



HUMANS

## Extraverts Use Subtly Different Words, Analysis of 80,000 People Finds

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The way a person talks or types might reveal little clues about their personality.

A [meta-analysis](#) of psychological research involving more than 80,000 people has found a small but noticeable link between certain word choices and extraversion, one of the big five personality traits.

When talking in person or online, the study found extraverts tend to choose words that express optimistic emotions (such as 'happy' and 'love'), as well as words that refer to community interactions (such as 'we', 'talk', 'share', and 'meet').

Whether or not we can pick up on these subtle distinctions is another matter.

"This is the first time a relationship has been established between extraverts and their tendency to use the two categories of words," [says](#) psychologist Lin Qiu from Nanyang Technological University in Singapore.

"As it is a small correlation, we believe that stronger linguistic indicators are needed to improve [machine learning](#) approaches, amid rising interest in such tools in consumer marketing."

Over the years, studies have shown social interaction is an important characteristic among extraverts, who tend to be more outgoing and happier around other people. Introverts, on the other hand, like to spend time with themselves and tend to experience more negative emotions when communicating with others.

Psychologists and advertisers alike have long wondered if these distinctions slip off the tongue.

So far, results have been mixed, but recent 'big data' research using tweets, blogs, and personal essays have shown extraversion is [generally related to the use of positive emotion words](#) like 'nice' and social process words like 'we'.

Further software analysis has now estimated the overall size of these relationships among published and unpublished psychological research, and it's not as large as some were hoping.

That said, it still appears to exist.

Reviewing 37 independent samples, including over 80,000 participants, researchers were able to compare introverts and extraverts and the words used in various contexts and among various demographics.

Compared to introverts, the meta-analysis found extraversion is only somewhat related to the use of social words (with an effect size of 7.7 percent), and this relationship existed regardless of a person's age, gender or whether they were talking online or in person.

On the other hand, positive emotion words showed a slightly stronger effect (6.9 percent), but this varied depending on the context.

For instance, in public places, extraverted people tended to express more positive emotions than they did in private, which suggests they are most open where social interaction is common.

Another interesting finding is that extraverts tend to use positive emotion words even when they weren't actually feeling those things, suggesting extraverts are trying to present a better social image.

"With an increasing interest in using Big Data to predict personality, our findings call for future research to explore other linguistic analysis methods and find stronger linguistic predictors of extraversion," the authors [write](#).

Some recent studies, for example, have found extraverts [use more abstract language](#), while introverts prefer the concrete and specific. Other research suggests extraverts are more direct and to the point, while introverts use more articles and tend to beat around the bush in a hesitant way.

However, other studies on word use and personality traits have struggled to find correlations.

The linguistic markers of narcissism, for example, do not actually include the word 'I', and only [show small effect sizes](#). Meanwhile, neuroticism has [shown](#) a small impact on the use of 'I' words, which is thought to indicate attention to the self and more negative emotions.

Personal pronouns like 'we', on the other hand, have been [linked to greater social connection and closeness](#).

It's not hard to imagine why psychologists would want to know what words introverts and extraverts might use, but businesses and marketing agencies are also very interested in this knowledge.

The relationship between personality and word use could one day allow companies to cater their advertising to particular types of people. All they might need is a person's online presence and, through

machine learning, they could potentially figure out someone's personality and predict their desires.

Such an idea could make online marketing extremely powerful, tipping the scales against consumers. But although this new meta-analysis found some small links, it [suggests](#) "linguistic markers may not be strong predictors of personality traits" after all. At least, not these words.

Further meta-analysis could very well target these nuances next.

The study was published in the [\*Journal of Research in Personality\*](#).