Emotion Regulation through Irony: Evidence from Behavior and ERPs
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Highlights
How does ironic and literal language affect the perceived mental state of a speaker in high or low emotional situations?

- Behavioral study: speakers using irony are perceived as being in a less negative mental state (higher in valence and lower in arousal) compared to speakers using literal language.
- ERP study:
  - P200: main effect: irony > literal
  - N400: interaction: literal > irony in high emotional but not low-emotional context
- Results suggest that emotional context affects language comprehension.

Introduction
Verbal irony is when a speaker uses words that mean the opposite of what the speaker implicates.

What does this convey about the speaker’s mental state?
• primarily used to convey negative emotions; additional information gained through use must outweigh possible misinterpretations [1]
• perceived as less negative, less hurtful and more amusing than literal statements [2]
• reliably elicits P2-P6 ERP response (e.g. [3])

Hypothesis: A speaker using ironic language is perceived as being in a less negative mental state, depending on how emotional the situation is.

Methods
Design: 2x2, emotion (high, low) x literality (literal, ironic)
Stimuli: 121 short stories, normed for valence, arousal and literality, all critical words were used for all conditions.

Discussion
We provide initial evidence for the relationship between context emotionality and figurative language processing.

Behavioral study: language choice influences perceived mental state
- P200-timewindow: ironic statements eliciting a larger positivity than literal statements
- suggests that irony requires more attentional resources
- consistent with previous research showing enhanced P200 for irony compared to literal language [3]

N400-timewindow: Literal statements in high emotional conditions elicit the largest N400 effect
- N400 associated with expectancy effects [4]
- Increased N400 suggests literal language may be unexpected in highly emotional situations: might be considered rude?

The absence of a P600 effect, found in previous research (e.g. [3]) may be caused by the extended N400-timewindow, and related to the emotional manipulation of the context.

ERP results suggest how emotional the context is modulates how we perceive ironic versus literal language.

Conclusion
- a speaker using ironic language is considered as being in a less negative mental state, may be indicated by a smaller N400 effect for ironic language.
- N400 amplitudes were found to decrease when using reappraisal strategies [5]
- attenuated N400 effects may signalize greater emotional congruity.

References