



Connecting the Dots: Investigating How Impaired Discourse Reflects Cognitive Function in Neurogenic Disorders

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Abstract

This presentation explores the intricate relationship between discourse impairments and underlying cognitive deficits in various neurogenic conditions. Discourse serves as a vital window into higher-order cognitive functions such as memory, attention, and executive control, which are often compromised in disorders like stroke, aphasia, and traumatic brain injury. The talk emphasizes the importance of differentiating language impairments from broader cognitive deficits, as these distinctions influence diagnosis and intervention strategies. It reviews the neuroanatomy underpinning discourse and cognition, highlighting how different neural networks contribute to distinct discourse patterns across disorders. In addition, the presentation discusses various types of discourse impairments, their cognitive correlates, and assessment methods—including standardized batteries like the Western Aphasia Battery (WAB), Boston Diagnostic Aphasia Examination (BDAE), and discourse sampling tasks such as picture description and story retelling. Both qualitative analyses (coherence, pragmatics) and quantitative metrics (idea units, lexical diversity, and speech rate) are examined, alongside emerging NLP and AI tools that facilitate automated discourse analysis. The clinical implications underscore the value of comprehensive assessments combining language and cognitive testing, informing targeted interventions aimed at improving communication and quality of life. Future research directions focus on refining diagnostic tools and developing therapies that address both language and cognitive deficits. Overall, this work advocates for multi-dimensional approaches to understanding and treating discourse impairments, emphasizing their role as sensitive markers of neurocognitive health.

Keywords: Discourse impairments, Neurogenic disorders, Cognitive-linguistic assessment

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