

# Brevity

(or, Causal Effects of Brevity on Style and Success in Social Media, if you're not into the whole brevity thing)

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**How your message is **received...****

**...depends on **how you say it****

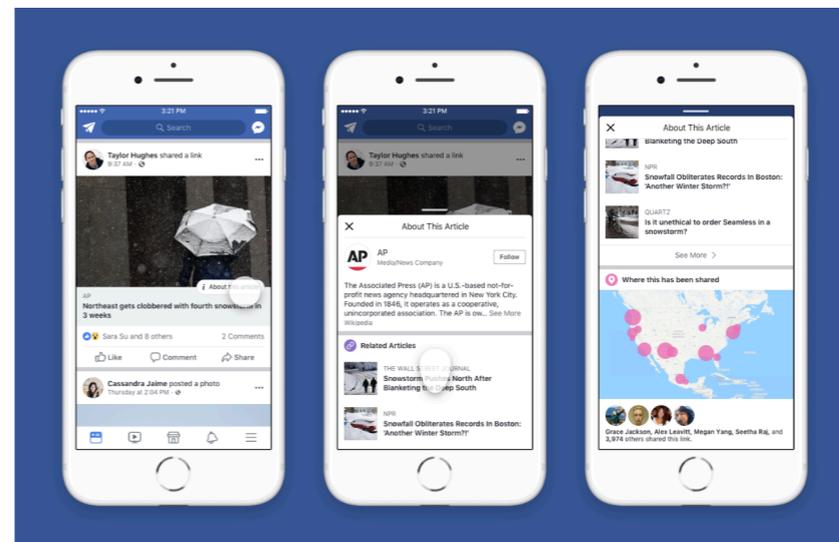
In particular, how **long** it is

“**Brevity is the soul of wit.**” —Shakespeare

“**Brevity is a virtue.**” —Conference paper instructions

“**The spice is in the concise.**” —German proverb

Online social platforms frequently promote brevity, either **explicitly** or **implicitly**



**“The medium is the message.”**

**What are the causal effects of brevity on the success of social media content?**

**What are the linguistic traits of brevity?**

**When is brevity beneficial, and when is it not?**

# We study Twitter



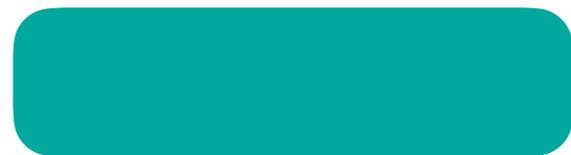
The 280-character length constraint is one of its **signature traits**

Objective measures of **success**

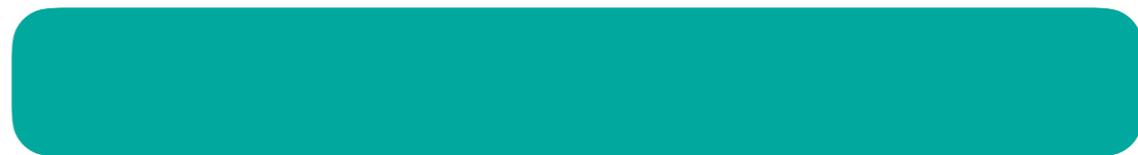
**Ideal online system** to study the causal effects of brevity on success

## Ideal experiment:

Take two copies of the **same message** written under two **different length constraints** and **compare their success**



vs.



?

Original tweet

250 characters

80–90% original length

70–80% original length

60–70% original length

50–60% original length

40–50% orig. length

30–40% orig. len.

20–30% orig.

10–20%

We ask crowd-workers to shorten an original tweet to 8 different shorter lengths (1 each, randomly chosen)

Then ask other crowd-workers to **compare each shortened version to the original** and indicate which is of **higher quality**

40–50% orig. length

VS.

250 characters

?

**One nuance:** we want to **isolate** the effects of **brevity** from the effects of **editing**

40–50% orig. length

vs.

250 characters

?

