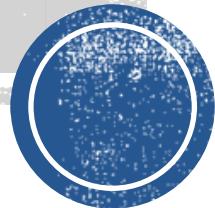


Gender bias in linguistics textbooks: Has anything changed since Macaulay & Brice (1997)?

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Introduction

- Based on their analysis of 11 syntax textbooks in the field, Macaulay & Brice (1997) concluded that:
 - “the **majority** of constructed example sentences in syntax textbooks are **biased toward male-gendered NPs**, and [...] contain **highly stereotyped representations** of both genders”

Introduction

- It has been 20 years since Macaulay & Brice (1997)'s “seminal” work.
 - **Question:** How much has changed? 🤔
 - **Spoiler alert:** Not much 😞 😐 😓 😠

Structure of this talk

- Introduction
- Background: Macaulay & Brice (1997)
 - An analysis of 11 textbooks published between 1969-1994
- Current study
 - An analysis of 6 current syntax textbooks
- Discussion: Why does this matter? How can we improve?

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Macaulay & Brice (1997)

Macaulay & Brice (1997)

- **Comparative study** of constructed examples from 11 syntax textbooks published between 1969 and 1994
 - Study 1: 1,032 examples from one textbook ('Syntax textbook' (1991)); male author
 - Study 2: 10 additional textbooks published between 1969 and 1994 to generalize results, sampling 200 examples from each; 7 M authors, 3 F authors
- **NPs coded for**
 - **Grammatical function** (subject, DO, IO, etc.)
 - **Theta roles** (agent, patient, experiencer, recipient, etc.)
 - **Lexical choices** (pronouns, proper names, violence, etc.)

Macaulay & Brice (1997)

MEN...

- Appear more often as **arguments** than women do
- Are more likely to be **subjects** and **agents** than women are
- Are **subjects** and **agents** more often than other roles
- Have **pronouns** mentioned more often than women
- Have **names** mentioned twice as often as women
- Are engaged in ‘**intellectual** activities’ (book reading/handling) and tinker with **cars** more often than women
- Are described as having **occupations** more often than women, and in a wide range of occupations
- Perpetrate **violence** more often than women

Macaulay & Brice (1997)

But women also display trends

WOMEN...

- Often lack names, but are referred to with **kinship terms** (*X's wife, mother*) more often than men are
- Have their **appearance** described more often than men



Macaulay & Brice (1997)

- **Selected examples:**

- Harry watches the fights and his wife the soap operas.
- Bill is proud of his father and tired of his mother.
- Every painting of Maja and photograph of Debbie pleased Ben.
- The man is hitting the woman with a stick.
- The man who shot her believed there was someone else who was seeing Helen.
- ...and so many more



Macaulay & Brice (1997)

- In addition, **explicit and suggestive language:**
 - Max doesn't beat his wife because he loves her. (*structural ambiguity*)
 - After Rambo as a lover, she was exhausted.
 - She's fond of John naked.
 - I can't imagine you in kinky boots.
 - John's turned on by Mary in tight trousers.
 - She'll soon tire of her sexploits.
 - What a nice pear Mary's got!
 - John forced Mary to be kissed by Bill.
 - ... and many more



Macaulay & Brice (1997)

- Some differences based on **gender of textbook authors**

YEAR	AUTHOR'S GENDER	SUBJECT			AGENT		
		3F (%)	3M (%)	Other (%)	3F (%)	3M (%)	Other (%)
1969	M	6	24	69	8	38	54
1975	M	10	41	49	9	53	38
1979	M	20	33	47	24	38	38
1984	M	11	47	42	15	51	34
1986	M	4	49	47	2	47	51
1988	M	8	36	57	6	43	51
1994	M	14	29	57	17	35	48
1992	F	41	22	37	47	20	33
1993	F	28	21	52	30	21	49
1994	F	6	39	55	6	42	52

Macaulay & Brice (1997)

- “Our results clearly illustrate the need for such scrutiny:
females are simply not significant actors in the world constructed by sample sentences.” (p. 816)
- That was then...

