

The Consequences of Using Different 10-Item Autism Spectrum Quotient (AQ10) Cut-Offs in Psychological Research

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Introduction

- For 9 years, international clinical NICE guidelines erroneously recommended an AQ-10 cut-off value of ≥ 7 , instead of ≥ 6
- This error has proliferated across research, with $>50\%$ of inspected research using an incorrect or ambiguous cut-off value
- We aimed to quantify the consequences of using an incorrect AQ-10 cut-off value for psychological research

Methods

5 datasets ($N = 7612$) were re-analysed to assess:

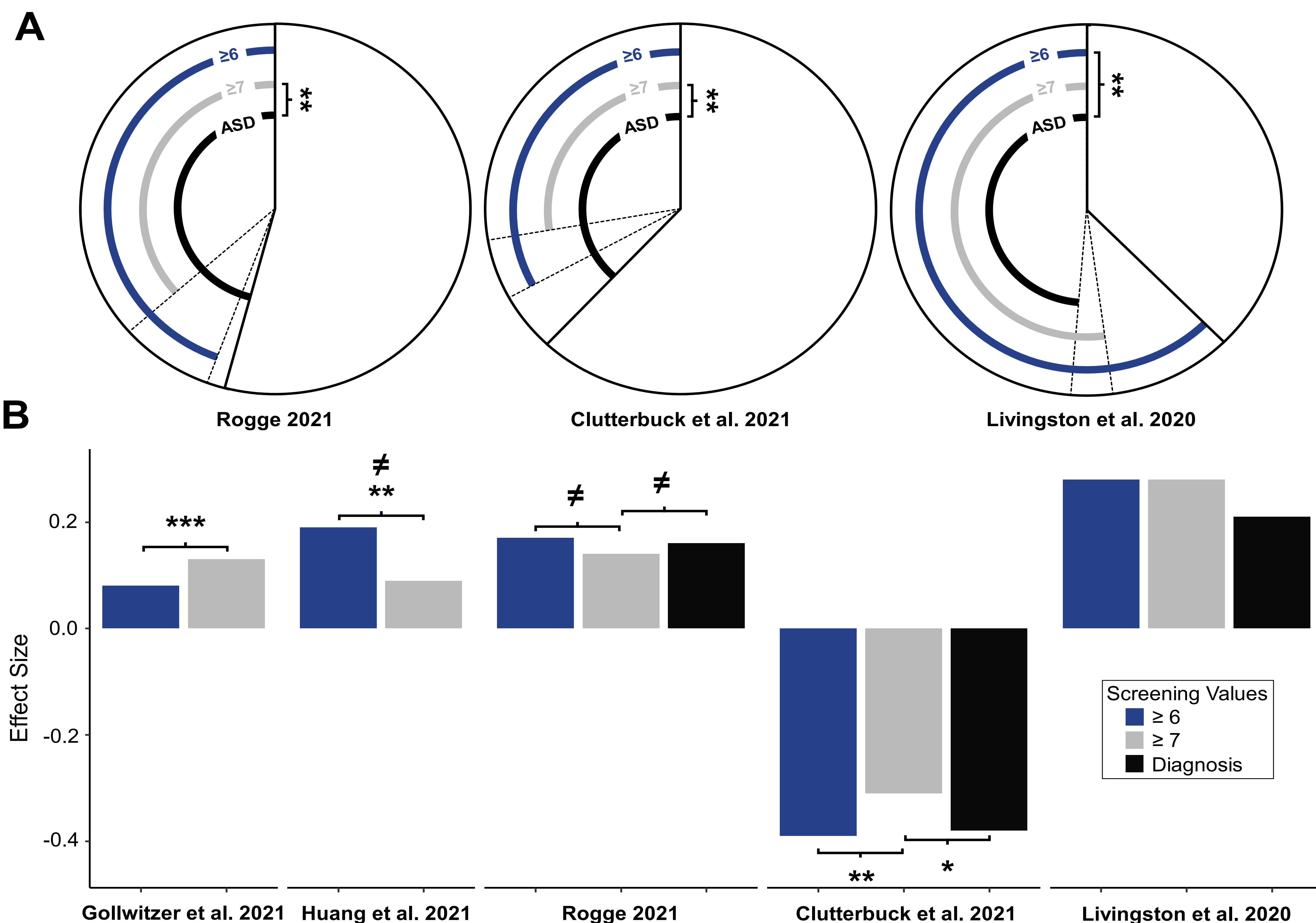
- How many participants meet the correct ≥ 6 and incorrect ≥ 7 cut-off
- Which cut-off value was most predictive of clinical diagnosis
- If a 1-point change in cut-off value can significantly change the effect size of autism-related associations

Results

- Up to 56% fewer participants met the ≥ 7 cut-off
- The ≥ 6 cut-off was more predictive of diagnosis in 2 datasets
- Effect sizes significantly changed by up to 59.75%
- Associations became non-significant in 2 datasets

Discussion

- Incorrect use of the AQ-10 cut-off can significantly change the interpretation of autism-related associations
- This could have large implications for our understanding of autism and the clinical interventions such research informs
- We urge future research to use the correct ≥ 6 cut-off, and studies that have used the incorrect ≥ 7 cut-off to be re-analysed



Note. A: The proportion of participants who met the ≥ 6 AQ10 cut-off (dark blue), the ≥ 7 AQ10 cut-off (light grey), and/or have a clinical diagnosis of autism (black). B: Changes in the effect size (Pearson's r) of autism-related associations when using the AQ10 cut-offs or participants' diagnostic status. * $p < .05$, ** $p < .01$, *** $p < .001$, # change in pattern of statistical significance.