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Adjective use by individuals with agrammatic primary progressive aphasia.

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Adjectives (e.g., *hungry*) are an important part of language, but have been almost entirely ignored in the study of individuals with impaired language. Adjectives are used in two different ways in English: *attributively*, to modify a noun (*the hungry dog*); or *predicatively*, after a verb (*the dog is hungry*). Attributive adjectives are posited to have a more complex grammatical structure than predicative adjectives, and may therefore be particularly prone to disruption in individuals with grammatical impairments (Meltzer-Asscher and Thompson, 2014).

We investigated adjective use in individuals diagnosed with the agrammatic variant of primary progressive aphasia (PPA-G; n=41; mean age: 65.7 years; mean time since disease onset: 4.1 years) and a comparable group of healthy control participants (n=24; mean age: 62.4 years). Participants were given a picture book showing the story of Cinderella, and were then asked to retell the story in their own words. Their narratives were recorded and transcribed and every adjective they produced was coded for whether it was used attributively or predicatively.

For each participant, we calculated the rate of attributive adjectives per sentence and the rate of predicative adjectives per sentence. Compared to healthy controls, the PPA-G group had significantly fewer attributive adjectives per sentence (PPA-G: 0.29, Control: 0.44, p=.03), but did not produce significantly fewer predicative adjectives per sentence (PPA-G: 0.14, Control: 0.18, p=.42).

In addition, we found a significant correlation in the PPA-G participants between impaired production of sentences with complex syntactic structure (subject cleft sentences like *It was the boy that chased the girl*; measured using the Northwestern Anagram Test – NAT; Thompson, Weintraub, & Mesulam, 2012) and the production of attributive (p=.02) but not predicative (p=.60) adjectives, where a greater syntactic impairment corresponded to fewer attributive adjectives.

These results suggest that attributive adjectives present a particular challenge for individuals with agrammatic language production, and add a new dimension to the description of agrammatism. Our results further suggest that attributive adjectives may be a fruitful target for treatment of agrammatic language.

References

Meltzer-Asscher, A., & Thompson, C. K. (2014). The forgotten grammatical category: Adjective use in agrammatic aphasia. *Journal of neurolinguistics*, 30, 48-68.

Thompson, C. K., Weintraub, S., & Mesulam, M. (2012). *Northwestern Anagram Test*. Evanston, IL.

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