

To laugh or to cry: A social valence bias in language processing

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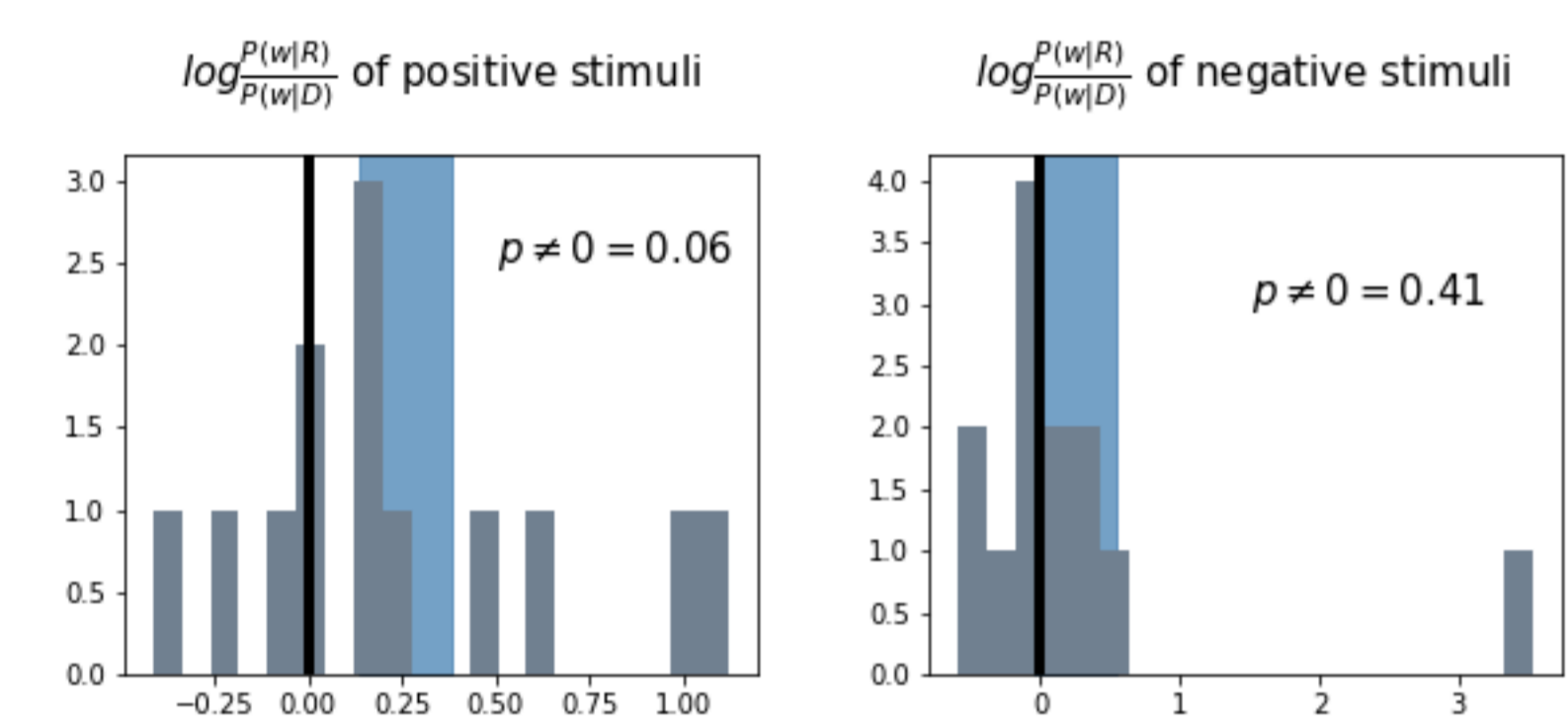
Background: There exist linguistic regularities in speech that make it possible to predict a speaker's group membership (e.g. political party) based on word choice.

Question 1: Is word valence one such regularity? (Spoiler: Not really.)

