

Executive Function and Academic Performance in Graduate Speech-Language Pathology Students

Research Article

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Abstract

This study explores the relationship between executive function (EF), academic performance, and cognitive flexibility in graduate students enrolled in a speech-language pathology program. Using the Comprehensive Executive Function Inventory (CEFI) and Wisconsin Card Sorting Test (WCST), along with GRE and Praxis scores, we examined patterns of correlation among 17 participants. Results indicated significant relationships between EF subscales and standardized performance metrics, supporting the role of cognitive flexibility in graduate education outcomes.

Introduction

Graduate speech-language pathology programs demand strong executive functioning for academic and clinical success. Executive functions are high-level cognitive skills that include working memory, planning, inhibition, and cognitive flexibility [1]. This study examined how EF, measured at the onset of graduate training, relates to standardized testing and performance in a cohort of speech-language pathology students at a Midwestern university. Understanding these relationships could help inform admissions, early intervention, and advising strategies.

Methods

Seventeen first-year graduate students in a speech-language path-

ology program completed the Comprehensive Executive Function Inventory [2] and the Wisconsin Card Sorting Test [3]. Data were collected at program entry. In addition to cognitive measures, GRE scores, Praxis exam scores, and graduate GPA were collected. Pearson product-moment correlations were used to assess relationships among executive function subtests and academic indicators.

Results

Two significant correlations were observed. GRE Verbal scores were positively correlated with WCST Nonperseverative Errors ($r = .512, p = .036$), and Praxis scores were positively correlated with CEFI Flexibility scores ($r = .531, p = .028$). These findings suggest that verbal reasoning and cognitive flexibility may contribute to performance in complex cognitive and standardized tasks.

Table 1: Significant Correlations Between EF and Academic Metrics.

Variable 1	Variable 2	<i>r</i>	<i>p</i>
GRE: Verbal	Nonperseverative Errors SS	0.512	0.036
Praxis Exam Score	Flexibility	0.531	0.028

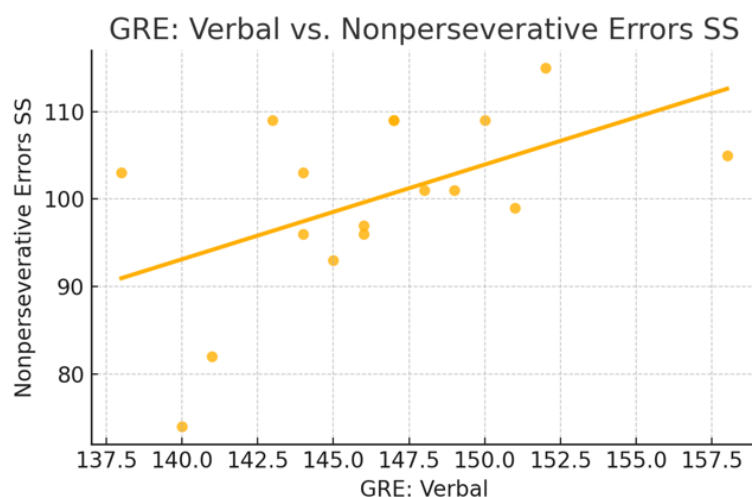


Figure 1: GRE: Verbal vs. Nonperseverative Errors SS.

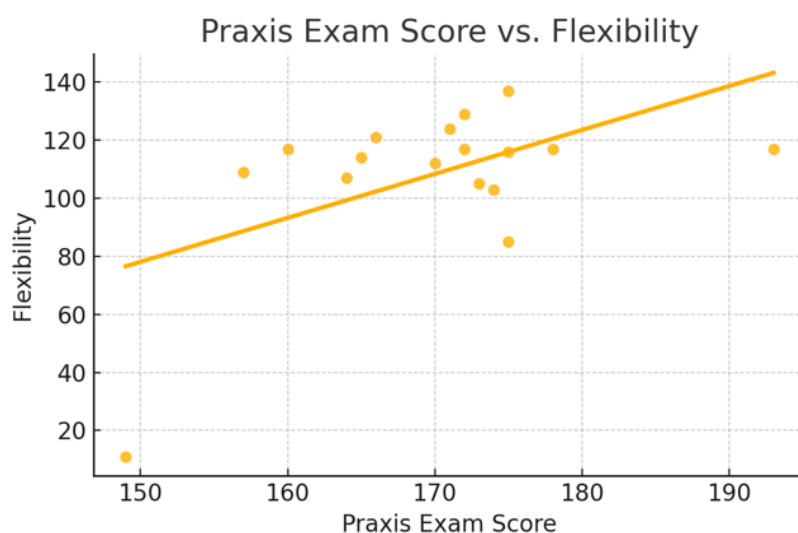


Figure 2: Praxis Exam Score vs. Flexibility.

Discussion

The results underscore the potential value of executive function screening in graduate health science education. Specifically, cognitive flexibility (as measured by CEFI) was associated with Praxis exam performance, suggesting that students who adapt well to novel tasks may also succeed on applied professional assessments. Additionally, GRE Verbal's association with WCST performance implies that verbal reasoning could influence cognitive flexibility. These findings support further study on cognitive profiling in graduate admissions or advising contexts.

References

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