ This expresses the posterior probability that  $i$  is reliable in domain  $D$ , knowing that  $i$  is of type  $T$  and has property  $A$  (e.g.  $i$  is male and knows about power tools).
- ▶ If  $A$  is a property that is typical of type  $T$ , this quantity is very close to 6, the limit case being:  $T \subset A$  (e.g. all males are knowledgeable about power tools)

# Bayesian view (III)

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Judgement

Experiment  
Experiment: Cantonese

References

- ▶ The Bayesian considerations offer a way to explain the results of the experiments:
  - ▶ the gender of the respondents affects the perceived likelihood that a reliable source is of a given gender
  - ▶ the quantity  $P(i \in A | R_{i,D}, i \in T)$  can explain why men are more trusted in general, they are judged to be overall competent in most domains, unlike women.
- ▶ This can be further tested by manipulating properties for which all individuals of a given gender are/are not supposed to be competent:
  - ▶ Not all men know about power tools (but most people who know about it are men)
  - ▶ All/most women know about cooking (but not all people who know about it are women)
- ▶ Future work!



# Conclusion

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Reliability and  
Judgement

Experiment  
Experiment: Cantonese

References

## Next steps:

- ▶ Larger experiment!
- ▶ Formal model of experimental results, as well as of other rhetorical strategies for authority assumption
- ▶ Wider experimental investigation of other kinds of not-at-issue content in argumentation
  - ▶ Presupposition? Conversational implicature?
- ▶ More immediately, other expressives: honorification, particles.

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Experiment

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# THANK YOU!!!!

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Experiment

Experiment: Cantonese

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