

Expository Discourse and its Links to Cognition & Language

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INTRODUCTION

Expository discourse is the language we use to learn and share information and the ability to comprehend and express this type of language is imperative for classroom success. Little is understood about the skills needed to master this type of discourse in typically developing adolescents and how impairments in learning, language and cognition may impact the mastery of expository discourse (Lundine et al., 2016). This research aims to study the relationship between language and cognitive skills to three different types of expository discourse summaries. This research also explores whether quality scores of the expository discourse summaries differ for male and female students.

RESEARCH QUESTIONS

- How do the language and cognitive abilities of students relate to their ability to verbally summarize different types of expository discourse?
- Do quality scores of expository discourse summary differ for male and female students?

Participant Demographics

113 students with typical development participated in this study. And were recruited from local science center, social media and Nationwide Children's Hospital and clinics.

Grade, sex, mean age and testing distribution of sample (N = 113) by grade level. Scores are Mean (Standard Deviation) unless otherwise noted.

Grade level	% of Total	% Female	Age in Years	Cognitive Composite Score ¹	Language Composite Score ¹
6 th /7 th grade	23.0 (26)	38.5 (10)	13.2	94.3	118.8
8 th grade	28.3 (32)	66 (21)	14.3	100.3	113.6
9 th grade	21.2 (24)	54 (13)	15.5	99.5	116.4
10 th grade	15.9 (18)	67 (12)	16.1	95.5	109.3
11 th /12 th	11.5 (13)	38.5 (5)	17.5	88.4	107.9

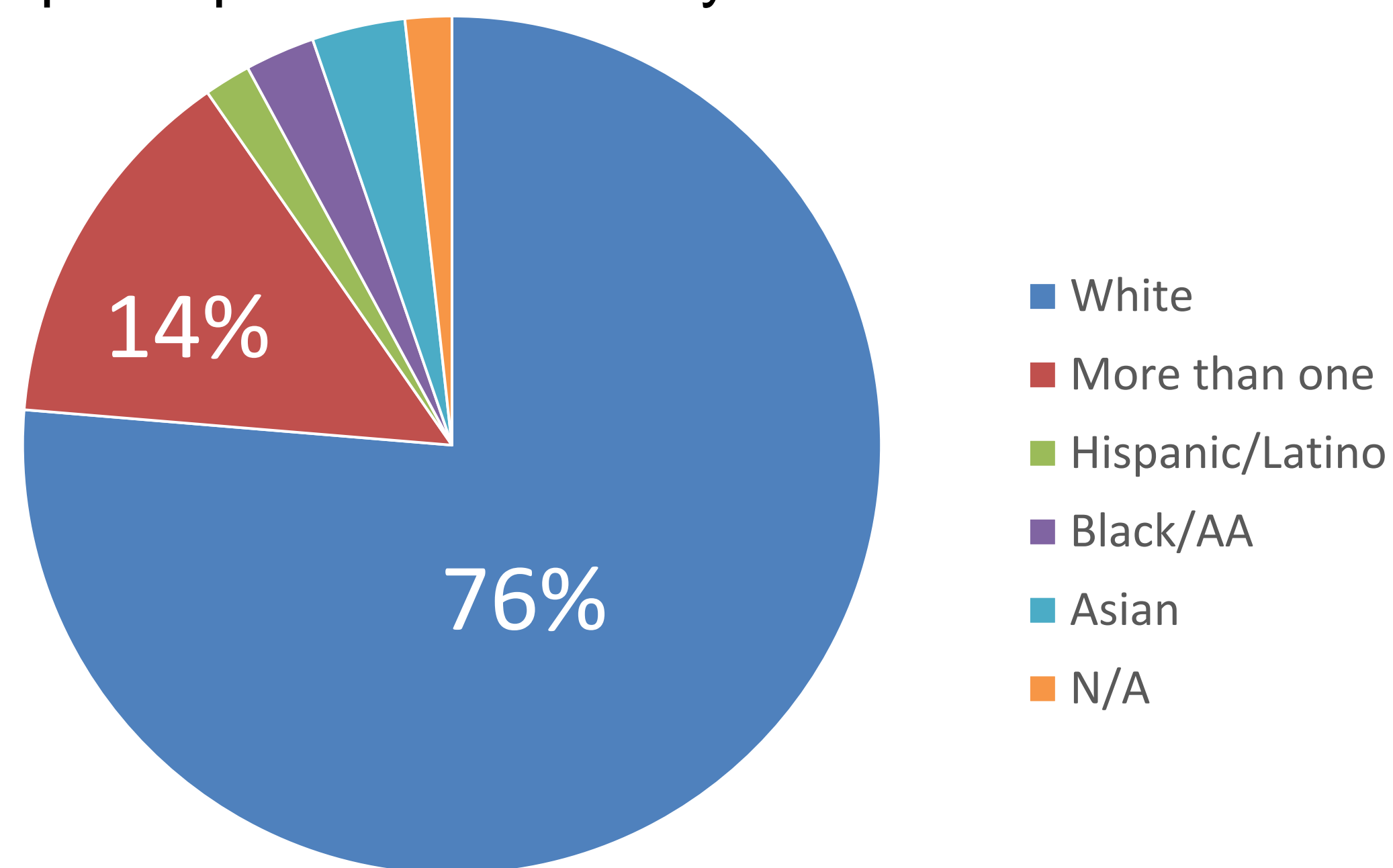
¹Mean = 100, SD = 15.

