On the Road to Conventionalization: Analyses of Nominal Coercion
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Introduction

Coercion

- During language comprehension we can readily appear anomalous word combinations via semantic anomalies referred to as coercion in psycholinguistics.
- Coercion interpretations are considered non-conventional because they are not primarily derived from the input language (i.e., the source of the input string, e.g., a word, a phrase, or a sentence).
- Coercion is a subtype of coercion referred which involves a conflict between a noun and a determiner (e.g., a mud) has become so entrenched that we may not recognize it as being non-conventional.
- "mud" by creating an innovative meaning (a type or brand of mud).
- The habituation of the N400 to novel instances of nominal coercion was found in an ERP study by Kuperberg (2008) as a semantic anomaly effect.

Corpus Analysis

Questions

- What are the distributional properties of texts-in-context nominal coercion in English language?
- How are coercion nouns processed in the brain?

Corpus

- Collection of all sentences from the input corpora containing target words
- Average instances per target word: 66,200

ERP Study (800)

Questions

- Does nominal coercion elicit the N400 effect in semantic anomaly experiments?
- Do coercion nouns elicit an N400 effect in ERP studies?

Methods

- 29 right-handed native English speakers
- Single-trial 250-2000 ms time-locked to the onset of the target word
- ERPs were measured via 64 AgCl/Ag electrodes, continuously sampled at 250 Hz and bandpassed 0.1-40 Hz, an offline analysis window and later re-referencing averaged 200-800 ms.

Predictions

- No N400 effect was found in any of the coercive conditions.
- An N400 effect for coercion was found in Block 1 but diminished in Block 2.

Conditions

- Easy Control
- Hard Control
- Semantic Anomaly
- Semantic Control

Discussion

- One possible explanation for the overall lack of a N400 effect to target words in the Coercion conditions is that the words do not evoke a planning or control mechanism that is required for processing a semantic anomaly.

Conclusions

- An N400 effect other than a classic N400 effect appears to indicate that the brain deals with nominal coercion as a semantic anomaly rather than a syntactic anomaly.
- The habituation of the N400 to novel instances of nominal coercion is a short period of time (i.e., 250 ms) and predictability and the N400 effect diminishes over time while the N400 effect for coercion is retained.
- Therefore, it appears that the texts-in-context coercion construction can be primed and therefore facilitates the processing of new coercion instances.
- The semantic anomaous factor in coercion construction that can be used to generalize over, therefore no habituation of the N400 effect occurs.