

# Constructive Language in News Comments

August 4, 2017

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# Which comment is constructive?



MARIE HENEIN

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Special to The Globe and Mail

Published Thursday, Nov. 10, 2016 4:46PM EST

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Disagreement  
without denigrating

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Constructive

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Non-constructive

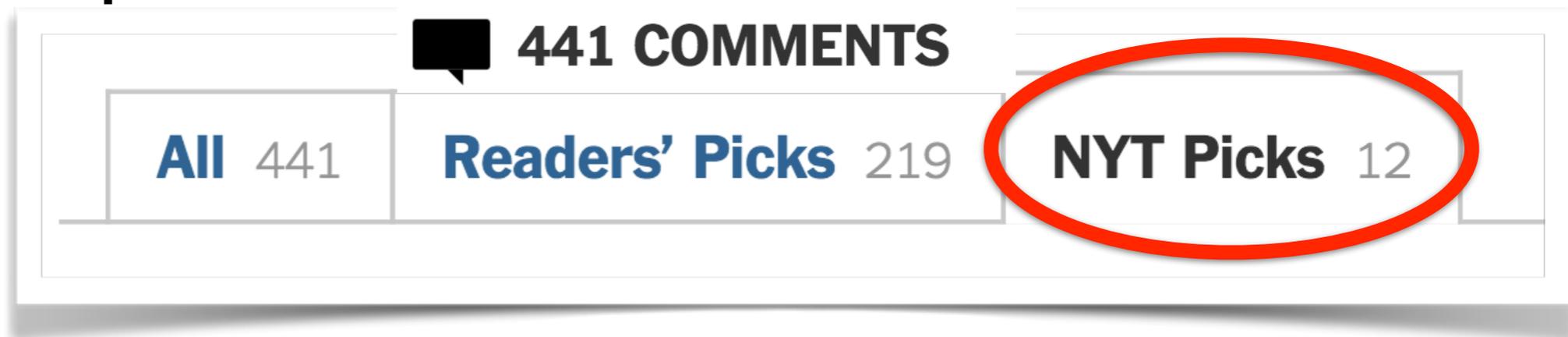
Sarcastic and dismissive

# Research questions

- What is constructive?
- Do constructive comments tend to contain linguistic cues that are common in argumentative texts?
- What is the relation between *toxicity* and constructiveness?

# Why does it matter?

- Organizing comments
- NYT picks



- News comments summarization  
(Llewellyn et al. 2014; Barker et. al. 2016)

# What is constructive?



Constructive comments intend to **create a civil dialogue** through remarks that are **relevant** to the article and **not primarily intended to provoke an emotional response**. They are typically **targeted to specific points** and **supported by appropriate evidence**.

# Constructiveness corpus

**THE GLOBE AND MAIL\***

- Carefully chose 10 articles from The Globe and Mail.
- Technology, immigration, terrorism, politics, budget, social issues, religion, property, refugees
- Randomly picked 1,121 comments



# Annotation interface



## Headline

Apple Watch: It's the precise opposite of a labour-saving device

Click here for the article.

## Now read the following commentary on this article

This was an informative and humorous article showing the lack of utility of another piece of pointless electronic junk being foisted on the public to swell Apple's coffers. Hopefully it will flop and save the planet from having to accommodate further junk in dump sites as new iterations are introduced.

## Is the comment constructive?

- Yes
- No
- Not sure

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# Training data

Lack of annotated data for constructiveness at a comment level

YAHOO!

Yahoo News Annotation Comments Corpus (YNACC)  
(Napoles et al. 2017)

Constructive thread

Headline: *Allergan CEO: Feds blindsided us on Pfizer deal*

**A** when a country has to use force to keep it's businesses behind a wall. . . something is very wrong. will the next step be forcing the talented and wealthy to remain? this strategy did not work well for the soviet union.

 zZz 

Controversial

**B** your solution is?

  zZz 

**C** @B, lower the govt imposed costs and businesses will stay voluntarily.

**D** just because a company was started in us, given large tax breakes in the us and makes most of its profits in the us does not mean it owes loyalty right? they have to appease the shareholders who want more value so lower your cost of business by lowering taxes while still getting all the perks is one way of doing it.

