The *Atlantic*

Languages Are Mostly Made of Happy Words

A new study analyzes vocabulary from around the world and finds a universal skew toward the positive.

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JULIE BECK | **FEB 11, 2015** | **HEALTH**

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In the time of Twitter and Internet comments, it's not hard to find language being used for evil. People take the remarkable human capacity for communication and wield it like a big dumb ax, hacking into anything and anyone they don't like.

When you see enough of that, it's easy to forget that people also use language as a scalpel, to dissect and understand complex things, and as a salve, to help and heal each other. They write the kind of sweet notes people love to share on social media, maybe as a deliberate antidote to all the online hate.

Thanks to a large data analysis, we now know that the latter outweighs the former. A new study published in the *Proceedings of the National Academy of Sciences* examined 100,000 words across texts in 10 different languages and found "a universal positivity bias."

# In every language, on every platform, the median happiness score was higher than five.

This bias was first posited in 1969, when a pair of psychologists wrote a paper called "The Pollyanna Hypothesis," named for the fictional orphan girl with a propensity to look on the bright side. The original study had high school boys, who belonged to different cultures and spoke different languages, do word association tasks, and then ranked whether the pairs were positive or negative. More often, they were positive.

In the new *PNAS* study, researchers analyzed texts from Google Books, Twitter, the *New York Times,* a Google Web Crawl, subtitles from movies and TV shows, and music lyrics. They measured how frequently words were used in each language (English, German, Chinese, Korean, French, Spanish, Brazilian Portuguese, Arabic, Russian, and Indonesian), and had native speakers rate how negative or positive they felt upon hearing those words.

In every language, on every platform, the median happiness score was higher than five—five being a totally neutral word—as seen in the chart below. The yellow is the "above-neutral" portion, and the blue is the "below-neutral."
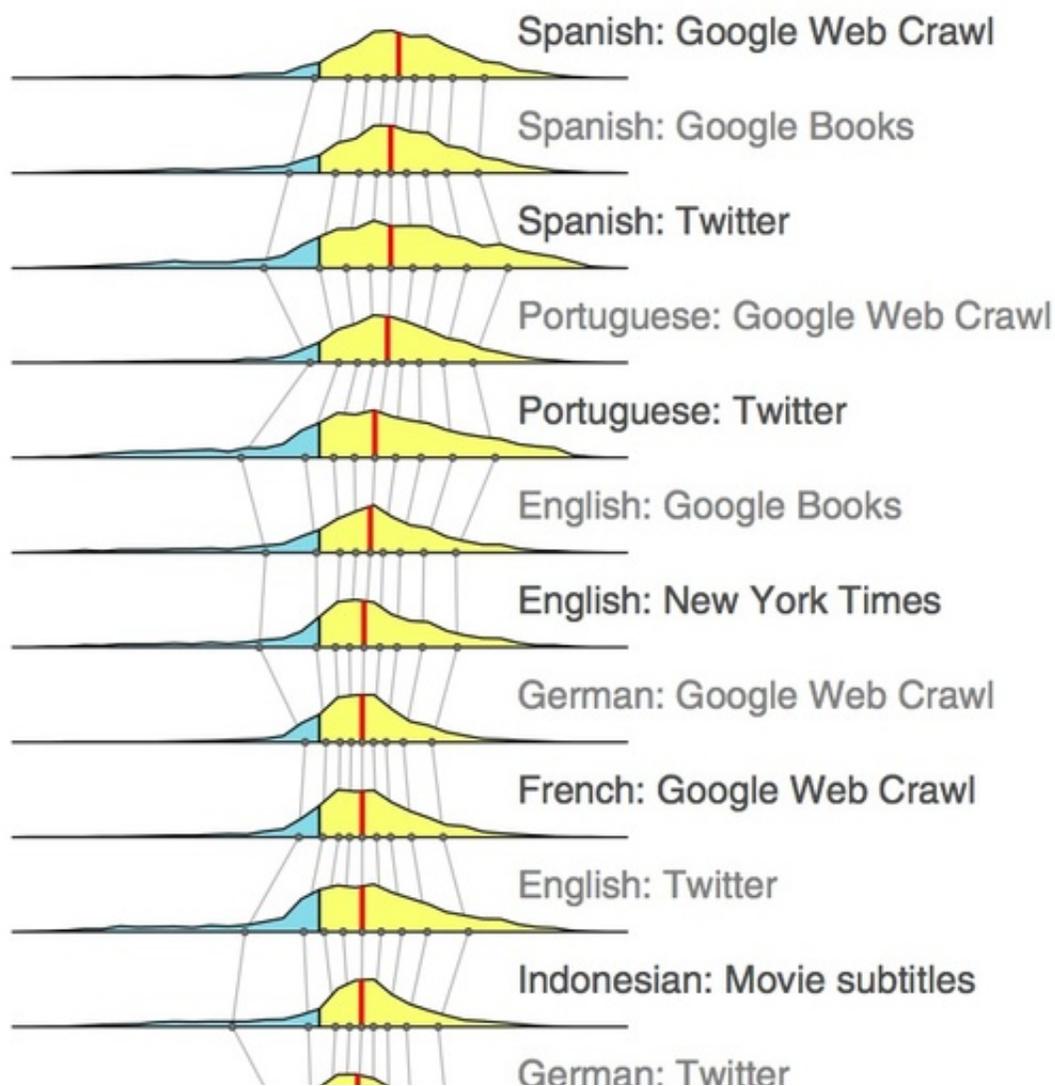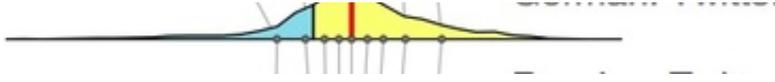
Though all the languages studied seemed predisposed to positivity, there are differences between them. Spanish and Portuguese were the most happy, in this study. For some languages, it really depended what kind of text the researchers were looking at—in English, music lyrics were significantly less positive than

books, the *New York Times,* or even Twitter.

So all the languages studied tended to use happy words more often, but overall, languages also contained more happy than unhappy words. The researchers also measured "average word happiness" and found it to be high, regardless of how frequently those words were used in the text. So even lesser-used words were more often positive than negative.

"Words, which are the atoms of human language, present an emotional spectrum with a universal, self-similar positive bias," the researchers write. While individual texts—books, songs, tweets—may skew negative, all in all, it looks like language is a positive tool.

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