The effect of direct speech on liveliness and comprehensibility in individuals with and without aphasia

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Introduction

In conversation, direct speech (e.g., 'John said: "Gosh! I'm exhausted"') is assumed to constitute a *demonstration* of a reported utterance, whereas its indirect speech counterpart (e.g., 'John said that he was exhausted') provides a *description* of what was said (Clark & Gerrig, 1990). Direct speech constructions are perceived as more vivid and perceptually engaging than their indirect speech counterparts (Wierzbicka, 1974; Macaulay, 1987). This theatrical nature of direct reported speech is argued to be caused by the fact that its deictic center is that of the original event (Mayes, 1990). The distinction between direct and indirect speech exists in many languages and has been a major focus in linguistic studies, including aphasia research.

Several studies have shown that the relatively intact pragmatic (e.g., Hengst et al., 2005; Ulatowska et al., 2010), conceptual (Goodwin, 1995, 2003), and kinesic, prosodic and paralinguistic (Lind, 2002; Wilkinson et al., 2010) resources of aphasic speakers enable them to use direct reported speech. Building on these findings, in a previous study we compared the forms and frequencies of direct speech constructions in elicited speech between aphasic and non-brain-damaged (NBD) speakers. These comparisons showed that aphasic speakers produce more direct speech constructions than NBD individuals. This finding raises questions on the motives for and the effects of this type of construction. So far, no quantitative evidence has been provided for the difference in perceived liveliness between direct and indirect speech. Therefore, we investigated the effects of direct speech constructions on perceived liveliness of speech produced by individuals with and without aphasia. In addition, trying to explain the motives for the frequent use of direct speech by individuals with aphasia, its effect on comprehensibility was investigated.

Methods

Data collection

30 fragments from answers to the standardized questions of the Aachen Aphasia Test (Graetz et al., 1992) produced by aphasic (n=10) and matched non-brain-damaged speakers (NBD; n=10) were auditorily presented to naive listeners (n=37). Both sets consisted of 5 fragments with direct speech, 5 fragments without direct speech which originated from the same speakers as the fragments containing direct speech, and 5 fragments without direct speech which originated from different speakers. This design enabled us to compare fragments with and without direct speech directly while controlling for individual effects like voice and speaking style. For the evaluation, listeners were asked to give a grade for liveliness (1-10) and evaluate comprehensibility by responding to the following propositions on a 6-

point Likert scale: *in general, I can follow the message; I have to make an effort to understand this speaker; this person is able to put his/her thoughts into words well.*

Analysis

Two items of one speaker were not taken into account for the analysis because of poor sound quality. The results for liveliness were compared within and between subgroups and conditions. For the comprehensibility results, the scores were collapsed and analyzed as a single score, since the mutual correlation indicated that the three propositions on comprehensibility reflected a single one-dimensional latent construct (Cronbach's $\alpha = 0.8$). As a consequence, the new maximum score for comprehensibility was 18.

Results

Paired-samples t-tests were used to assess the effect of type of speaker for both liveliness and comprehensibility. For liveliness, the average scores of the NBD speakers (*M*=8.0, *SD*=0.60) were higher than those of the aphasic speakers (*M*=6.6, *SD*=0.67); *t*(36)=-11.6, *p*=0.00. As expected, the average scores for comprehensibility of the NBD speakers (*M*=16.8, *SD*=0.89) were at ceiling, and higher than those of the aphasic speakers (*M*=10.4, *SD*=1.31) as well; *t*(36)=33.3, *p*=0.00. There were no interaction effects between speaker and condition for either liveliness or comprehensibility.

To compare the scores for liveliness in the direct speech and the no direct speech conditions, paired-samples t-tests were conducted. For the NBD speakers, the average scores on liveliness were higher for the direct speech condition (*M*=8.3, *SD*=0.64) than for the no direct speech condition (*M*=7.8, *SD*=0.68); *t*(36)=5.48, *p*=0.00. Similarly, for the aphasic speakers the scores were higher in the direct speech condition (*M*=6.9, *SD*=0.83) than in the no direct speech condition (*M*=6.4, *SD*=0.69); *t*(36)=3.83, *p*=0.00.

The aphasic samples with direct speech (*M*=10.1, *SD*=1.76) were not better comprehensible than those without direct speech (*M*=10.7, *SD*=1.35); *t*(36)=-1.96, *p*=0.06.

<<Table 1 here>>

Discussion

Prior studies indicated that the use of direct speech contributes to the perceived liveliness of speech (Wierzbicka, 1974; Macaulay, 1987; Mayes, 1990). The current study provides support for these observations: fragments containing direct speech received a higher grade for liveliness than fragments without direct speech which originate from the same speakers. Since the main difference between these two conditions is the occurrence of direct speech, possible interference effects caused by different speaking styles such as voice and speaking manner were avoided. Importantly, the positive effect of direct speech on liveliness was found for both NBD and aphasic speakers. Direct speech did not contribute to the comprehensibility of speech. This means that it is unclear why aphasic speakers frequently use direct speech: should it be interpreted as a strategy to mask word finding and/or grammatical difficulties or should the absence of direct speech be read as an inability to use it? An

experimental study on the effect of direct speech constructions on comprehensibility of aphasic speech using long stretches of talk rather than short fragments may provide answers to these questions.

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Table 1. Average scores and standard deviations for liveliness and comprehensibility for fragments from NBD and aphasic speakers in direct speech and no direct speech condition.

		Direct speech	**No direct speech**
Liveliness	**NBD speakers**	*M*=8.3, *SD*=0.64	*M*=7.8, *SD*=0.68
	Aphasic speakers	*M*=6.9, *SD*=0.83	*M*=6.4, *SD*=0.69
Comprehensibility	**NBD speakers**	*M*=16.7, *SD*=1.03	*M*=16.8, *SD*=0.91
	Aphasic speakers	*M*=10.1, *SD*=1.76	*M*=10.7, *SD*=1.35