Controversial

**C** @D - in your world who eventually pays the taxes that our gov't charges business?

  zZz 

Sarcastic

# Training data

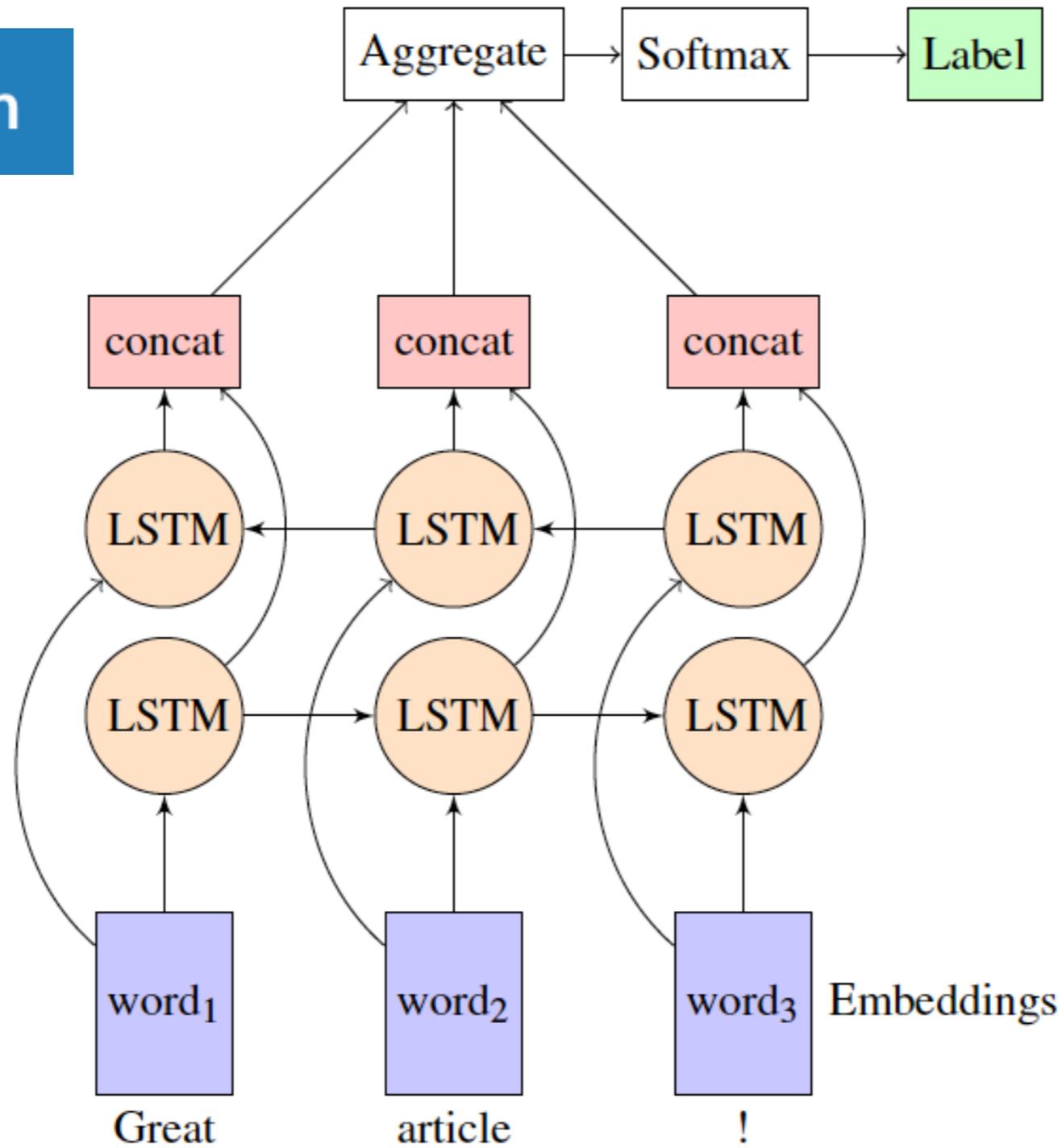
Intuition: Constructive comments tend to contain linguistic cues present in texts containing good argumentation

- Argument Extraction Corpus (AEC)  
(Swanson et al. 2015)

