The methodological quality of single-case experimental studies meta-analyses

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Scientific rigor is a fundamental factor in the validity and credibility of the results of a MA. Following an increasing interest in single-case experimental design (SCED) meta-analyses (MAs), the current study systematically appraises the methodological quality of 178 SCED MAs published between 1985 and 2015, to highlight methodological shortcomings, and to provide some practical suggestions to improve the quality of future SCED MAs through examining 44 criteria of the modified R-AMSTAR. A remarkable percentage of the studies (93.8% of included SCED MAs) did not even reach the midpoint score (with a score of 22 or lower on the scale from 0 till 44). The mean and median of methodological quality scores were 15.57 and 16 respectively. In this poster, we will give a detailed overview of the methodological quality of SCED MAs and some important recommendations for future researchers.

Based on this study, we have two remaining questions for applied researchers and for methodologists in the audience. First, to what extent are the criteria relevant (and the only relevant ones) to evaluate the quality of SCED? Second, how can we further promote the quality of SCED MAs?

Scientific field(s) of the author(s)

Statistics and methodology

Relevance to conference theme

One of the main issues of SCEDs is their limited generalizability because of the small number of cases under investigation. To enhance generalizability, researchers replicate SCEDs across cases, across setting, or across behaviors. Meta-analytic procedures allow researchers to quantitatively synthesize the results of these replications and provide evidence for best practices. Conducting a high-quality MA is a good solution to provide more reliable and valid results.

Keywords

Single-case experimental design, meta-analysis, methodological quality

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