Unambiguous generalization effects after treatment of non-canonical sentence production in German agrammatism

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Abstract

Agrammatism is—among others, characterized by a deficit in producing grammatical structures. Of specific difficulty is the utilization of complex, non-canonical sentence structures (e.g. object-questions, passives, object-clefts). Several studies have documented positive effects when applying a specific treatment protocol in terms of increasingly correct production of target complex sentence structures with some variance in generalization patterns noted across individuals.

The objective of this intervention study was to evaluate an intervention program focussing on the production of non-canonical sentences. Hypotheses about the occurrence of treatment effects were formulated on the basis of syntactic complexity, referring to the amount of syntactic phrase structures necessary to generate specific German sentence structures. A multiple single case study with seven agrammatic participants was applied, each participant receiving training in the production of object-relative-clauses and who-questions.

The investigation was designed to *unambiguously* evaluate for each individual, structure specific and generalized learning effects with respect to the production of object-relative-clauses, who-questions and passive sentences. Results showed significant improvements for all sentences types. This outcome is considered within methodological issues of treatment studies. Theoretical and clinical implications are discussed.
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1. Introduction

The aim of the present intervention study was to improve the production of non-canonical sentences in a multiple single case study with German speaking agrammatic participants. Within the growing evidence that agrammatic patients have specific problems with the production of movement-derived non-canonical sentence structures, two theoretically different accounts (Tree Pruning Hypothesis, TPH, Friedmann, 2001; Friedmann & Grodzinsky, 1997 and Complexity Account of Treatment Efficacy, CATE, Thompson, Shaprio, Kiran, & Sobecks, 2003) are discussed in the relevant literature. These

accounts especially consider the occurrence of specific treatment *and* generalization effects for Hebrew- and English-speaking agrammatics.

The current study broadens and partially replicates previous findings concerning the outcome of specific language treatment in agrammatic aphasia, supporting the usefulness of such investigations. The theoretical background relates to the debate of predictions derived from the TPH and CATE with respect to treatment of sentence production in agrammatic aphasia. However, the language specific structure has inevitably to be taken into account when formulating hypotheses about generalization effects. As a result, syntactic complexity is defined with respect to the German language in the current study. Moreover, the present study makes a strong claim with regard to methodological issues in that outcomes of cross-over treatment studies