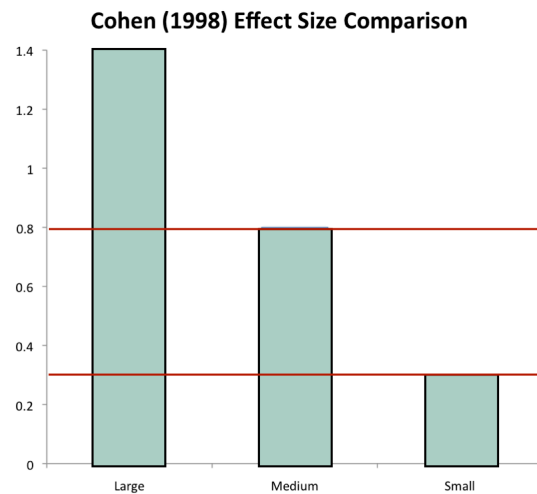# Meta-Analysis Research
Except from *PBIS Tier 3 Manual* (3rd Edition)

A meta-analysis study is one place where educators can search for evidence-based practices. The dictionary defines meta-analysis as the "*examination of data from a number of independent studies of the same subject, in order to determine overall trends*". In education, where every person and company seems to be promoting a "Best Practice", it can be hard to know which educational practice is truly "research-based" and scientifically shown to be effective.

Meta-analysis research helps educators evaluate how effective a practice is by analyzing how well it did across a large number of well controlled studies by different researchers, institutions, students and after many years of replication.

Meta-analysis research relies in part on calculating an Effect-Size, which is a statistic that represents the overall effectiveness of an individual intervention. A meta-analysis study compares the effect-size of many independent studies of the same intervention to determine an intervention's effectiveness. Cohen's Effect Size Comparison is often used to determine effectiveness and states the following:

Cohen (1998) Effect Size Comparison

- Low Effect Size = 0.0 - 0.3

- Moderate Effect Size = 0.3 - 0.8

- High Effect Size = 0.8 - 1.0 (or more)

The graphs on the following pages come from three separate mega-analysis research studies and showcase interventions with a high effect size across three different contexts and student population.

This excerpt is part of the Differential Reinforcement chapter of the *PBIS Tier 3 Manual*, available from Amazon, Apple Books, or koi-education.com/books.

Updated 06/2022

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Interventions that decrease disruptive behaviors in public school students

Stage, S. A., & Quiroz, D. R. (1997). A meta-analysis of interventions to decrease disruptive classroom behavior in public education settings. School Psychology Review, 26, 333-368.

