

Multi-Variable Predictors of Dyslexia : A Meta-Analysis

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Introduction

- Developmental dyslexia is a neurobiological learning disability that affects the global population between 3%-17%. Current research links dyslexia to deficits in phonological processing, phonological awareness, and memory that all impact difficulties in reading comprehension.
- In previous studies, Dr. Wagner and his team analyzed how multiple predictors, including phonological processing, genetic linkage, and response to instruction affected the prevalence of dyslexia.

They found that...

- poor phonological processing
- family risk
- lacked response
- All impacted their results. Our study hopes to combine these three variables and further improve future meta-analysis with more predictors of dyslexia.

Methods

Modern approaches to identifying dyslexia use multiple criteria and multi-factor models, analyzing phonological deficits, rapid naming tests, and comparison of reading or listening comprehension.

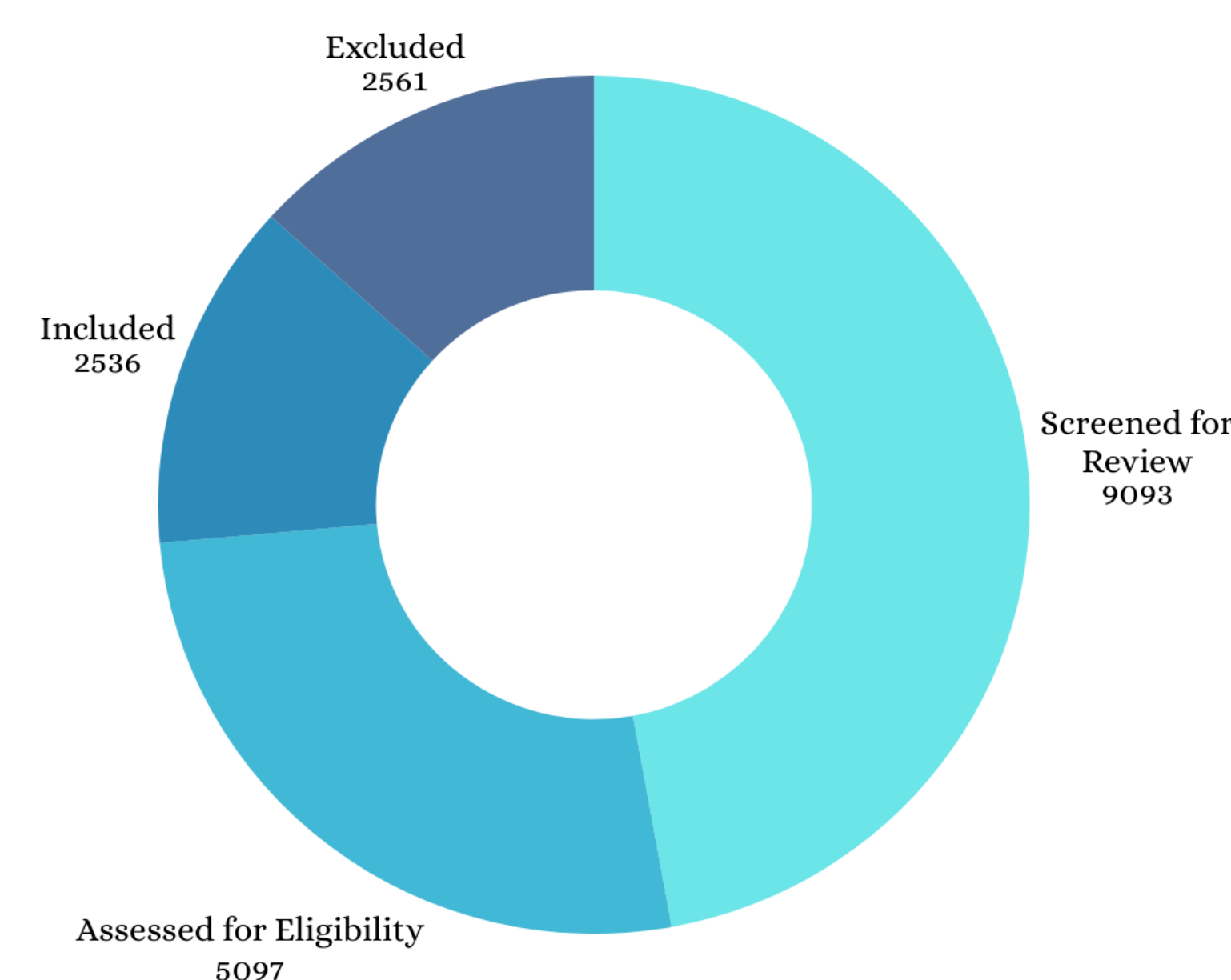
We utilized a meta-analytic structural equation modeling (MASEM), where effect sizes are synthesized from independent studies to estimate and compare how predictors relate to reading outcomes from a single path model.

The primary database for inclusion/exclusion of relevant full-text articles was Covidence. The search string included previous research from APA PsychInfo, ERIC, Pubmed, and Dissertation & Theses Global.

Discussion

- We conducted this meta-analysis to identify the most consistent predictors of dyslexia. By doing this, we hope to better understand how early interventions can be utilized to predicting dyslexia more effectively while also improving how it is analyzed.
- Recognizing recurring predictors helps bridge the gap between diagnosis and intervention, especially when there is not only one standardized tool that directly addresses dyslexia.
- Predictors of dyslexia do not act alone. Viewing dyslexia as the result of interacting vulnerabilities can improve early identification and guide more targeted interventions.
- Further findings from future model-based meta-analysis will benefit from the scope of relevant articles.

Results



Researchers analyzed data based on specific **inclusion/exclusion criteria** to narrow down the intended population for data extraction. While 9093 studies were screened for review, only 5097 full-text studies were successfully assessed for eligibility. After the exclusion process, 2536 studies were included into the meta-analysis, containing constructs such as orthographical processing and phonological awareness.

Acknowledgments

We want to thank our mentor Dr. Richard Wagner, as well as Dr. Dorota Kossowska-Khun, Dr. Fotena Zirps, and graduate student Gillian Gouveia for this study.

References