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Current study



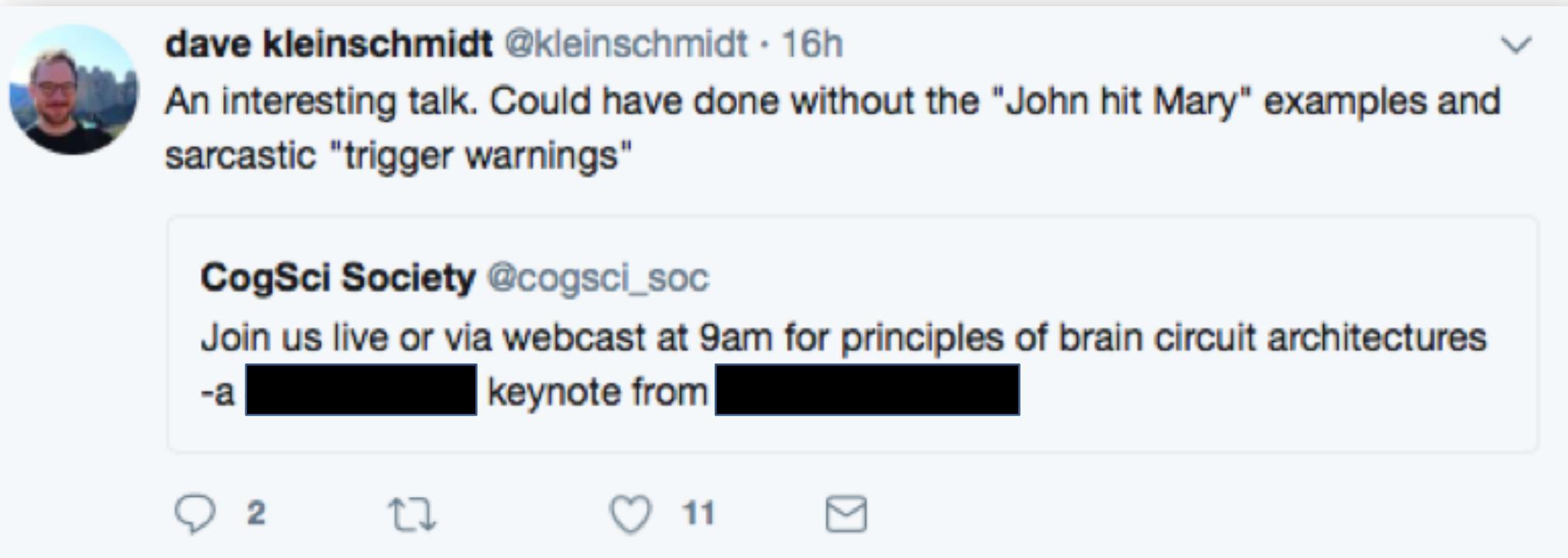
Fast forward 20 years

- It has been over 20 years since Macaulay & Brice (2017) was published.
- What, if anything, has changed?



Fast forward 20 years

- A hint: Probably not much.



dave kleinschmidt @kleinschmidt • 16h
An interesting talk. Could have done without the "John hit Mary" examples and sarcastic "trigger warnings"

CogSci Society @cogsci_soc
Join us live or via webcast at 9am for principles of brain circuit architectures
-a [REDACTED] keynote from [REDACTED]

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The current study: Methods

- **200 examples** randomly sampled from each of **6 syntax textbooks** (published 2005-2017)
- **Textbook authors:** 3 men, 3 women
- Total of **2,776 arguments**
- Coded for:
 - **Grammatical function** (subject, DO, IO, etc.)
 - **Theta roles** (agent, patient, experiencer, recipient, etc.)
 - **Lexical choices** (pronouns, proper names, violence, etc.)
 - **Language** (English, non-English)

* Similar to Macaulay & Brice; some categories consolidated because of scarcity of data

The current study

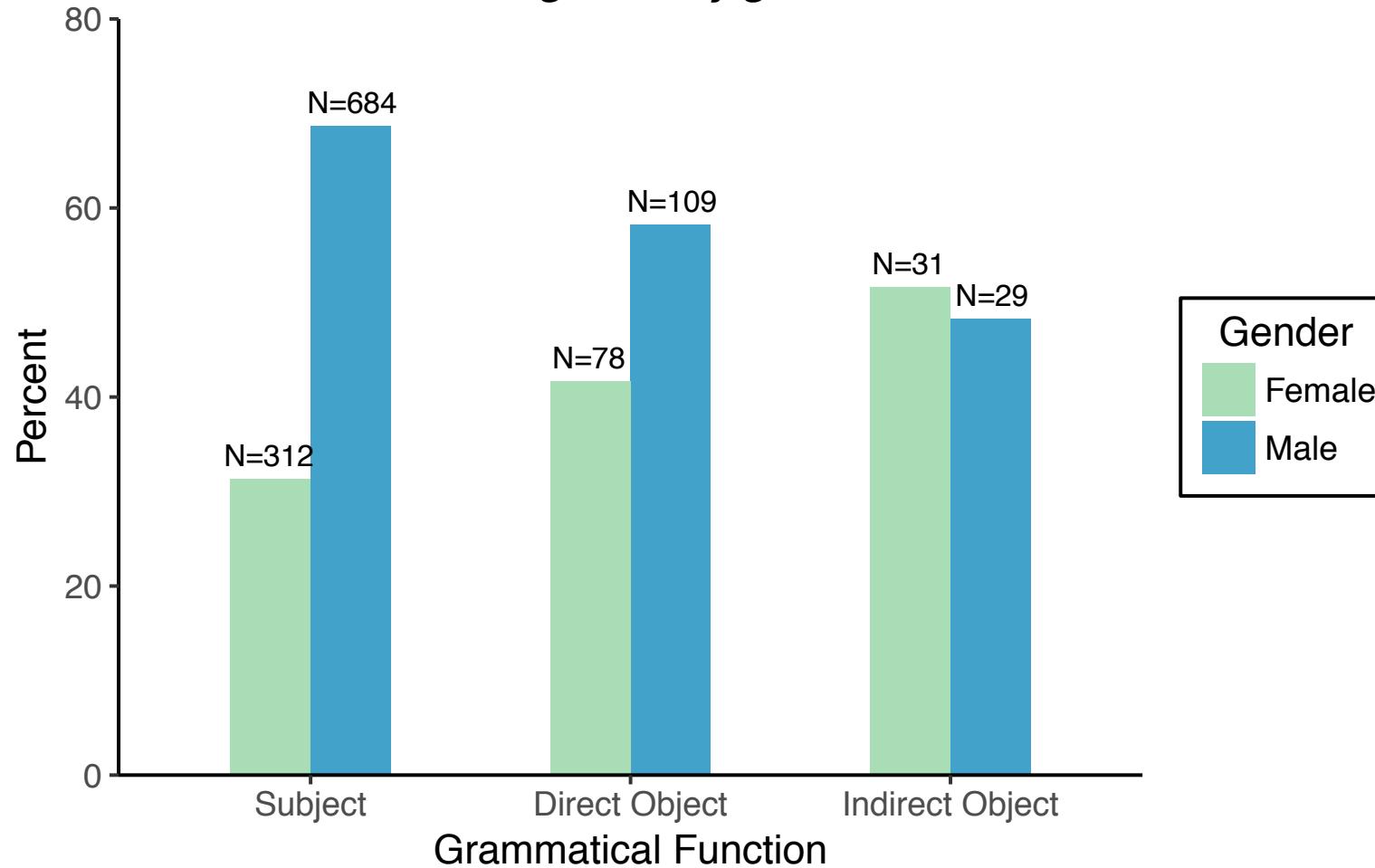
- We focus in on the main findings from M&B, which serve as a springboard to the current study.
- We seek to determine whether similar gender biases and stereotypes are still being perpetuated.
- They are.