METHODS

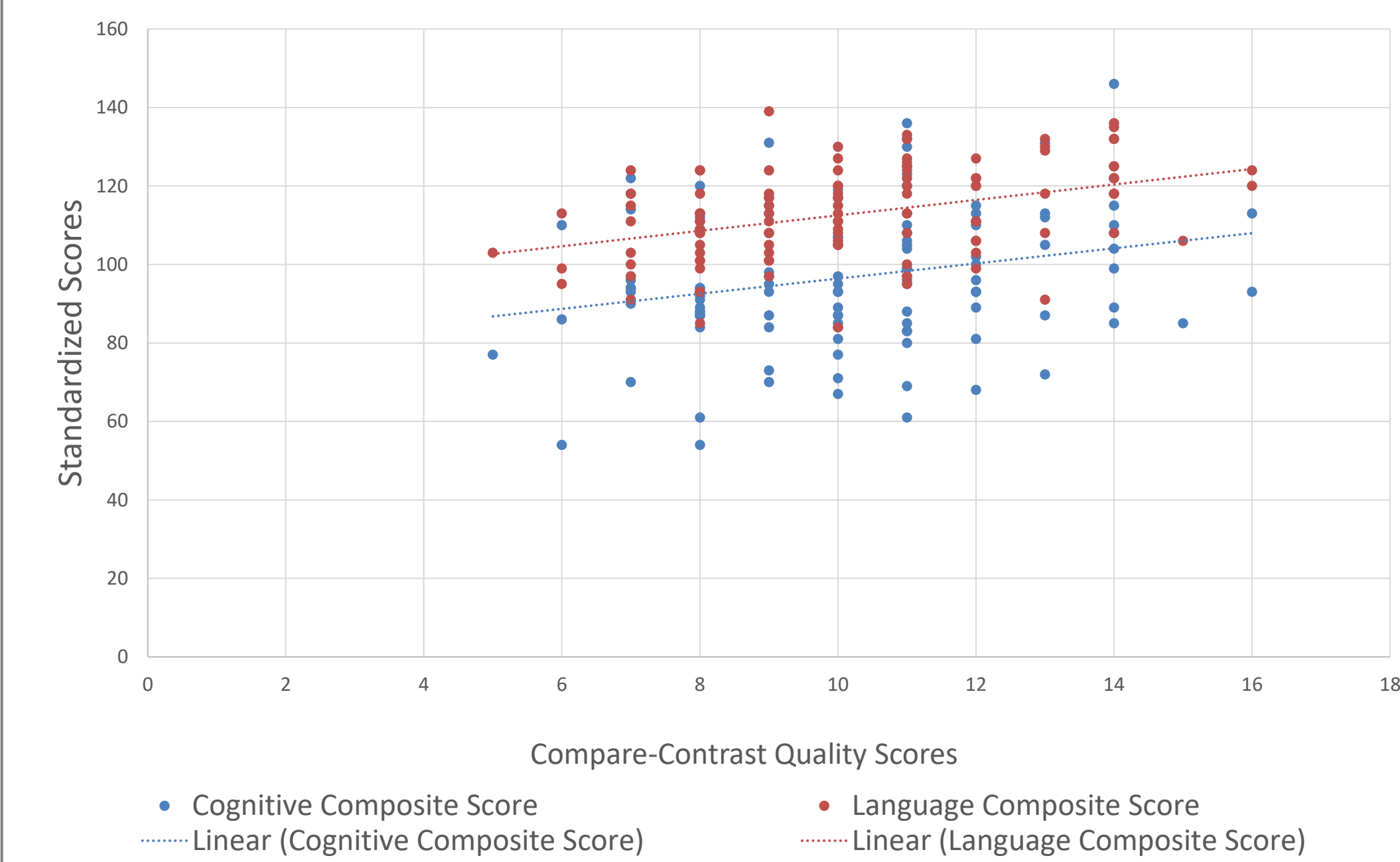
- Participants (n = 113), 13-18 years of age (mean = 14.98) completed subtests in the National Institutes of Health Toolbox Cognitive Battery and Clinical Evaluation of Language Fundamentals-5 to assess their cognitive and language abilities.
- The students then listened to three different types of lectures (cause-effect, compare-contrast and procedural). And then verbally summarized the lectures, while being audio recorded.
- Trained undergraduate research assistants transcribed the summaries using the Systematic Analysis of Language Transcripts (SALT) software.
- Two students assigned them a quality score that was totaled from five different categories, for a total of up to 20 points.
- Nonparametric Spearman's Rank correlations examined the relationships between the variables of interest.