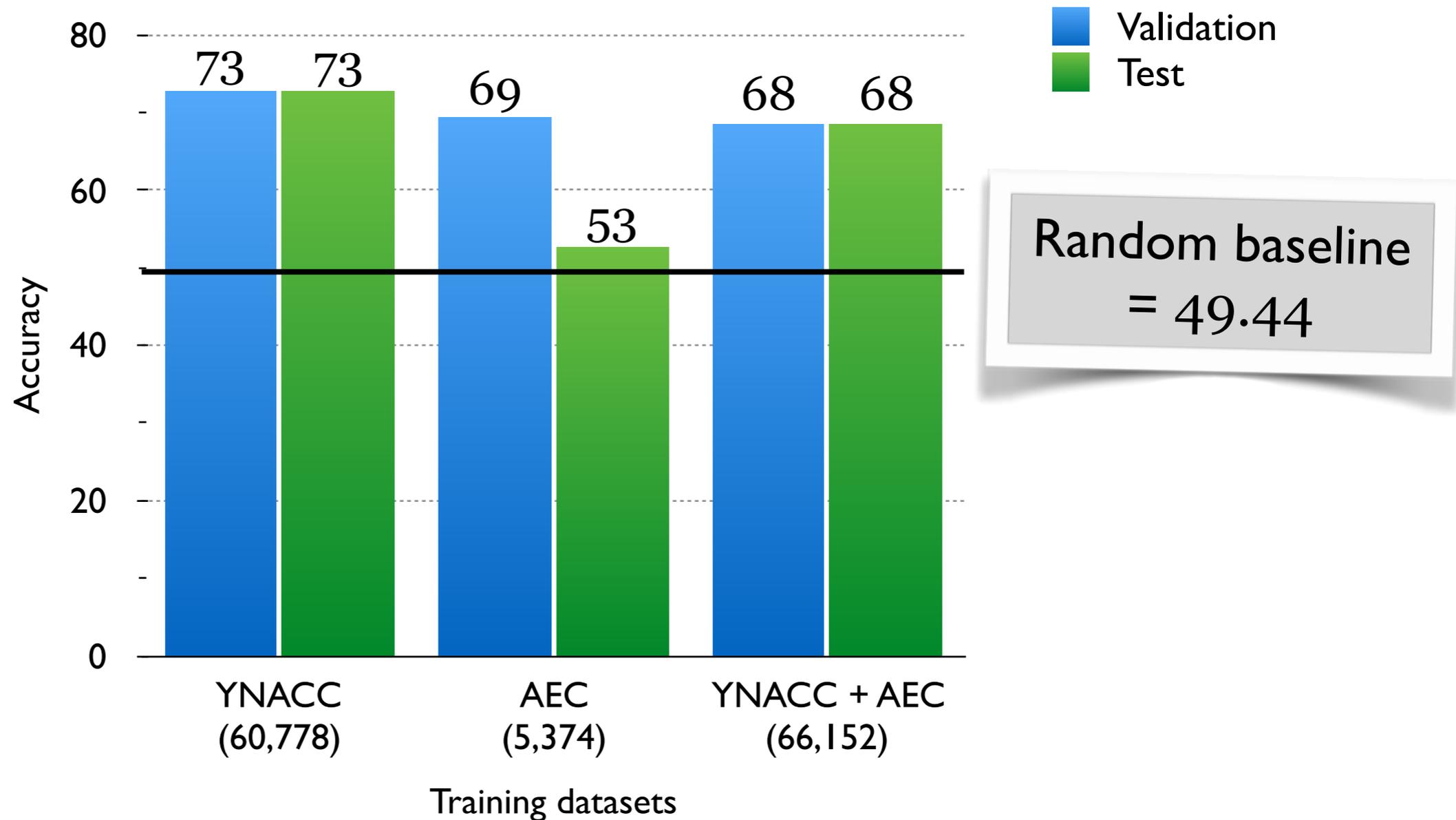


- Argument quality on sentences extracted from the topics of gun control, gay marriage, evolution, and death penalty

# Model: Bidirectional LSTMs



# Classification results



**Best results with YNACC**

# Association with argumentation features

Argumentative discourse relations  
*cause, comparison, condition,  
contrast, evaluation, explanation*