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Results

Figure 1

Overall distribution of gender by grammatical function

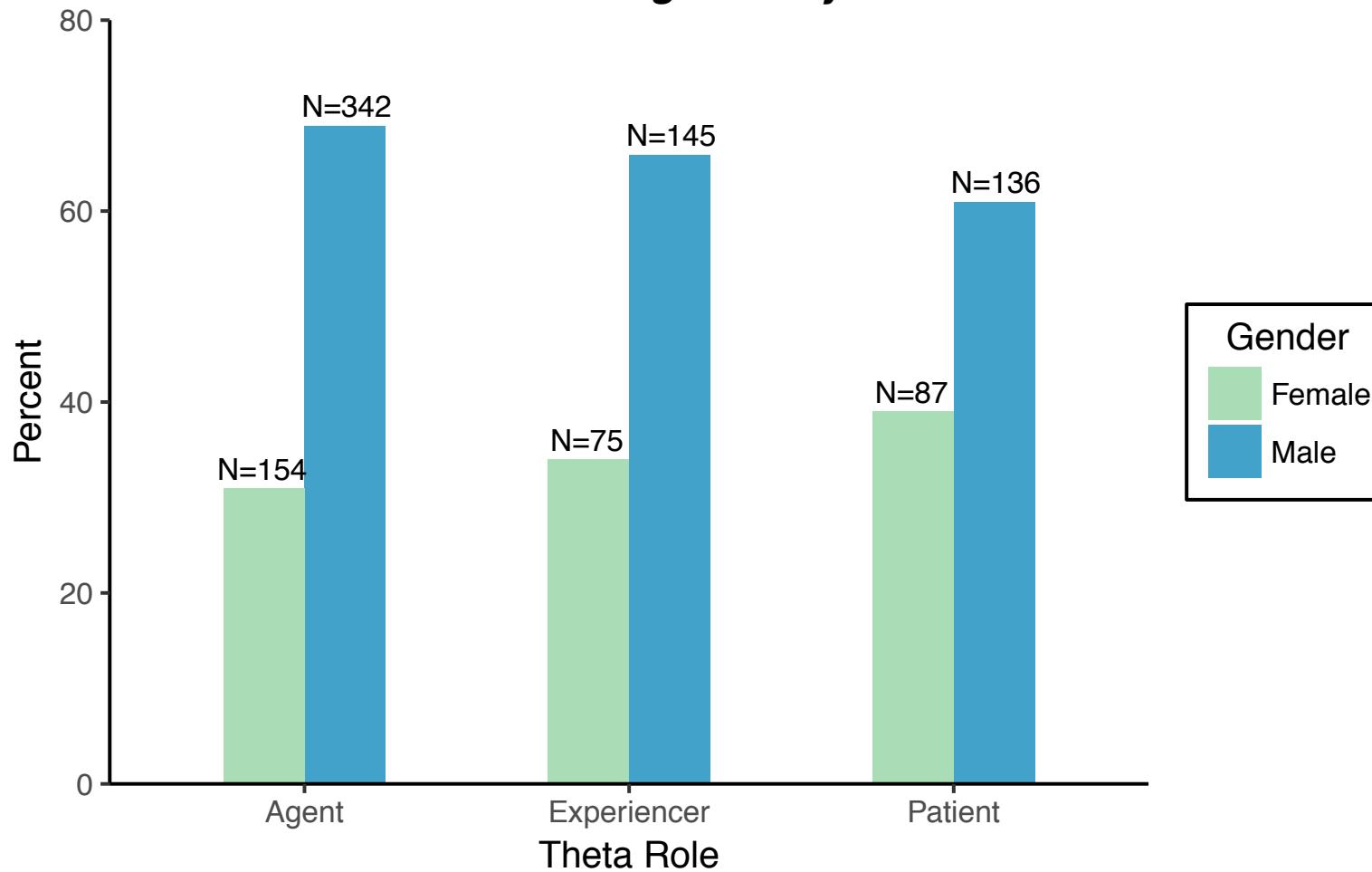


Results: Grammatical Function

Men are more likely to be **subjects** ($p < .01$) and **direct objects** ($p = .02$).

