

AUDIOVISUAL PROCESSING IN APHASIC AND HEALTHY SUBJECTS - DIFFERENCES REVEALED BY REACTION TIMES

During speech perception not only auditory but also visual information (seen speech) is processed (Rosenblum, 2008). This has already been shown earlier by the McGurk effect (McGurk & MacDonald, 1976): Participants were presented with non-matching auditory and visual information. Instead of perceiving the auditory (/ba/) or the visual (/ga/) component of the video, they perceived a fusion of both (/da/). Klitsch (2008) showed that there was no difference between a group of aphasic subjects and age-matched non-brain-damaged control subjects in an offline measure. In order to find out whether aphasic processing is really not deviant we conducted a reaction time experiment.

Three aphasic subjects and a group of fourteen non-brain-damaged control subjects (same age-range) participated in this study. A McGurk-type experiment was carried out, in which the answer patterns as well as the reaction times were recorded.

All aphasic subjects were generally slower than the control group. There was a significant increase of reaction times for the control group whenever a McGurk type answer was chosen, while there were no influences of the chosen answer type for the aphasic subjects (Figure 1).

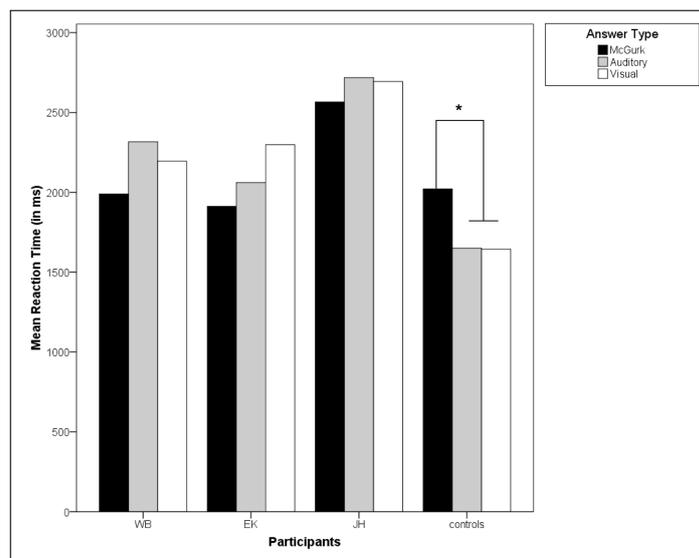


Figure 1: Reactiontime per answer type
*: Mann-Whitney test, $p < .05$

In the current study we showed that the processing of audiovisual information was not only slower in aphasia but also differed qualitatively from unimpaired processing. While reaction times differed depending on what answer type was chosen for the control subjects, this was not true for either of the aphasic subjects. We will provide an account for this finding based on the fact that healthy subjects are often aware of the mismatch and still experience the McGurk effect (Rosenblum, 2008), which could lead to a slow-down in processing, not present in the aphasic subjects.

References

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