Stance adverbials  
*mainly, unfortunately*

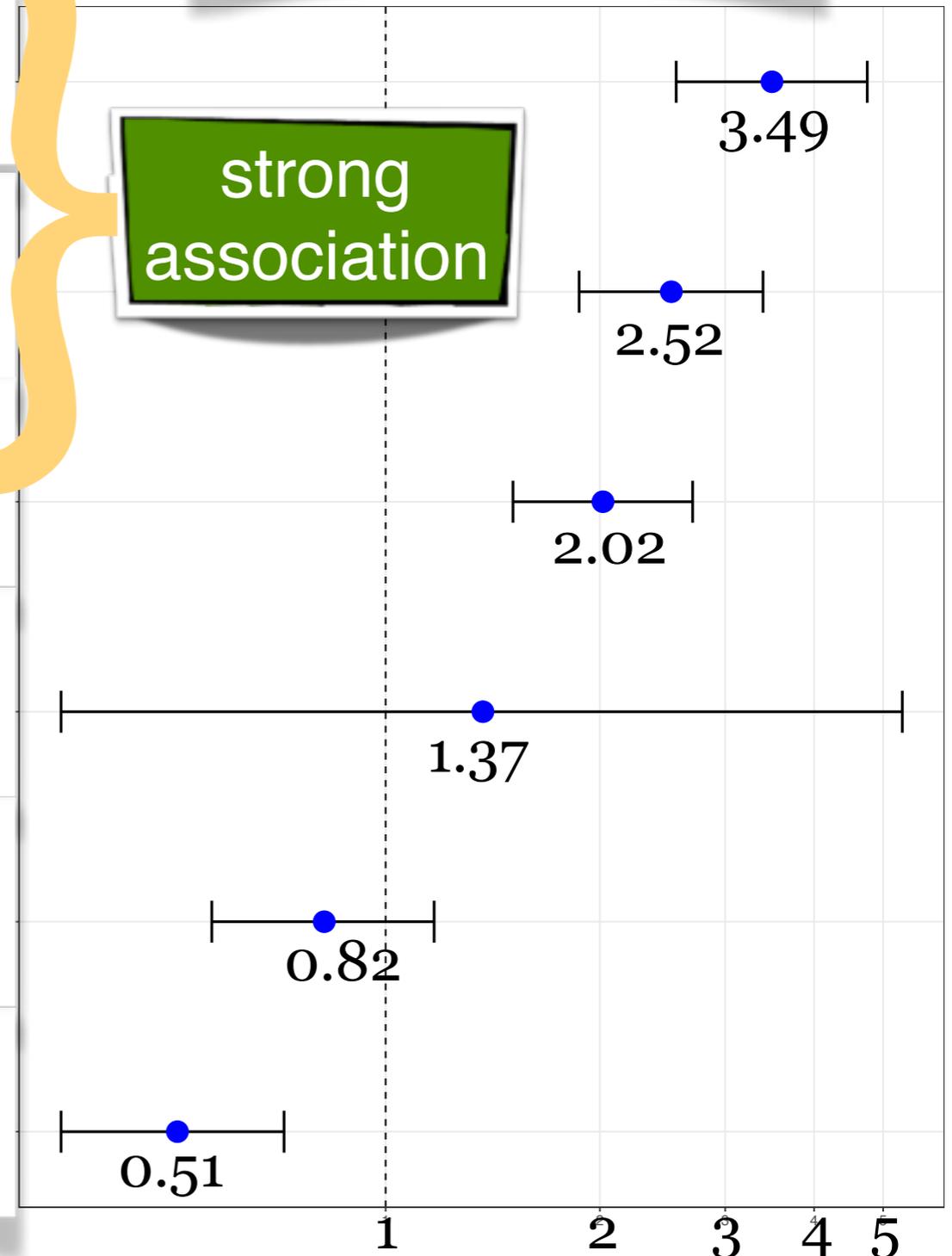
Reasoning verbs and modals  
*cause, lead*

Root clauses  
*I think that*

Conjunctions and connectives  
*because, therefore*

Abstract nouns  
*issue, reason, problem*

Odds ratio (log scale)