(Chi Square tests, with Bonferroni correction)

Figure 2
Overall distribution of gender by theta role

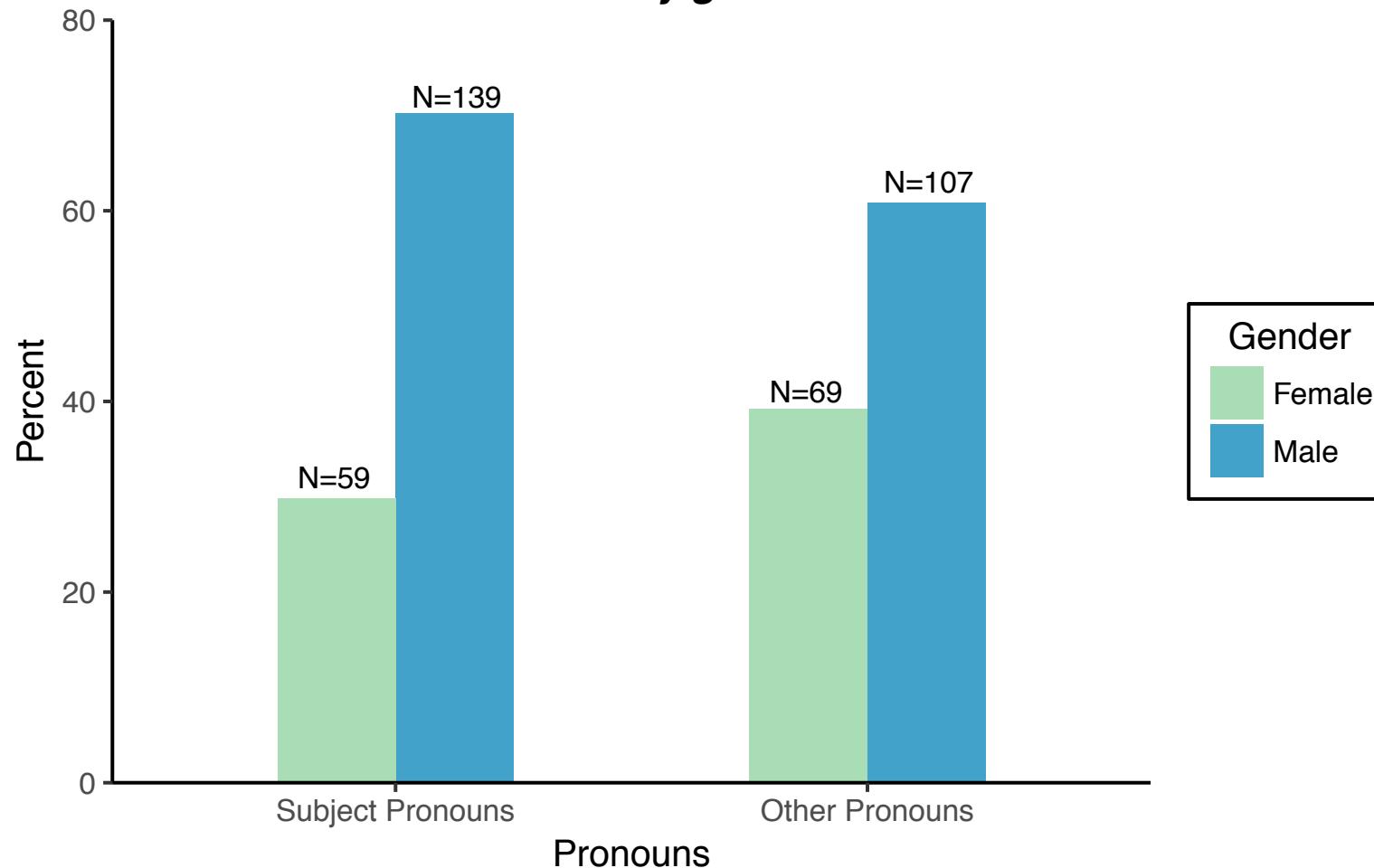


Results: Theta Roles

Men are more likely to be **agents, patients, and experiencers** (all $p < .01$).