Interventions to Decrease Disruptive Behavior
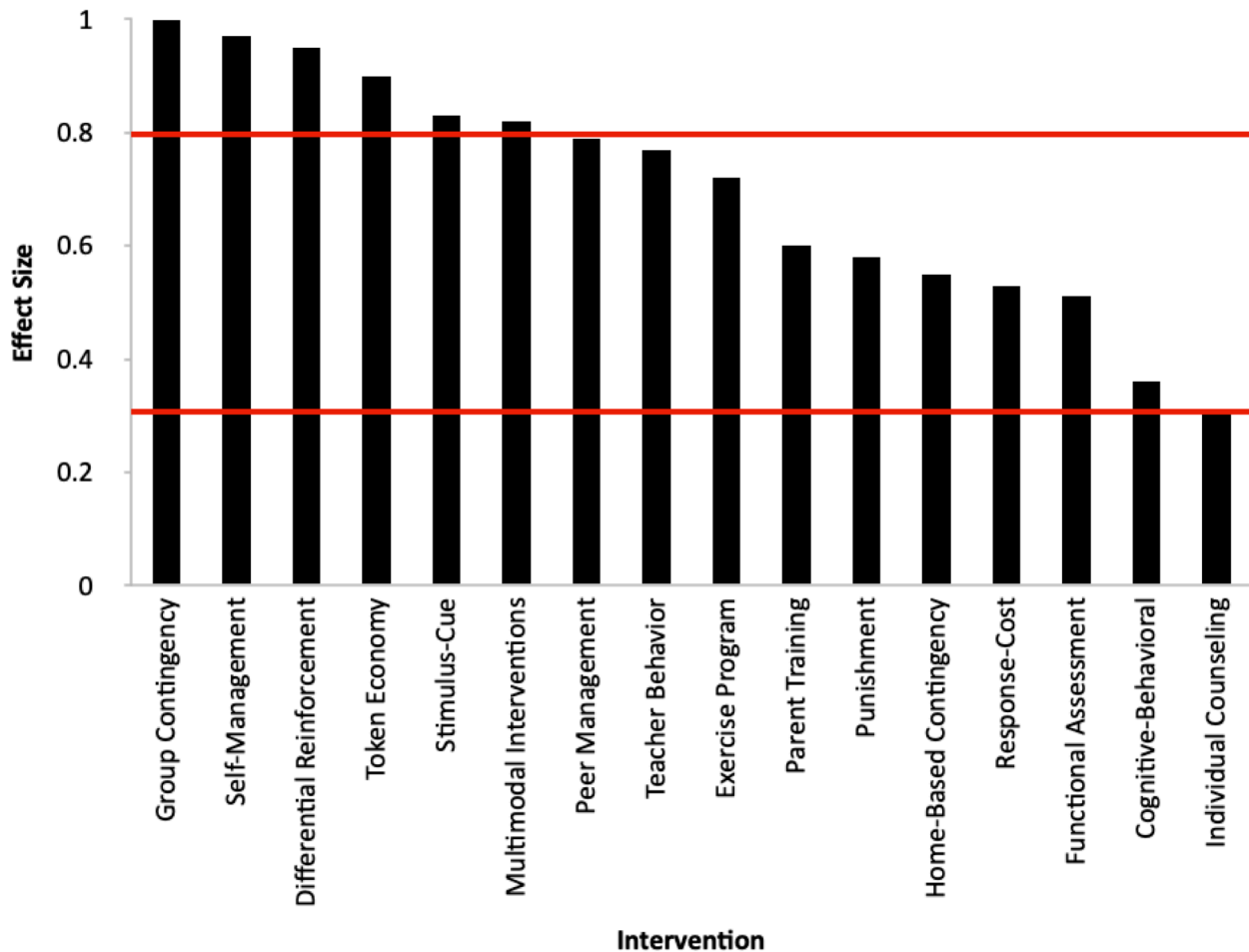
Some of the interventions in this graph such as punishment, cost-response, and counseling require further explanation and context, which is included in the original article - and discussed in the PBIS Tier 3 Manual.
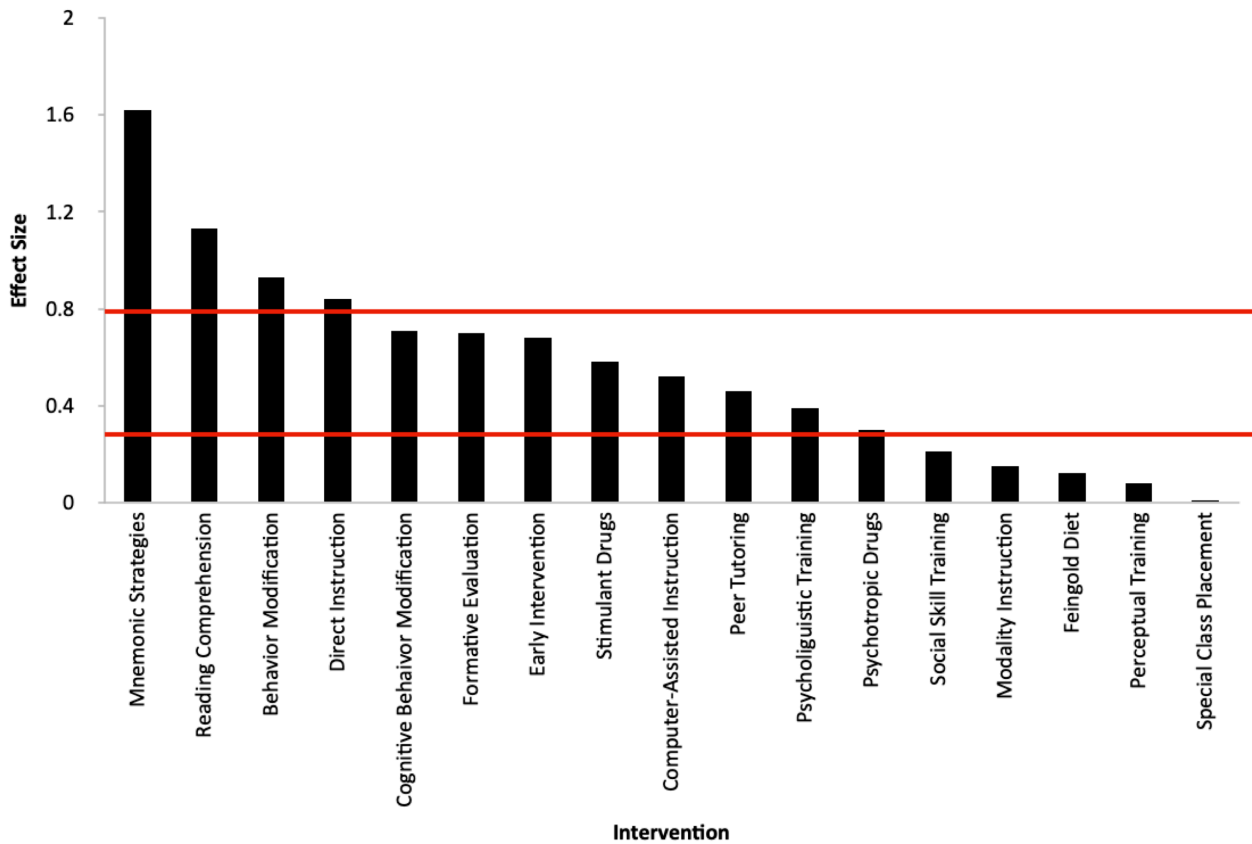
KOI-Education.com

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Interventions effective for students identified as needing Special Education services

Forness, S. R., Kavale, K. A., Blum, I. M., & Lloyd, J. W. (1997). Mega-analysis of meta-analyses. Teaching Exceptional Children, 29, 4-9.

Evidence-Based Interventions in Special Education

Meta-Analysis Research
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Interventions effective for student identified as having an Emotional and Behavioral Disorder

Ryan, J. B., Pierce, C. D., & Mooney, P. (2008). Evidence-based teaching strategies for students with EBD. Beyond Behavior, 17, 22-36.

Evidence-Based Interventions for Students with EBD