# CAN THE RESULTS OF RESEARCH BE USED CLINICALLY? META-RESEARCH IN THE FIELD OF MEMORY INTERVENTION IN CHILDREN

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## INTRODUCTION

- Working memory (WM) is often impaired in multiple neurological conditions in children. WM is crucial for academic success
- The quality of interventional studies in this field has been called into question
- For an **Evidence-based-Practice Neuropsychology** (EBPN), clinicians need to find high-quality evidences (1)
- RCT are supposed to be a valuable source of information on the potential effectiveness of an intervention method (="Gold standard")
- BUT RCT must meet certain quality criteria (2)
- If the criteria are not met:
  - unreliable conclusions
  - lack of reproductibility
  - Useless for clinicians
- This would undermine the quality of EBPN (3)

# OBJECTIVE

The aim of this study is to assess the quality of RCTs on the intervention of WM in children and to explore what could be done to make it more reliable, reproductible and useful for clincians.

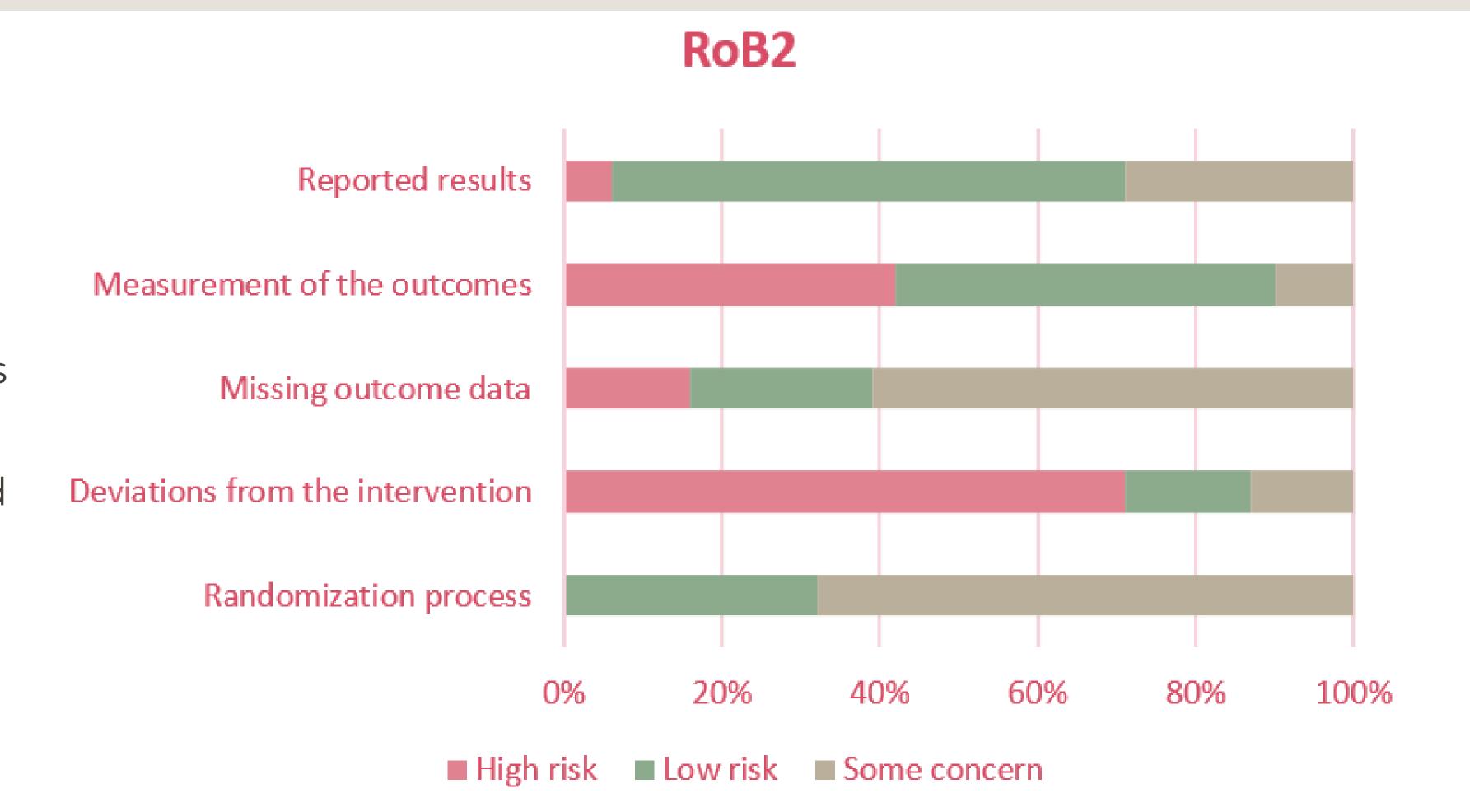
# **METHODS**

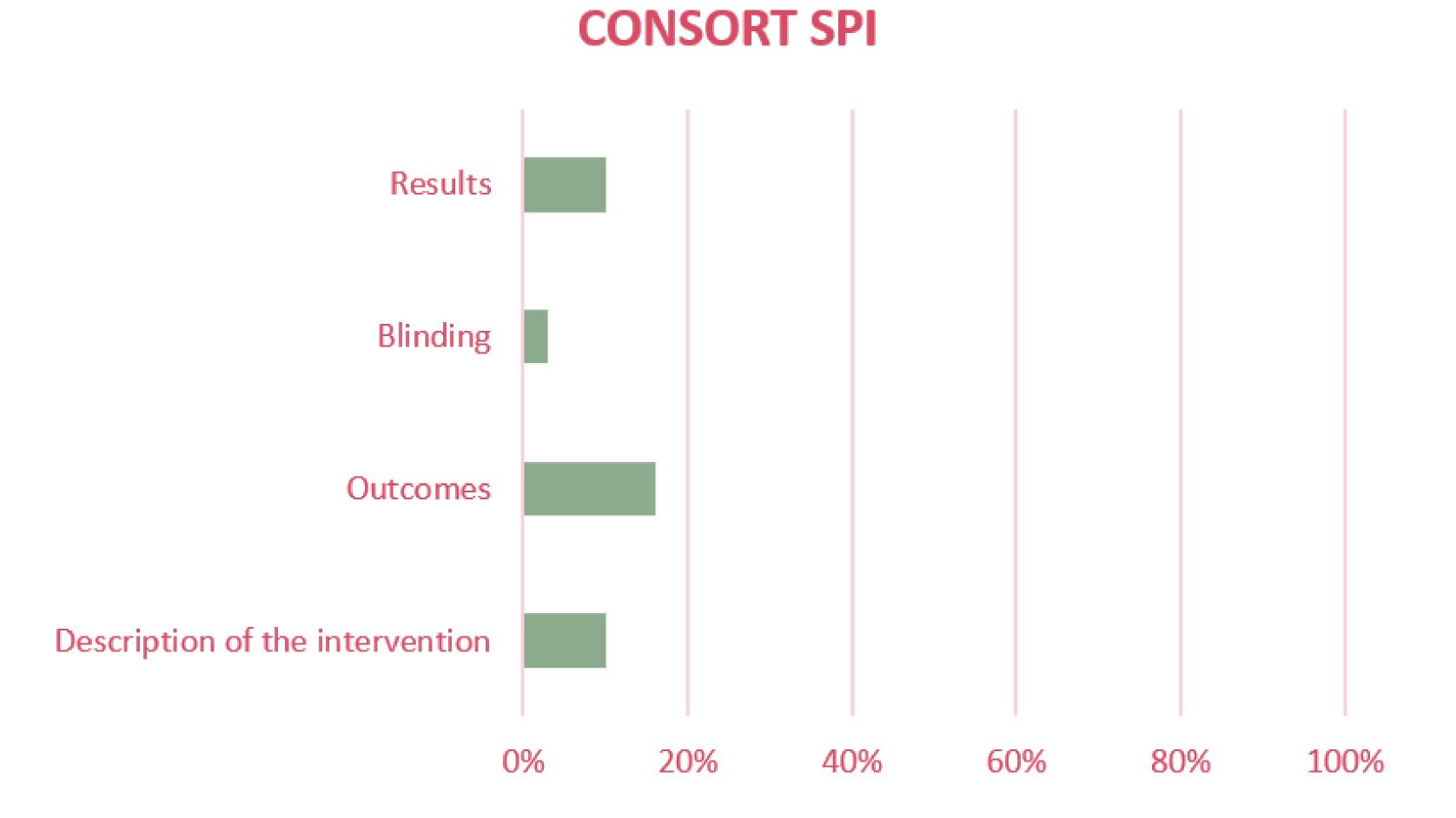
- Selection and analyses:
  - two independent researchers
  - pooling
  - third-party researchers to settle disagreements
- Used grids:
  - Risk of biais (processes that lead to error in the results):
     RoB2 tool
  - Reporting quality: CONSORT SPI guide

## RESULTS

- Sample: 31 RCT
- **High risk of methodological bias** in the majority of articles selected (83%)
- The most common problems: deviation from the inteded intervention and measuring outcomes

- The CONSORT SPI grid appears to be little used or understood
  - 11 items out of 45 are reported correctly
- Most frequently reported sub-dimensions (in over 50% of articles): scientific background, demographics of subjects, limitations of the study, possible generalisability of results, limitations of the study and potential conflicts of interest
- General lack of transparency: inaccurate information on blinding, poor description of the intervention, incomplete definitions of outcomes, incomplete presentation of results





# CONCLUSION

- To help clinicians choose methods for improving WM, research must produce high-quality interventional studies. Unfortunately, the data in this field are consistent with the **problems of quality** already observed in research in the human sciences (2)
- These quality problems are **in addition to other difficulties** already mentioned regarding the usability of data in WM intervention field (especially for computerised treatments 4)
- In this context, clinical neuropsychologists should have excellent critical reading skills, which does not seem to be the case (3).
- Future challenge for researchers: to increase the number of good quality and clinically useful interventional studies

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