(Chi Square tests, with Bonferroni correction)

Figure 3
Pronouns by gender

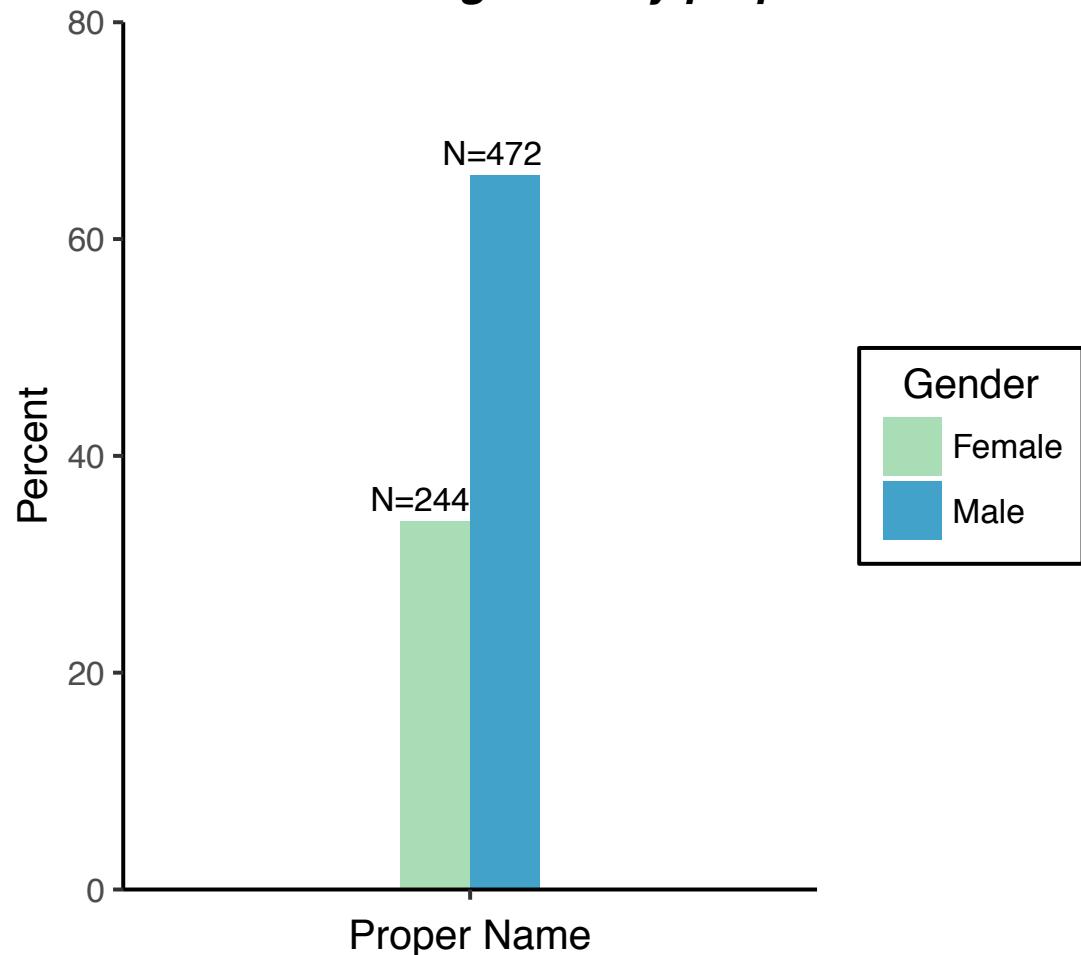


Results: Pronouns

Men are more likely to **be presented with pronouns** ($p < .01$).

(Chi Square tests, with Bonferroni correction)

Figure 4
Overall distribution of gender by proper name



Results: Proper Names

Men are more likely
to have **proper
names** ($p < .01$).

(Chi Square tests, with
Bonferroni correction)

The current study: Results

MEN...

- **Still** appear more often as **arguments** than women do
- Are **still** more likely to be **subjects** and **agents**
- **Still** have **names** more often than women
- **Still** have **pronouns** mentioned more often than women

The current study: Results

AND MEN...

