Frequency and Imageability Effects on N400 Amplitudes in Adolescents with SLI

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ABSTRACT

Children with Specific Language Impairment (SLI) have smaller vocabularies and are less accurate word retrieval than typical peers. CA (Leonard, 1998) have difficulty. Research suggests that adolescents with SLI have lexical difficulties. They have weaker vocabulary and more problems with word retrieval than TD peers. These problems may be less severe in adolescents with SI (Mainela-Arnold, Evans, & Coady, 2008). The current study examined N400 amplitude during a lexical decision task in order to determine whether adolescents with SLI process high-frequency words similarly to peers. While typical adolescents showed an effect of frequency in ERPs and accuracy, adolescents with SLI only showed an effect in accuracy. Overall, findings indicate that although adolescents with SLI show similar behavioral responses as CA, they may be using a different strategy. Specifically, adolescents with SLI seem to rely on imageability, while CA peers use lexical and phonetic frequency during lexical decision. Imageability may be less efficient for language comprehension and could be one indication why adolescents with SLI show problems with word retrieval.

REFERENCES


SUMMARY

The current study examined the effects of frequency and imageability on N400 amplitudes in adolescents with SLI and TD peers. The study used a lexical decision task and measured N400 amplitudes in Specific Language Impaired (SLI) and Typical Development (TD) adolescents. The results showed that adolescents with SLI have smaller N400 potentials as compared to TD peers. The study also found that imageability may be a more important factor in adolescents with SLI, as they rely on it more than TD peers. These findings suggest that adolescents with SLI may be using different strategies for processing words, which could affect their language comprehension and production. Future research should focus on understanding the neural correlates of these strategies in adolescents with SLI.