**One nuance:** we want to **isolate** the effects of **brevity** from the effects of **editing**

**Solution:** introduce a **baseline length constraint**, 1-5 characters shorter than the original, that **captures the effects of editing**

250 characters

VS.

~250 characters (edited)

?

Of course, crowd-workers aren't perfect.

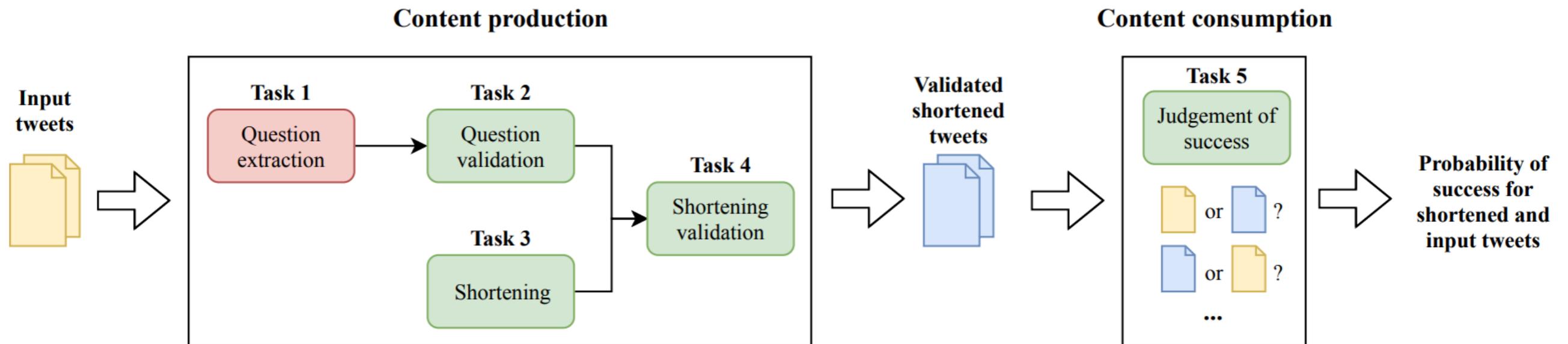
Our full experimental design is more sophisticated to ensure the highest quality possible

In particular, we want to ensure:

- ★ Shortened versions carry the same message
- ★ Crowd-workers faithfully report which version they prefer

# Experimental Design

Solution: **comprehension questions**



Task 1: for each original tweet, **design comprehension questions** that can **only be answered** after reading the original tweet

Task 2: check that workers can answer the questions using the **original tweet**

Task 4: check that workers can answer the questions using **shortened versions**

Task 5: when voting, have workers answer the questions as an **attention check**

# Example Baseline Shortening

<b>Original tweet</b>	When we as Black <b>American</b> STOP apologizing for being Black. <b>Stop</b> assimilating to White culture and start respecting that it is Black culture that White People <b>cling</b> to, imitate and pattern , then <b>an</b> only then will we as Black <b>American will</b> be alright
<b>Baseline tweet</b>	When we as Black <b>Americans</b> STOP apologizing for being Black, <b>stop</b> assimilating to White culture, and start respecting that it is Black culture that White People <b>cling</b> to, imitate and pattern, then <b>and</b> only then will we as Black <b>Americans</b> be alright.