Participant Demographics

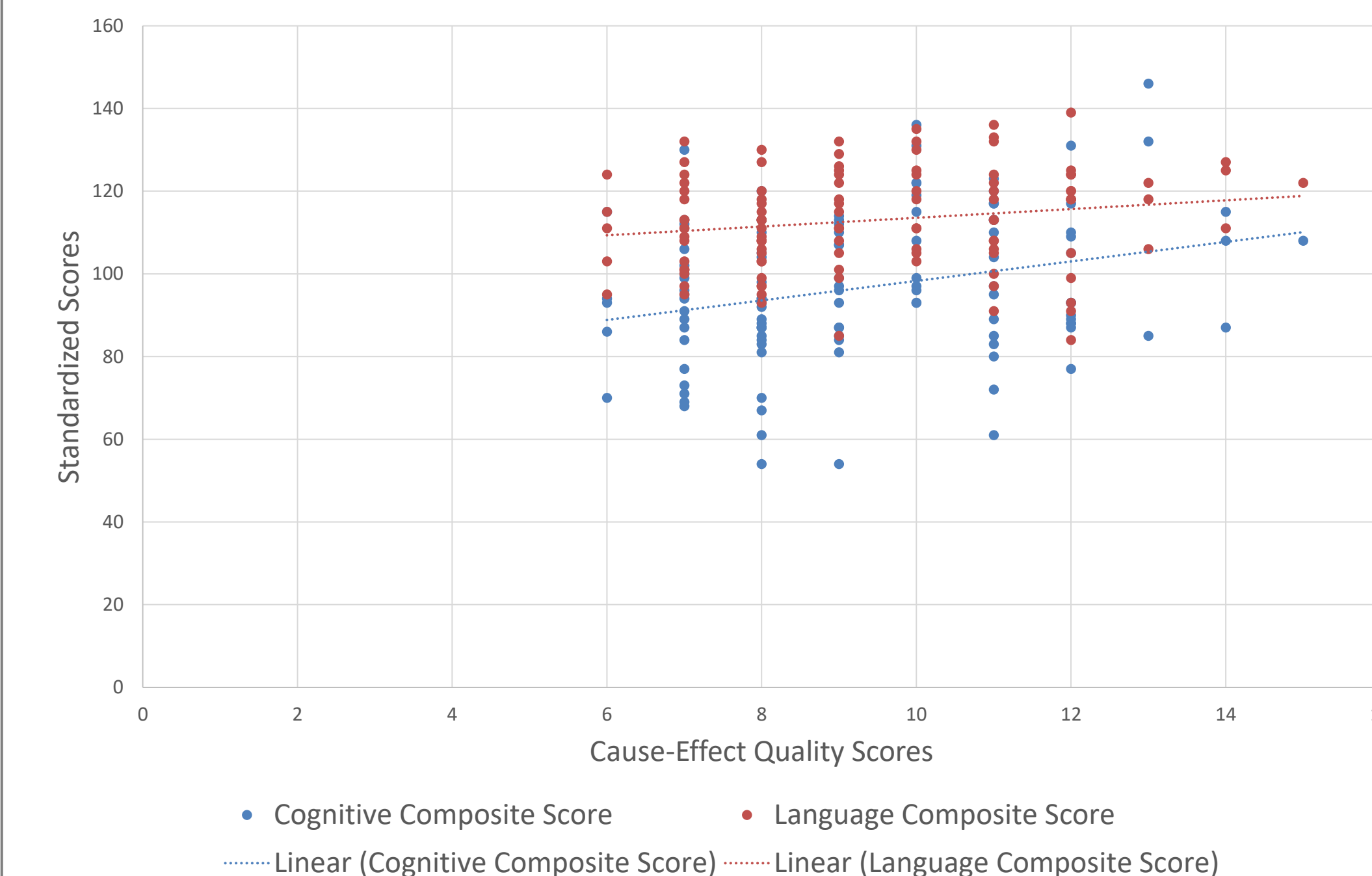
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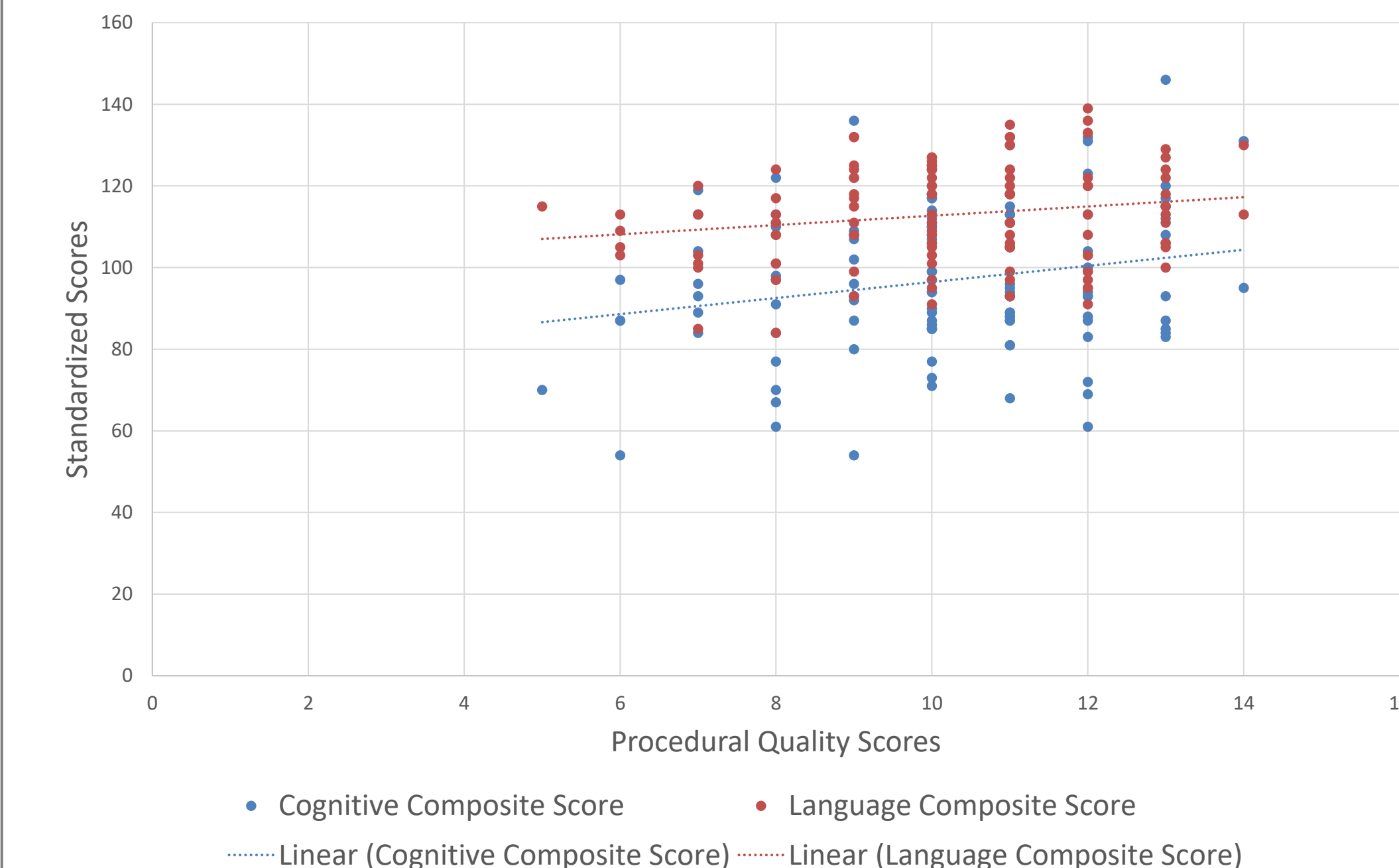
Compare-Contrast vs. Cognitive & Language Assessments



Cause-Effect vs. Cognitive & Language Assessments



Procedural vs. Cognitive & Language Assessments



RESULTS

- Quality scores for the three types of expository discourse (CC, CE & P) were moderately correlated ($p \leq .018$).
- Quality scores for compare-contrast and cause-effect summaries were weakly correlated with cognitive (CC: $p = .024$, CE: $p = .007$) and language composite scores (CC: $p = .000$, CE: $p = .031$).
- Quality scores for procedural summaries had no statistically significant correlation with cognitive and composite language scores.
- T-tests revealed no statistically significant differences between quality scores for male and female students on any of the discourse summaries.

CONCLUSIONS

Differences of correlation of the discourse types and cognitive and language composite scores suggests that cognitive and language skills may contribute differentially to each type of expository discourse, providing additional support to the idea that not all types of expository discourse rely on the same underlying mechanisms. Additionally, male and female students appear to perform similarly across these different tasks.

BIBLIOGRAPHY

¹ Lundine JP, McCauley RJ. A tutorial on expository discourse: Structure, development and disorders in children and adolescents. *Am J Speech Lang Pathol.* 2016;25:306-320. doi:10.1044/2016_AJSLP-14-0130

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