# Association with argumentation features

Argumentative discourse relations  
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Linguistic  
indicators of  
argumentation

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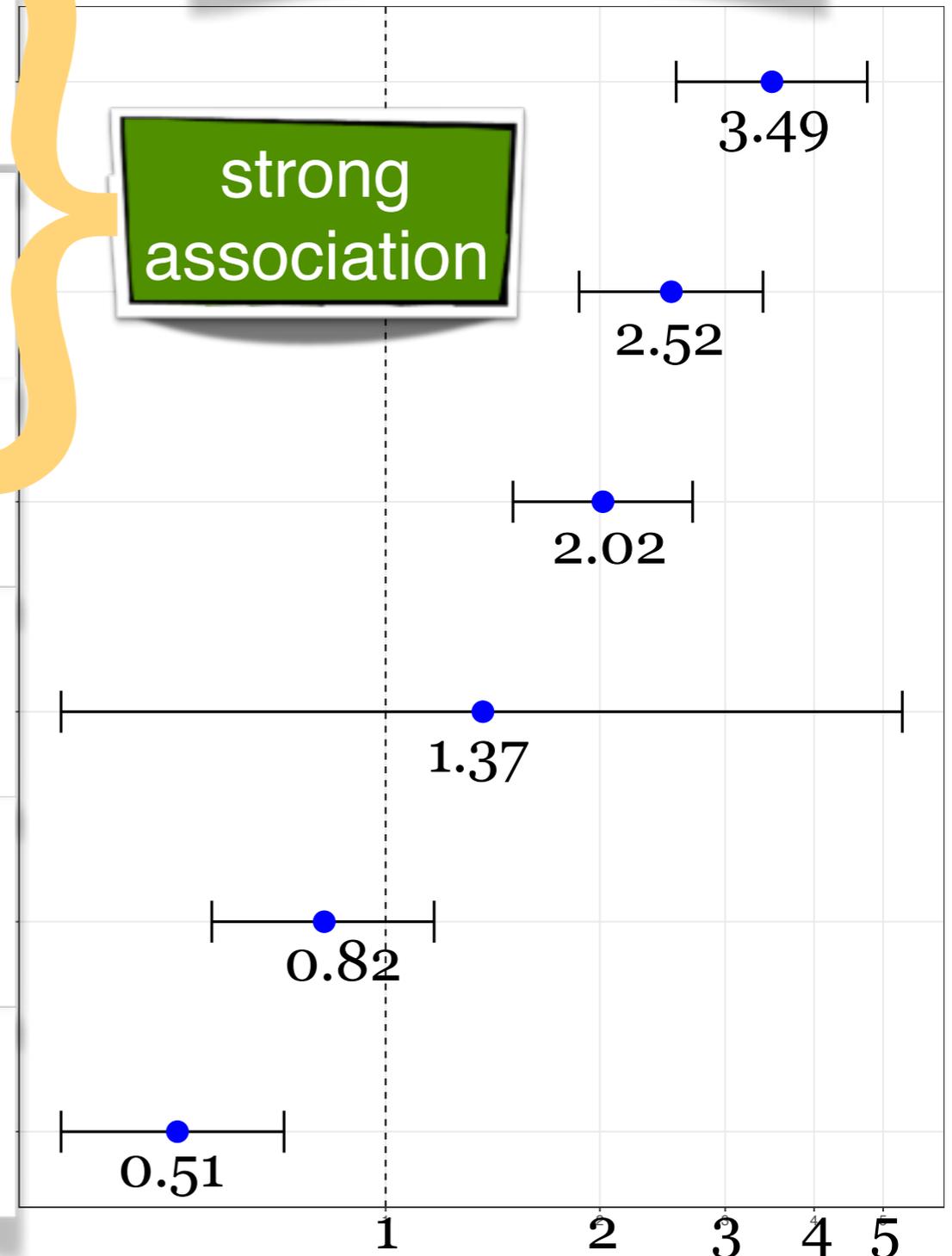
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- Use of offensive language
- Personal attacks, hate speech
- Obscenity, vulgarity, profanity
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## **Toronto Star closes commenting on thestar.com**

We have turned off commenting on thestar.com effective Wednesday, Dec. 16 and instead we'll be promoting and showcasing the comments our readers share across social media and in their letters and emails to our editors.