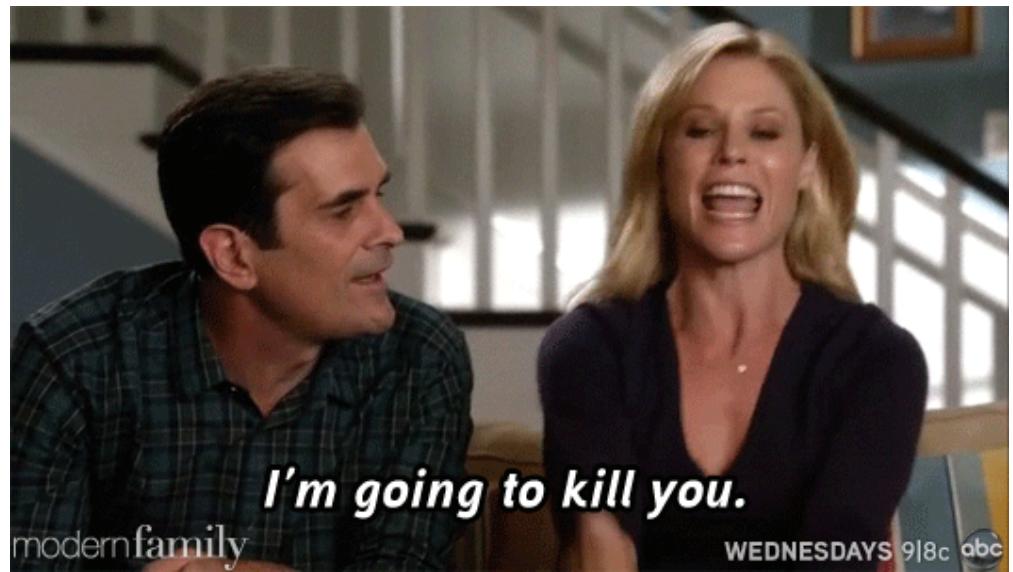
- Are **still** engaged in ‘**intellectual** activities’ (book reading/handling) more often
- Are **still** described as having **occupations** more often than women, and in a wide range of occupations
- **Still** perpetrate **violence** more often than women

The current study: Results

Men and women express positive emotions at similar rates.



BUT: Women express **negative emotions** more often than men.



The current study: Results

- As before, the **sex of the textbook author** matters.
 - Female authors display less gender bias.
 - Female authors use **more ambiguous and inanimate arguments** (F: 64% vs M: 42%)
 - But female authors, like their male counterparts, still use **more male arguments** than female arguments (~2:1).
- **Language of example** is **not** a predictor of gender of arguments.
- *As indicated by mixed effects logistic regression conducted in R

What has changed?

- Some ratios have improved (occupation, violence).
- Explicitly sexist content is almost entirely absent (**from the textbooks we chose to sample!**).
 - Women's appearance, women pleasing men, sexually suggestive examples, sexually explicit examples
- Stereotypical examples concerning men and cars are almost entirely absent.

What hasn't changed?

- **All the major findings from Macaulay & Brice!**
 - Grammatical functions, theta roles, pronouns, proper names, etc.



So what does this mean?

- Even if some ratios improved and explicit language has improved, **gender bias is still there.**
- Removing the blatant examples doesn't address the underlying problem.



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Discussion

Why does this matter?

- **Textbooks socialize learners to the field**, are considered authoritative, and reflect the values of the scholarly community and our society (Bergvall, 1996; Bruegues, Cromer & Unesco, 2008; Mustapha & Mills, 2015)
- Carefully constructed **examples are cited again and again**, often being divorced from their original source and treated as an example from the literature of a particular phenomenon.
- **Examples may encode implicit biases** (even at a very subtle level), which then get handed down to students of linguistics, perpetuating the cycle.

Keep in mind...

- We are looking at **published syntax textbooks**. This is only **one source** of syntactic material.
- Many **instructors create their own materials** because they are dissatisfied with textbooks.
 - We don't know what trends there are in these materials.
- Many instructors **construct examples on the fly**.
 - Implicit biases may easily creep in to such (not-so-carefully crafted) examples.

LSA Responses to Gender and Inclusivity

- 1996 Guidelines for Non-Sexist Usage (COSWL)
- 2016 Guidelines for Inclusive Language (COSWL)
- 2018 Panel at Annual Meeting: *Our Linguistics Community: Addressing Bias, Power Dynamics, Harassment*

Discussion

- **Possible objection I:**

- Threat against free speech
- Constrains creativity
- Smacks of censorship

- **Our response:**

- If an example could potentially hurt someone and the content isn't relevant for illustrating a certain phenomenon, linguists can and should find other means to illustrate the linguistic points they are making.

Discussion

- **Possible objection 2:**

- It is unclear how to rectify this situation.

- **Our response:**

- Any concerted attempts to reverse the distributional skew and to present linguistic examples in a way that celebrates and honors the diversity of individuals representing our field is welcome.

To be clear

- **In the interest of being maximally inclusive**
 - Stereotypical language, sexually explicit and demeaning language, and language reflecting biases are easily avoided, and should be.
 - Use of gendered lexical items (*-man, he, etc.*) where unnecessary should be avoided and the biased and elevated frequency of particular gendered NPs in particular syntactic positions or semantic roles should be diminished.