Question 2: Do we cue into word valence anyway? (Spoiler: Yes.)

Hypothesis: We suffer from a **social valence bias**. We are more likely to think positively-valenced language is spoken by members of our in-group, and negatively-valenced language is spoken by members of our out-group.

Q1: Does valence contain information?



▪ Histograms of the log odds that a word in our stimulus sets (below) was said by a Republican (calculated from the Congressional Record).

- Republican speech is on average $\approx .03$ SDs more positively-valenced than Democratic speech (valence ratings from Warriner et al., 2013).
- The difference in valence cannot account for the symmetry in our patterns of results (below).

Q2: Study 1

Methods

- $n = 173$ (81 Democrats and 33 Republicans)
- 2-alternative forced choice
- Participants are presented with 10 valenced pairs (+ distractors)
- Half are asked to indicate which word is more likely to be said by a Democrat, and the other half to indicate which is more likely to be said by a Republican

Results

	Positive	Negative	% of Dems	% of Repubs
useful	useless		0.84*	0.61
qualified	unqualified		0.83*	0.67*
clever	stupid		0.83*	0.64
joy	sorrow		0.78*	0.79*
laugh	cry		0.74*	0.88*
loyal	disloyal		0.73*	0.7*
rapid	slow		0.68*	0.61
plentiful	scarce		0.64*	0.7*
superior	inferior		0.58	0.64
famous	unknown		0.41	0.42
	Overall:		0.71*	0.66*

Table 1: Percent of responses from each party consistent with the social valence bias hypothesis

* $p < .05$

Q2: Study 2

Methods

- $n = 201$ (88 Democrats and 46 Republicans)
- Single-item ratings
- Participants are presented with 20 valenced words (+ distractors)
- Asked to indicate how likely each word is to have been said by a Democrat or a Republican
- 1--6 scale, ranging from "I am almost certain the speaker is a Democrat" to "I am almost certain the speaker is a Republican"

