

Debriefing sheet for the study “Give me a break”

This experiment is an example of research in the area of psycholinguistics, or the psychology of language. Psycholinguistics includes research in areas such as language acquisition, speech perception and the relation of language to learning, memory and thought. Another central concern of psycholinguistics is sentence comprehension. How is it that we can understand sentences that we have never seen or heard before? Understanding usually occurs instantaneously, seemingly without effort. But in fact, even as you read this sentence, a number of processes are occurring in your mind. Words are recognized and retrieved from memory, the structure of the sentence is analyzed as it develops, and the meaning of the sentence is set in relation to the context of the preceding sentences.

In this experiment, we are looking at possible effects of prosody when we understand *written* sentences. The prosody of a sentence is sometimes called ‘intonation’, and it can be loosely described as the melody in speech. The effects of prosody when we understand *spoken* sentences have been investigated in a number of studies. But many people claim that they also have a voice, and thus a melody, in their head when they read silently. This is called implicit prosody. However, the effects of prosody when we understand *written* sentences are less well understood. The reason for this may be that implicit prosody only exists in our minds and therefore cannot be measured directly. In this experiment, we are trying to test a methodology that can be used to investigate the melody in people’s minds.

Have a look at the following two sentence pairs. The \mathcal{P} symbol indicates when we presented the spoken word during reading. The actual word you heard is given in parentheses.

- (1) Gary didn’t write the letter.
Gary received the letter. \mathcal{P} (Gary)
- (2) Fred didn’t receive the letter.
Gary received the letter. \mathcal{P} (Gary)

When these sentences are said aloud, the word *Gary* is often said with a different melody in each sentence: in (1) *Gary* is not very emphasized, but in (2) *Gary* is usually emphasized and said with a rise in pitch.

If you generate a melody in your head, then we would expect you to react faster to a sound file of *Gary* with a melody that is appropriate for the sentence, for example a sound file with a rise in pitch for phrase (2). Conversely, we would expect you to respond slower to a sound file of *Gary* with a melody that is not appropriate for the sentence, for example a sound file without a rise in pitch for phrase (1). This is called a priming effect: if you generated a melody appropriate for the sentence in your head, you should respond faster to a sound file with such a melody because the melody is already activated in your mind. Such reaction time differences would suggest that we are tapping into an internal melody in readers’ minds and that a methodology like ours may be used to study readers’ internal speech melodies.

The independent variable in this experiment is prosody match or mismatch (for example between the auditory image of the read *Gary* and the actually heard *Gary*), and the dependent variable is the response time you took to decide whether the word you heard was the first word in the sentence you read.

Thank you for your participation. If you wish to inquire about the results of the experiment later, please feel free to contact us at the phone number or e-mail addresses given on the instructions sheet.