# Toxicity in comments

- Use of offensive language
- Personal attacks, hate speech
- Obscenity, vulgarity, profanity
- ...

- Canadian Broadcasting Corporation

- “We draw the line on hate speech and personal attacks”
- “... unique situation when it comes to indigenous-related stories”
- These stories “draw a disproportionate number of comments that cross the line and violate our guidelines”

The screenshot shows the top portion of a CBC News Canada website page. The navigation bar includes links for Home, World, Canada, Politics, Business, Health, Arts & Entertainment, and Technology. The 'Canada' link is highlighted, and a sub-menu shows 'Canada' and 'Editor's Blog'. The main heading is 'Editor's Blog' with the tagline 'How we work, how we make decisions, how we serve Canadians'. The article title is 'Uncivil dialogue: Commenting and stories about indigenous people'. The byline is 'by Office of the GM and Editor in Chief' with a post date of 'November 30, 2015 11:53 AM' and a last update of 'November 30, 2015 3:18 PM'. The categories are 'Canada, Community, Journalism, Politics'. The main text begins with 'Today we made the difficult decision to temporarily close comments on stories about indigenous people. We hope to reopen them in mid-January after we've had some time to review how these comments are moderated and to provide more detailed guidance to our moderators.' It continues with 'I want to explain our rationale for taking this unusual step. But let me begin by explaining why we have comments on our news site. If you follow industry trends, you'll know that the value of commenting on media websites has been debated for years.' On the right side, there is a share count of '12084 shares' and social media sharing buttons for Facebook, Twitter, and Reddit.

# Toxicity and constructiveness

Are non-constructive comments more likely to be toxic compared to constructive comments?

## Levels of toxicity

### 1. Not toxic

*Criticizing the new generation is not going to solve any problem.*

### 2. Mildly toxic

*Our drama teacher will be no match for President Trump. We need a Trump to match Trump.*

### 3. Toxic

*Another academic in denial – somebody rustle up a safe space, I think somebody has a case of vapours...*

### 4. Very toxic

*What a disgusting person!! He should rot in hell!!*



How will you rate the toxicity of the comment?

