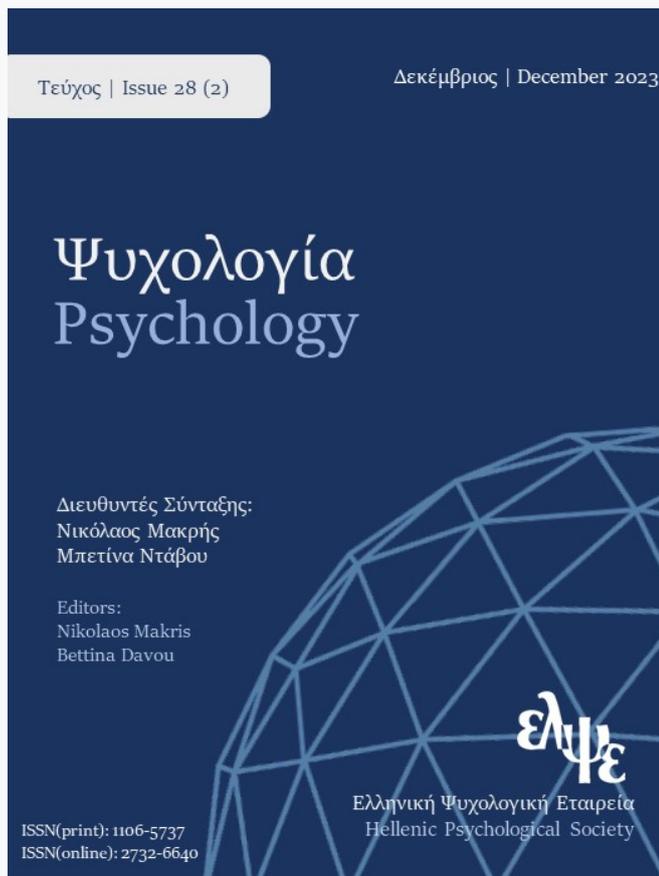


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The role of working memory in the comprehension of syntactically complex sentences in children with and without developmental language disorder: A literature review

Gavriil Karavasilis, Kleopatra Diakogiorgi, Despoina Papadopoulou

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Risk of bias assessment

Possible Answers: Y = Yes / N = No / NR = Not reported

The assessment refers to the population of children included in each study.

*Note: This is AXIS tool developed for a critical assessment of the quality of cross-sectional studies ^[1]

Table S1

Risk of bias assessment in studies of children with typical language development

	Arosio et al. (2011)	Arosio et al. (2012)	Bentea et al. (2016)	Booth et al. (2000)	Boyle et al. (2013)	Felser et al. (2003)	Finney et al. (2014)	Haendler et al. (2015)	Kas & Lukacs (2012)	MacDonald et al. (2020)	Montgomery et al. (2008)	Poulsen et al. (2021)	Roberts et al. (2007)	Rusli & Montgomery (2017)	Schouwenaars et al. (2018)	Weighall & Altmann (2011)	Wu et al. (2022)
Introduction																	
1. Were the aims/objectives of the study clear?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methods																	
2. Was the study design appropriate for the stated aim(s)?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3. Was the sample size justified?	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N
4. Was the target/reference population clearly defined? (Is it clear who the research was about?)	N	N	N	N	Y	N	Y	N	Y	N	N	N	N	Y	Y	N	N
5. Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NR	NR	Y	Y	N
6. Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?	NR	N	NR	NR	NR	N	Y	N	NR	NR	Y	N	N	Y	N	N	N
7. Were measures undertaken to address and categorize non-responders?	NR	NR	NR	NR	Y	NR	NR	Y	NR	NR	NR	Y	NR	NR	NR	NR	Y
8. Were the risk factors and outcome variables measured appropriate to the aims of the study?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
9. Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialled, piloted, or published previously?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
10. Is it clear what was used to determine statistical significance and/or precision estimates? (e.g., p values, CIs)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
11. Were the methods (including statistical methods) sufficiently described to enable them to be repeated?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Results																	
12. Were the basic data adequately described?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
13. Does the response rate raise concerns about nonresponse bias?	NR	NR	NR	NR	N	NR	NR	N	NR	NR	NR	N	NR	NR	NR	NR	N
14. If appropriate, was information about non-responders described?	NR	NR	NR	NR	Y	NR	NR	N	NR	NR	NR	Y	NR	NR	NR	NR	Y
15. Were the results internally consistent?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
16. Were the results for the analyses described in the methods, presented?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Discussion																	
17. Were the authors' discussions and conclusions justified by the results?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
18. Were the limitations of the study discussed?	N	N	N	N	Y	N	Y	N	N	N	Y	N	N	N	N	N	N
Others																	
19. Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?	NR	N	N	N	NR	N	N	N	NR	N	N	N	N	N	N	NR	NR
20. Was ethical approval or consent of participants attained?	NR	Y	NR	NR	Y	Y	NR	Y	NR	Y	NR	NR	Y	NR	Y	NR	NR

Table S2

Risk of bias assessment in studies of children with developmental language disorder vs typical language development controls

	Girbau (2017)	Ladanyi et al. (2017)	Montgomery (2000a)	Montgomery (2000b)	Montgomery (2004)	Montgomery & Evans (2009)	Montgomery et al. (2009)	Montgomery et al. (2018)	Rakhlina et al. (2016)	Roesch & Chondrogianni (2021)	Sasaki et al. (2021)						
Introduction																	
1. Were the aims/objectives of the study clear?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
Methods																	
2. Was the study design appropriate for the stated aim(s)?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
3. Was the sample size justified?	N	N	N	N	N	N	N	N	N	N	N						
4. Was the target/reference population clearly defined? (Is it clear who the research was about?)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
5. Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?	Y	Y	NR	NR	NR	NR	NR	Y	NR	Y	Y						
6. Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
7. Were measures undertaken to address and categorize non-responders?	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR						
8. Were the risk factors and outcome variables measured appropriate to the aims of the study?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
9. Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialled, piloted, or published previously?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
10. Is it clear what was used to determine statistical significance and/or precision estimates? (e.g., p values, CIs)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
11. Were the methods (including statistical methods) sufficiently described to enable them to be repeated?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
Results																	
12. Were the basic data adequately described?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
13. Does the response rate raise concerns about nonresponse bias?	NR	N	NR	NR	NR	NR	NR	NR	NR	NR	NR						
14. If appropriate, was information about non-responders described?	NR	Y	NR	NR	NR	NR	NR	NR	NR	NR	NR						
15. Were the results internally consistent?	NR	NR	NR	NR	NR	NR	NR	NR	Y	NR	NR						
16. Were the results for the analyses described in the methods, presented?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
Discussion																	
17. Were the authors' discussions and conclusions justified by the results?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
18. Were the limitations of the study discussed?	Y	N	N	N	N	Y	Y	Y	Y	N	N						
Others																	
19. Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?	N	N	N	N	N	N	N	N	N	N	N						
20. Was ethical approval or consent of participants attained?	Y	Y	NR	NR	NR	NR	NR	NR	NR	NR	NR						

[1] Downes, M. J., Brennan, M. L., Williams, H. C., Dean, R. S. (2016). Development of a critical appraisal tool to assess the quality of cross-sectional studies (AXIS). *BMJ Open*, 6, Article eo11458, <https://doi.org/10.1136/bmjopen-2016-011458>