Discussion

- The trend we have collectively observed in linguistics texts is reflected elsewhere and is reflective of an **engrained mindset and more general and systemic societal problem** with implicit/explicit gender bias.
- **This bias starts surprisingly early – around age 6!**

Discussion

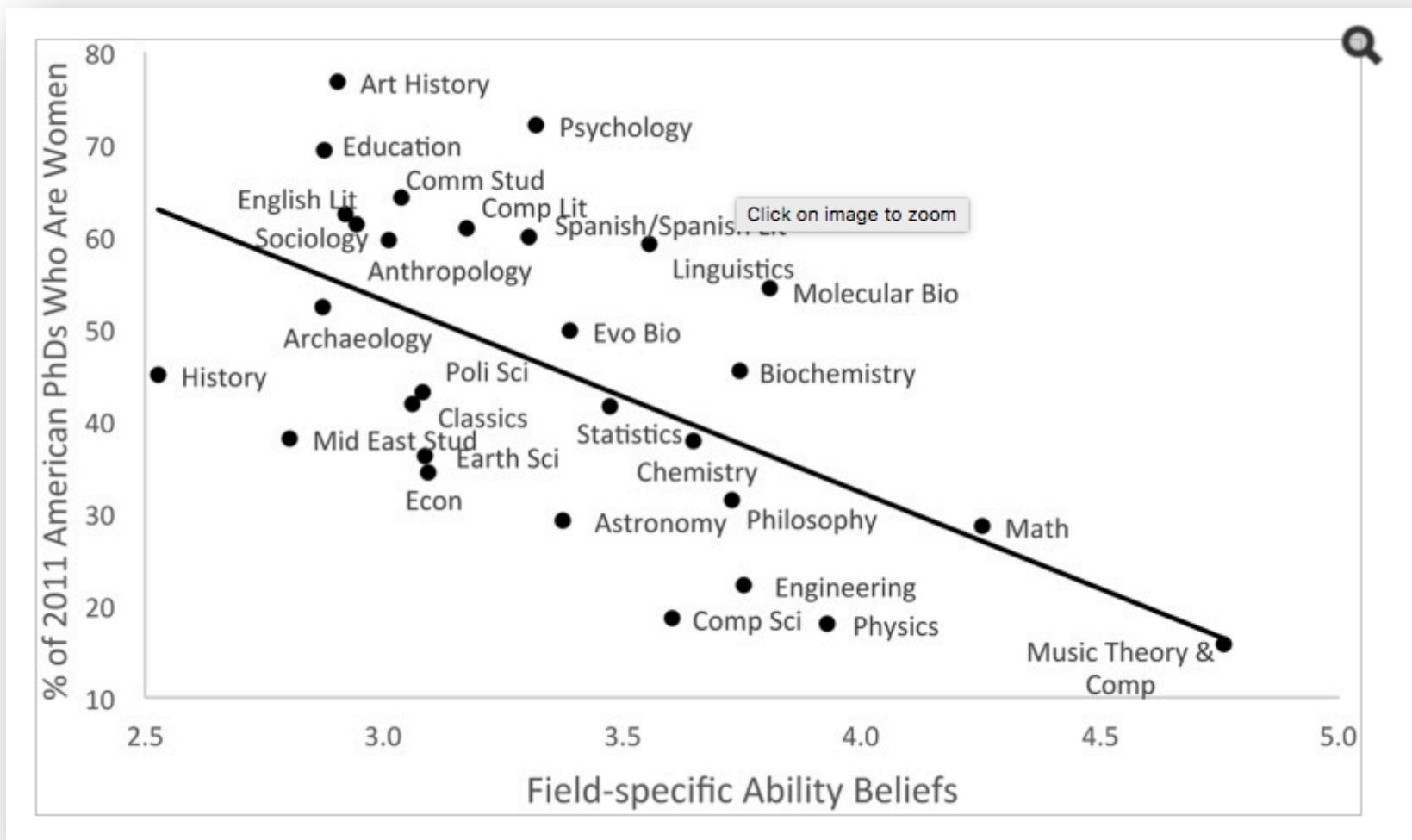
- **Bian, Leslie, & Cimpian (2017)**
 - Children were told a brief story about a person who was **“really, really smart.”** They were then asked to guess which of four unfamiliar adults (two M, two F) was the protagonist of the story. In another version, children saw several pairs of same- or different-gender adults and guessed which adult in each pair was “really, really smart.”
 - **At 6, girls perceive girls as getting better grades, but not perceived as smart or brilliant.**

Discussion

- Leslie, Cimpian, Meyer, & Freeland (2015)
 - “across the academic spectrum, women are underrepresented in fields whose practitioners believe that **raw, innate talent** is the main requirement for success, because women are stereotyped as not possessing such talent”
- Meyer, Cimpian, & Leslie (2015)
 - “fields believed to require **brilliance** have fewer women”