Edits correct spelling, grammar, and punctuation

In this example, 78% of workers preferred the baseline over the original

On average, **baseline preferred by 65%** of workers

# Example Tweet and Shortened Versions

<b>Input tweet</b>	<b>And when I finally shared that secret, that was when I was able to start healing. Don't get me wrong, addiction is always that, it's not always easy. However, whenever I feel weak, I put on Buffy. There's so much that I can connect with in that show.</b>	
<b>Extracted questions</b>	When was the person able to start healing? ( <u>Once they shared the secret</u> / Once they forgot) Is addiction easy according to the tweet? (Yes / <u>No</u> ) Why do they watch Buffy? ( <u>They can connect with that show</u> / It's about addiction)	
<b>Condition</b>	<b>Shortened tweet</b>	<b>pr. succ.</b>
<b>Baseline</b>	And when I finally shared that secret, that was when I was able to start healing. Don't get me wrong, addiction is always that, it's not always easy. However, whenever I feel weak, I put on Buffy. There's so much I can connect with in that show.	0.46
<b>80-90%</b>	Don't misunderstand me, addiction is never easy. However, when I finally shared that secret, I was able to start healing. Whenever I feel weak, I put on Buffy. There's so much that I can connect with in that show.	0.75
<b>70-80%</b>	When I shared that secret, I was able to start to heal. addiction is not always easy. However, whenever I feel weak, I put on Buffy. There's so much that I can connect with in that show.	0.69
<b>60-70%</b>	When I shared that secret, I started healing. Don't get me wrong, it's not always easy. When I feel weak, I put on Buffy. So much that I connect with in that show	0.72
<b>50-60%</b>	When I shared that secret I could start healing. Addiction is rarely easy. When I feel weak I put on Buffy, I really connect to that show.	0.63
<b>40-50%</b>	Addiction is not always easy. However, whenever I feel weak, I put on Buffy. Because I can connect with that show.	0.39
<b>30-40%</b>	Admitting addiction started my healing. And when really bad, watching Buffy is a blessing!	0.54
<b>20-30%</b>	Sharing my secret healed me. I can connect with a lot on Buffy.	0.32
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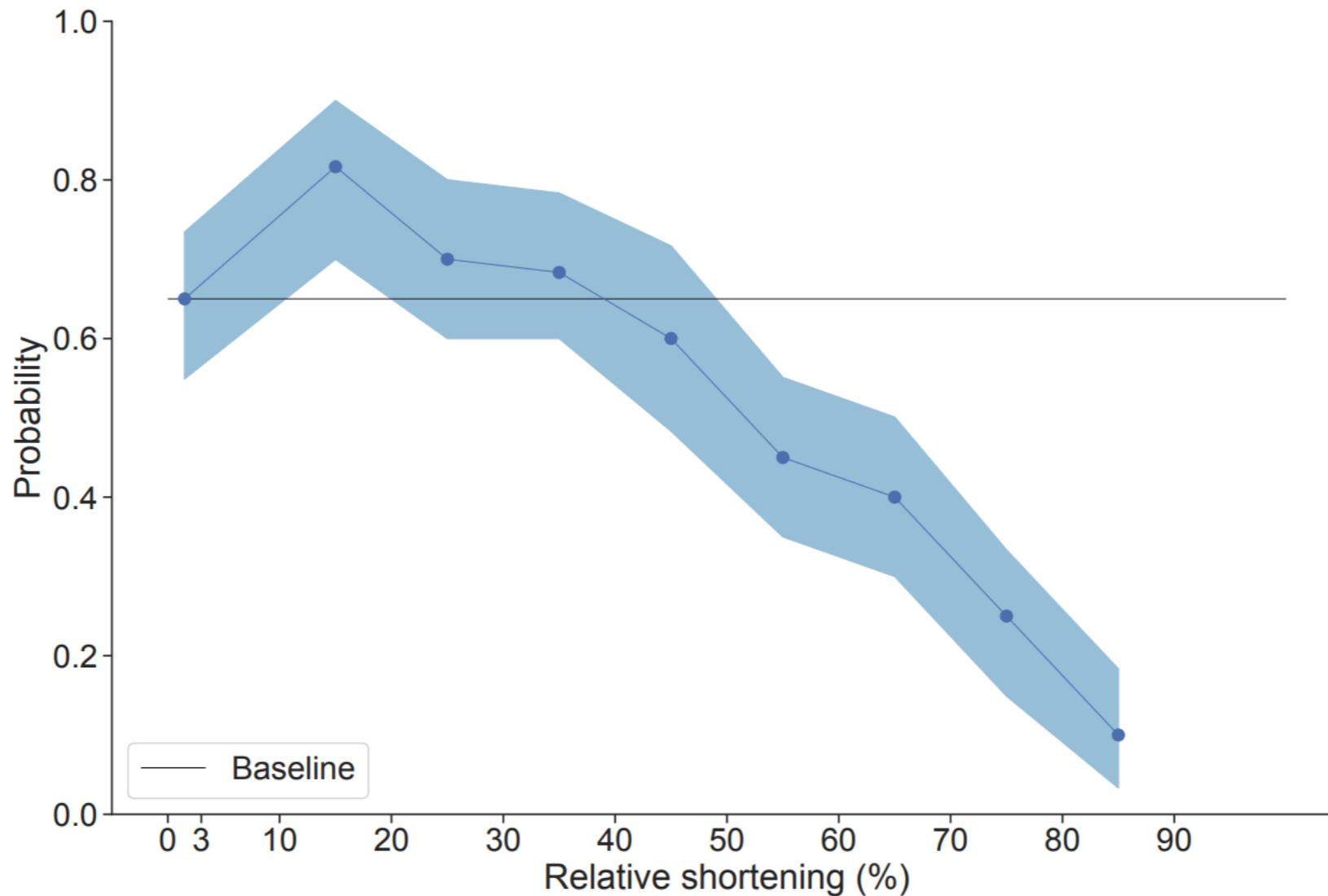
# Experiment Details

