

# Understanding feelings: When less is more

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A facial expression can say a lot about a person's emotional state. Credit: MPI for Empirical Aesthetics

A facial expression or the sound of a voice can say a lot about a person's emotional state; and how much they reveal depends on the intensity of

the feeling. But is it really true that the stronger an emotion, the more intelligible it is? An international research team comprised of scientists from the Max Planck Institute for Empirical Aesthetics, New York University, and the Max Planck NYU Center for Language, Music, and Emotion (CLaME) has now discovered a paradoxical relationship between the intensity of emotional expressions and how they are perceived.

Emotions vary in their [intensity](#). A person being attacked by a house cat may well feel fear; but certainly their fear would be even greater if a lion or tiger were attacking them. So our emotions differ in terms of degrees of strength. But how does this affect our ability to infer meaning from how an emotion is expressed? Research on emotion has so far assumed that emotion expressions become more distinct as their intensity increases. But there is little empirical evidence to support this intuitive-sounding idea.

A team of researchers from Frankfurt am Main and New York have now systematically investigated the role of emotional intensity for the first time. They collected a multitude of nonverbal vocalizations, including screams, laughter, sighs, groans, etc. These sounds all expressed different positive and [negative emotions](#) ranging from minimal to maximal emotional intensity. They then examined how listeners perceived these sounds differently depending on the emotional intensity they expressed.

The team came to a surprising conclusion: at first, as the intensity of the emotions increased, participants' ability to judge them also improved, attaining a kind of 'sweet spot' in perceiving moderate to strong emotions. When the emotions became maximally intense, however, their legibility decreased quite drastically. Lead author Natalie Holz of the Max Planck Institute for Empirical Aesthetics explains:

"Counterintuitively, we found that maximally intense emotions are not the easiest to infer meaning from. In fact, they are the most ambiguous of all."

And the paradox? For extremely intense emotions, neither their individual categories, such as surprise and triumph, nor valence, such as pleasantness and unpleasantness, could be distinguished reliably; nor could they be classified as being more positive or negative. Nevertheless, both the intensity itself and the state of arousal were perceived consistently and clearly. Holz suggests a reason for this:

"At peak intensity, the most vital job might be to detect big events and to assess relevance. A more fine-grained evaluation of affective meaning may be secondary."

The research team's article, just published in the journal *Scientific Reports*, makes clear that emotional intensity is a dominant factor in the perception of emotion, but in a far more complex way than previously thought. This poses a challenge to prevailing theories of emotion. The study of [emotional](#) intensity, and of peak emotions in particular, can enrich our understanding of affective experience and how we communicate emotion.

**More information:** N. Holz et al, The paradoxical role of emotional intensity in the perception of vocal affect, *Scientific Reports* (2021).  
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