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**Quality Appraisal of Single-case Experimental Designs: Current Issues and Future Directions**

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**Objectives/aims**

This presentation will outline current issues in quality appraisal of single-case experimental designs (SCEDs). These are a quasi-experimental approach to evaluating treatment efficacy in a single participant or small N of participants serving as their own control. Consumers of SCED research need to evaluate methodological rigor before relying on study results for evidence-based treatment. Researchers aiming to synthesize SCEDs have to assess study quality and assign more weight to sound studies. Advantages and disadvantages of nine common SCED appraisal tools will be discussed and a systematic review example will demonstrate how review outcomes may vary based on the chosen appraisal tool.

**Methods**

Nine different quality appraisal tools were compared with respect to their compliance with current standards for conducting SCEDs (Horner et al., 2005) and their performance in evaluating research reports. Two independent raters applied each tool to four different types of SCEDs. Considerable variability was noted relative to the construction and content of the tools, which consequently led to variability in their evaluation results. The two strongest tools were applied in a systematic review of functional communication training for adults with autism to show differences in review outcomes. These differences are likely due to the construction of rating items in each appraisal tool.

**Main findings**

Few tools provided empirical support for validity of item construction and reliability of use. The Evaluative Method, the Certainty Framework, the What Works Clearinghouse Standards (WWC), and the Evidence in Augmentative and Alternative Communication Scales (EVIDAAC) were identified as the more suitable instruments currently available; the Comparative Single-Case Experimental Design Rating System (CSCEDARS) emerged as a promising tool for comparative SCEDs. Without a “gold standard critical appraisal tool,” applied researchers and practitioners need to proceed with caution when interpreting evaluation results obtained from existing tools, keeping their context and intent in mind.