We performed our **full experimental pipeline** on **60 original tweets**

**Full factorial design:** **all 60 original tweets** shortened to **all 9 lengths**

**Extensive voting:** **every comparison** (original vs. shortened version) judged by **50 separate workers** (27,000 binary votes total)

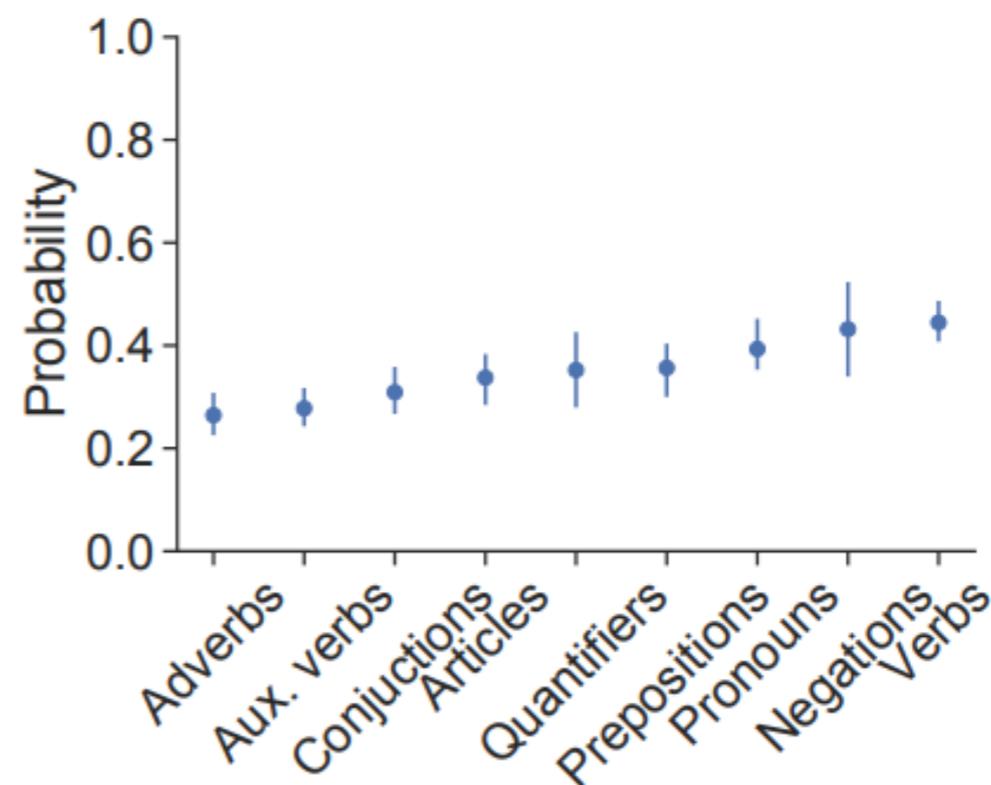
# Brevity and Success in Social Media



Probability of shortened version being preferred over the edited original as a function of length