Results

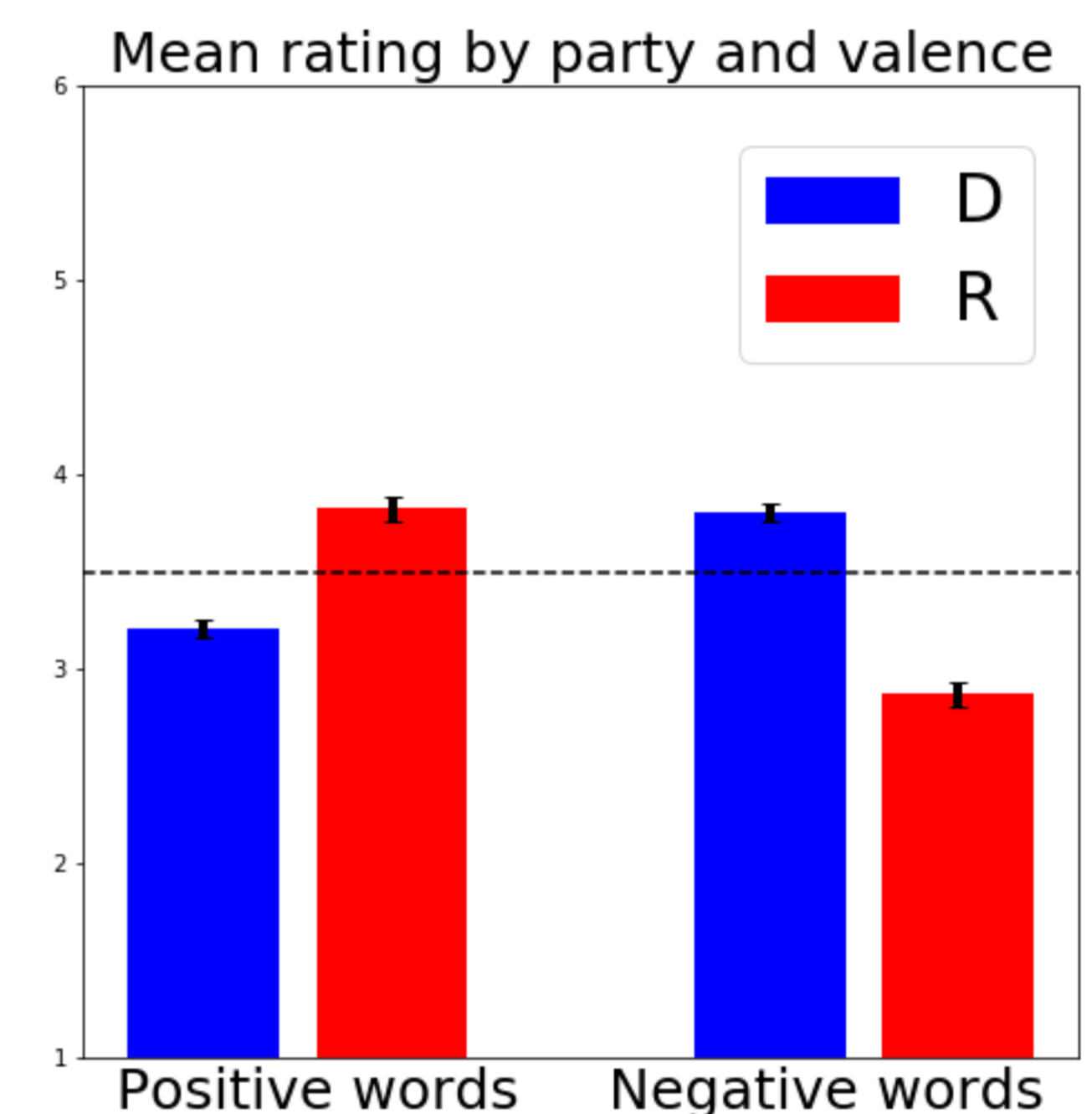
	μ_{Dems}	μ_{Repubs}	$\mu_R - \mu_D$
superior	4.16	3.59	-0.57
joy	2.49*	3.91*	1.42*
plentiful	3.41	4.02*	0.61*
qualified	2.86*	4.11*	1.25*
laugh	2.95*	3.56	0.6*
clever	3.32	3.87*	0.55*
famous	3.88	2.7	-1.18
accurate	2.76*	4.7*	1.93*
praise	3.39	4.09*	0.7*
sweet	2.86*	3.7	0.83*
Overall:	3.21*	3.82*	0.62*

Table 1: Mean rating of participants from each party (positively-valenced words)

	μ_{Dems}	μ_{Repubs}	$\mu_R - \mu_D$
inferior	4.35*	2.65*	-1.7*
sorrow	2.93	2.93*	0.0
scarce	3.28	3.0*	-0.28
unqualified	3.36	2.96*	-0.4
cry	3.3	2.72*	-0.58*
stupid	4.66*	2.87*	-1.79*
unknown	3.83*	2.98*	-0.85*
inaccurate	3.44	3.15	-0.29
blame	4.52*	2.78*	-1.74*
bitter	4.39*	2.67*	-1.71*
Overall:	3.81*	2.87*	-0.94*

Table 2: Mean rating of participants from each party (negatively-valenced words)

* $p < .05$



Conclusion

- The valence of a person's speech is an unreliable predictor of their partisan identity.
- People nevertheless use valence as a cue when judging partisan identity.

Open questions

- Does the social valence bias generalize to other social identities?
- Is this the by-product of associative reasoning and well-known positive in-group biases (Turner & Tajfel, 1979)?
- Or can the valence bias be explained by a bias towards familiar words?
 - Fluency biases in J&DM (Alter & Oppenheimer, 2009)
 - Positivity biases in language (Warriner et al., 2013)
 - Valence scores and frequency of use in general language are highly correlated in our data