The Italian version of the Northwestern Assessment of Verb and Sentences (NAVS): Preliminary data on healthy and aphasic participants

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Introduction

The Northwestern Assessment of Verb and Sentences (NAVS; Thompson, 2011) is a test battery that includes five tests aimed at assessing production and comprehension of verbs with different argument structure (AS) complexity and sentences with canonical/non-canonical order (i.e., active, passive, subject and object wh-questions, and subject and object-relative structures). Both AS complexity and syntactic movement affect the performance of aphasic patients, particularly those with agrammatism, in both English (Thompson, 2003; Dickey et al., 2007) and Italian (Luzzatti et al., 2001, 2002; Barbieri et al., 2010). The present study reports preliminary data derived from an Italian version of the NAVS.

Materials and Methods

The original English version of the NAVS was translated and adapted into Italian. As part of this process, three verbs were replaced and – given the possible ambiguity in interpretation of wh-questions due to the freer order of arguments in Italian as compared to English – subject-clefs and object-clefs were included in the Sentence Priming Production Test (SPPT) and the Sentence Comprehension Test (SCT) as replacements for wh-questions. The test was computerized and items within each subtest were randomized to collect accuracy and reaction times (RT) on a group of healthy controls (N=21). A paper-and-pencil version of the test was then administered to a group of aphasic participants (N=18), following the same procedure as described in Cho-Reyes & Thompson (2012). Data were analyzed using multiple linear (for RT) and logistic (for accuracy) regression.

Results and Discussion

Controls’ performance was at ceiling for all subtests, with the exception of subject wh-questions (82%) and object-cleft sentences (84%) on the SCT. On the Verb Naming Test (VNT), 3-place verbs elicited longer RTs than both 2-place and 1-place verbs (p=.004; p<.001), with no effect of argument

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optionality. Longer RTs were found for passive vs. active \((p = .002)\) and for object vs. subject-relatives \((p < .001)\) in the SCT, but not in the SPPT. Subject wh-questions elicited longer RTs than object wh-questions in both tasks \((p < .001)\), suggesting difficulty in their interpretation, in line with the accuracy pattern. They were not included in the final version of the test.

Results obtained on the VNT from aphasic patients demonstrated that fluent patients were more impaired only on 3-argument verbs \((p = .046)\), whereas nonfluent showed a clear advantage for unergative vs. transitive verbs \(i.e.,\) one- versus two-argument verbs; \(p = .046\). Comprehension and production of non-canonical sentences was equally impaired for both fluent and nonfluent patients, with passive, object-cleft and object-relative sentences eliciting lower accuracy than their canonical counterparts (see Figure 1).

The present Italian data support patterns of AS and syntactic complexity found in English for both normal and impaired speakers and validate use of the Italian version of the NAVS for detailing these deficits in aphasia. However, modifications in the structures tested are required due to differences in the syntactic features of the two languages.

References