# Linguistic Traits of Brevity

Parts of speech that convey **essential information** (verbs, negations) are **most frequently kept**



Tokens carrying **negative affect** more likely to be preserved

Type of affect	Probability of being preserved
Positive emotion	0.54
Negative emotion	0.64
Anger	0.65
Sadness	0.63
Anxiety	0.67

# What's the Right Kind of Brevity?

<b>Effective strategies</b>				
Token	N edits	N successful edits	Effect strength	<i>p</i> -value
<b>Deleting</b>				
any	36	24	3.71%	0.02
few	11	11	17.06%	0.0005
more	28	19	6.84%	0.03
a	285	161	2.92%	0.005
therefore	23	17	6.74%	0.02
so	122	72	3.03%	0.02
<b>Inserting</b>				
,	139	81	4.18%	0.03
.	502	277	1.23%	0.01

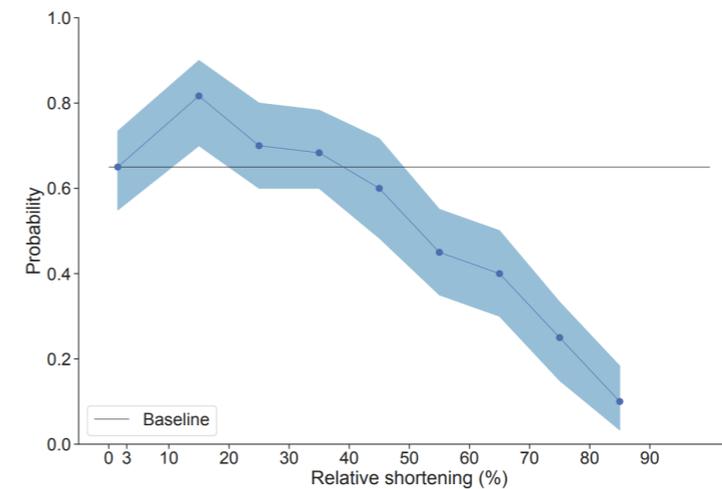
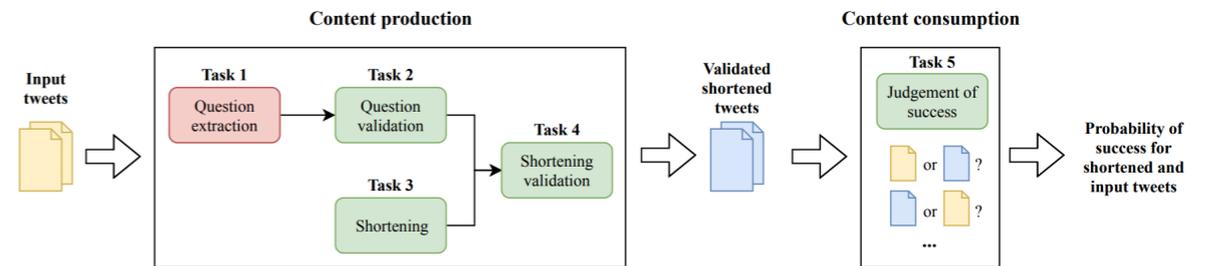
<b>Ineffective strategies</b>				
Token	N edits	N unsuccessful edits	Effect strength	<i>p</i> -value
<b>Deleting</b>				
hashtags	71	53	7.51%	0.00002
?	34	25	9.03%	0.005
!	88	61	7.58%	0.0002

# In summary

We performed our a **full-factorial experiment** to understand the **causal effects of brevity**

Even 250-character tweets can be shortened up to 40% with no degradation in quality, and can be improved by cutting ~15%

Strict brevity constraints give us **just the facts** and **disproportionately preserve negative emotions**



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# Thanks!

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