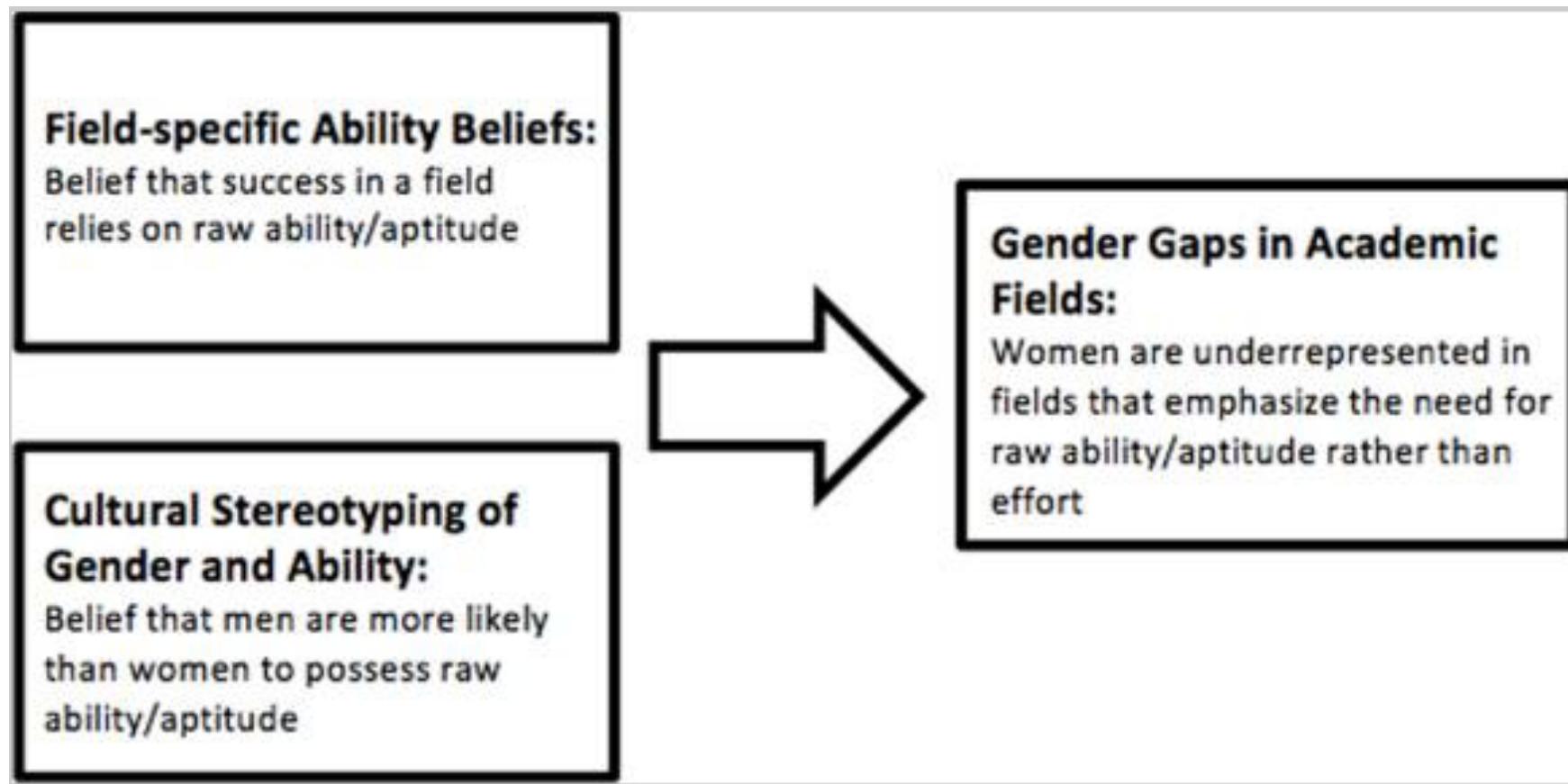
Discussion

- Meyer, Cimpian, & Leslie (2015)



Discussion

- Meyer, Cimpian, & Leslie (2015)



Conclusion: What can we do?

- **Instructors**

- Choose your examples wisely.
- Be sensitive to how you portray all individuals in your examples.
- Keep in mind that you are in a position of authority and can have a POSITIVE influence on young minds entering the field.

- **Authors**

- Be thorough, inclusive, and balanced your citations.
- Do not perpetuate bias in the examples you cite.
- Keep the Guidelines for Inclusive Language in mind.

- **Editors/Reviewers**

- Pay attention to the examples and language authors use.

Thank you!

- Thanks also to **Monica Macaulay** and **Colleen Brice** for their help and support on this project, and inspiring us to undertake this work.
- Thanks to Thomas St. Pierre for his help with data visualization.

References

- Bian, L., Leslie, S.-J. & Cimpian, A. (2017). Gender stereotypes about intellectual ability emerge early and influence children's interests. *Science*, 355(6323), 389–391.
- Leslie, S.-J., Cimpian, A., Meyer, M., & Freeland, E. (2015). Expectations of brilliance underlie gender distributions across academic disciplines. *Psychology*, 347(6219), 262-265.
- Macaulay, M. & Brice, C. (1997). Don't touch my projectile: Gender bias and stereotyping in syntactic examples. *Language*, 73(4), 798-825.
- Meyer, Cimpian, & Leslie (2015). Women are underrepresented in fields where success is believed to require brilliance. *Frontiers in Psychology*, 6, Article 235.