1

2

3

4



Not toxic

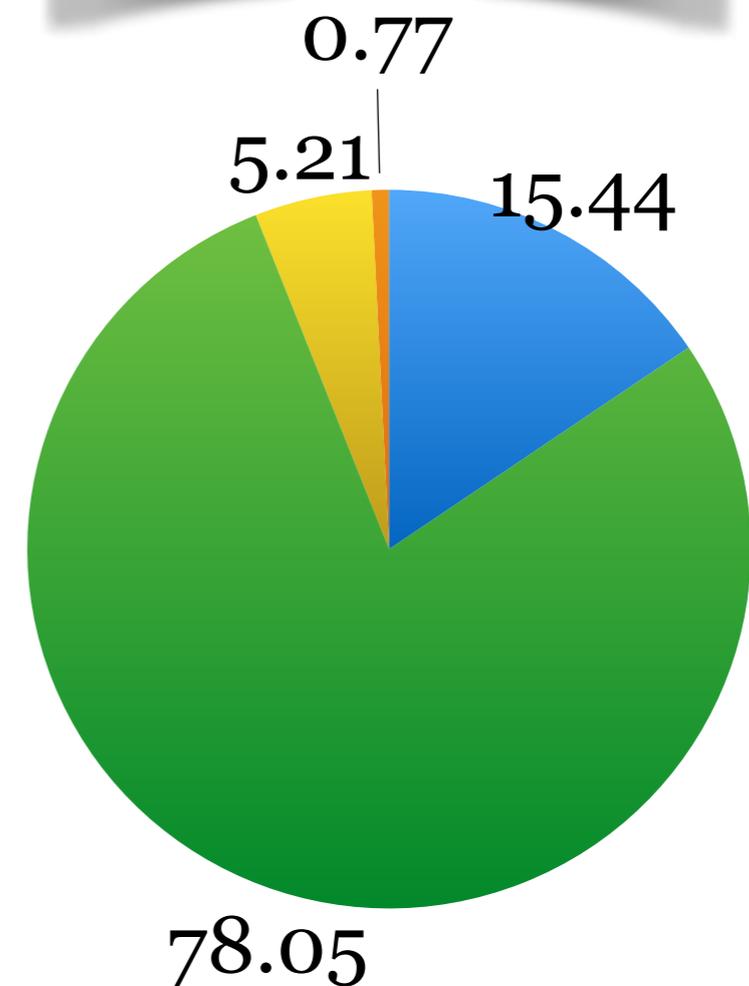
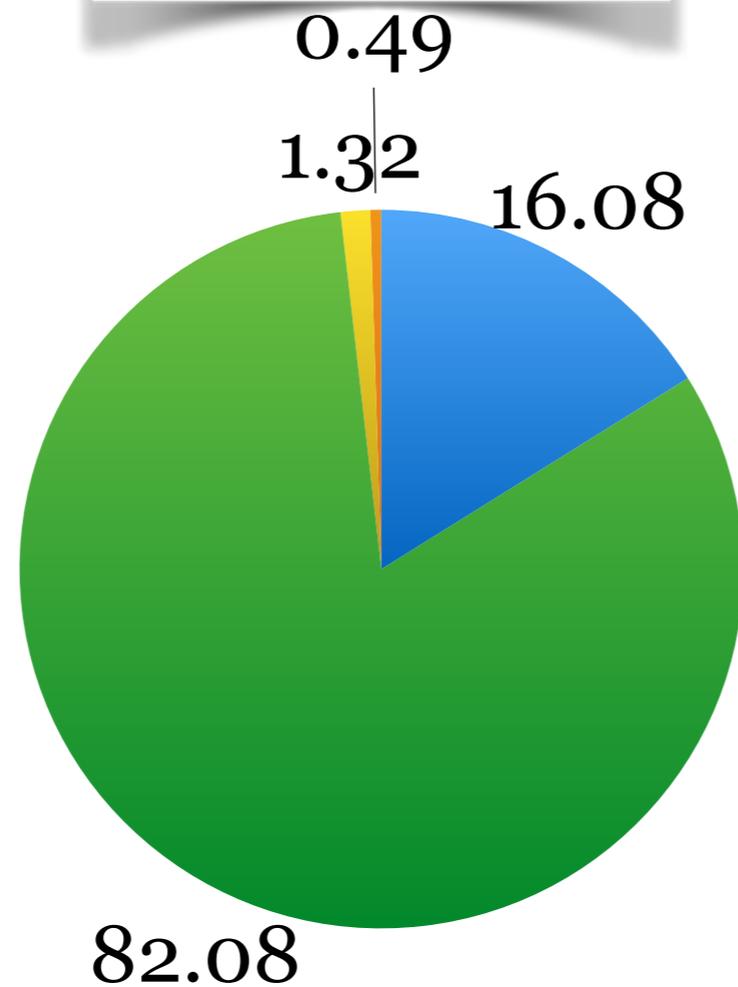
Very toxic

# Distribution of Toxicity

Constructive  
(603 instances)

Non-constructive  
(518 instances)

- Mildly toxic
- Non toxic
- Toxic
- Very toxic



Non-constructive comments are **not** much more toxic than constructive comments.

# Toxicity and constructiveness

Toxic language space: Personal attacks, hate speech, obscenity, vulgarity, profanity, spam, trolling, racism, sexism, ...

Useful and civil  
comments

Constructive

Toxic

Non toxic but no  
useful content in  
the comments

Non-  
constructive

# Conclusion

- The crowd more or less agrees on the notion of constructiveness  
(87.88% agreement)
- Demonstrated the feasibility of identifying constructive comments automatically  
(72.59% accuracy)
- Well-known linguistic indicators of argumentation show strong association with constructiveness

# Conclusion

- Some constructive comments are toxic
  - Do we want to filter constructive toxic comments?
    - Aggressive debate could be good as long as it is constructive

# Comments and Questions?

- Data is available at [https://github.com/sfu-discourse-lab/Constructiveness\\_Toxicity\\_Corpus](https://github.com/sfu-discourse-lab/Constructiveness_Toxicity_Corpus)
- The code and web interface will be available soon

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