

How to Assess Research Quality

Kevin McEnroy PT, DPT

2:30 - 3:30pm

Communication, Professionalism

Clinicians, academics and researchers often reference "high quality research". Over the past 20 years, researchers have been sounding alarms about the quality of peer reviewed literature including the replication crisis, publication biases and questionable research practices. However, few clinicians can assess research quality beyond citing levels of evidence. This presentation will arm clinicians with actionable and specific knowledge to quickly assess the quality of the research paper in front of them. Additionally, it will help clinicians better appraise how a given research article can and should change their day to day practice. It will also inform clinicians about advancements in peer review to combat questionable research practices, improve methodological quality and combat publication biases so that we may advocate for their use in our profession.

Objectives:

1. The learner will be able to cite publication biases and understand how this should influence critical appraisal of the body of research as a whole
2. The learner will be able to name questionable research practices
3. The learner will be able to describe the process of pre-trial registration and understand how this information can inform them about the quality of a given research project
4. The learner will be able to describe and understand the benefits of registered report publishing
5. The learner will be able to describe the benefits of a research agenda to promote quality research that answers questions that help drive forward the profession

1. Open Science Collaboration. Estimating the reproducibility of psychological science. *Science*. 2015;349(6251):aac4716.

2. Andrade C. Harking, cherry-picking, p-hacking, fishing expeditions, and data dredging and mining as questionable research practices. *J Clin Psychiatry*. 2021;82(1):20f13804.

3. Rubin M. When does harking hurt? Identifying when different types of undisclosed post hoc hypothesizing harm scientific progress. *Review of General Psychology*. 2017;21(4):308-320.

4. Tan AC, Jiang I, Askie L, Hunter K, Simes RJ, Seidler AL. Prevalence of trial registration varies by study characteristics and risk of bias. *J Clin Epidemiol*. 2019;113:64-74.

5. Soderberg CK, Errington TM, Schiavone SR, et al. Initial evidence of research quality of registered reports compared with the standard publishing model. *Nat Hum Behav*. 2021;5(8):990-997."

Kevin McEnroy is an outpatient MSK and sports physical therapist practicing out of Brigham and Women's Hospital's Foxboro location. Prior to Physical Therapy Kevin worked in the Channing Laboratory for Respiratory Genomics.