Defining Meta-Analysis

- An **“analysis of analyses”** (Glass 1976)
- In conventional studies, the “units of analysis” are several people, specimens, countries, or objects.
- In meta-analysis, **primary studies themselves** become the elements of our analysis.
- The goal of meta-analysis is to **combine, summarize and interpret all available evidence** pertaining to a **clearly defined research field or research question** (Lipsey and Wilson 2001, ch. 1).
- However, it is **only one method to do this**.

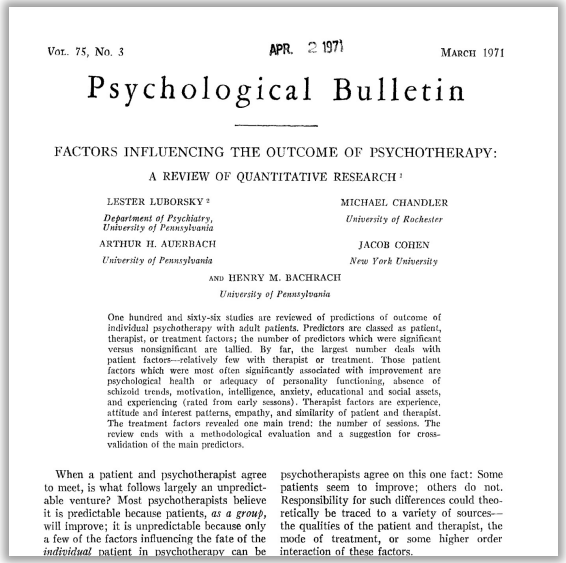
Gene V. Glass

Defining Meta-Analysis

- Types of Research Synthesis Methods (Harrer, Cuijpers, Furukawa & Ebert, 2021, ch. 1):
  - **Narrative/“Traditional“ Reviews:**
    - prevailing method for summarizing research fields well into the 1980s.
    - Typically authored by recognized authorities and experts in their respective fields.
    - Do not adhere to any strict guidelines for selecting studies or defining the review's scope.
    - No fixed rules for drawing conclusions from the reviewed evidence, which could lead to biases favoring the author's opinions.
    - But: balanced narrative reviews can offer readers a useful overview of a field

Defining Meta-Analysis

- Types of Research Synthesis Methods (Harrer, Cuijpers, Furukawa & Ebert, 2021, ch. 1):
  - **Systematic Reviews (SR):**
    - Summarize evidence using well-defined and transparent rules.
    - Prior to the review: research questions are established; clear, replicable methodology is used to select and analyze studies.
    - Goal: cover all existing evidence, evaluate its validity based on predetermined criteria, and present a systematic synthesis of findings.



VOL. 75, NO. 3 APR. 2 1971 MARCH 1971

Psychological Bulletin

FACTORS INFLUENCING THE OUTCOME OF PSYCHOTHERAPY:
A REVIEW OF QUANTITATIVE RESEARCH [1]

LESTER LUBORSKY [2]
Department of Psychiatry, University of Pennsylvania
ARTHUR H. AUERBACH
University of Pennsylvania
MICHAEL CHANDLER
University of Rochester
JACOB COHEN
New York University
AND HENRY M. BACHRACH
University of Pennsylvania

One hundred and sixty-six studies are reviewed of predictions of outcome of individual psychotherapy with adult patients. Predictors are classed as patient, therapist, or treatment factors; the number of predictors which were significant versus nonsignificant are tallied. By far, the largest number deals with patient factors—relatively few with therapist or treatment. Those patient factors which were most often significantly associated with improvement are psychological health or adequacy of personality functioning, absence of schizoid trends, motivation, intelligence, anxiety, educational and social assets, and experiencing (rated from early sessions). Therapist factors are experience, attitude and interest patterns, empathy, and similarity of patient and therapist. The treatment factors revealed one main trend: the number of sessions. The review ends with a methodological evaluation and a suggestion for cross-validation of the main predictors.

When a patient and psychotherapist agree to meet, is what follows largely an unpredictable venture? Most psychotherapists believe it is predictable because patients, *as a group*, will improve; it is unpredictable because only a few of the factors influencing the fate of the *individual* patient in psychotherapy can be

psychotherapists agree on this one fact: Some patients seem to improve; others do not. Responsibility for such differences could theoretically be traced to a variety of sources—the qualities of the patient and therapist, the mode of treatment, or some higher order interaction of these factors.

An early systematic review on working factors in psychotherapy by Luborsky (1971)

Defining Meta-Analysis

- Types of Research Synthesis Methods (Harrer, Cuijpers, Furukawa & Ebert, 2021, ch. 1):
  - **Meta-Analysis:**
    - Can be seen as advanced type of a systematic review.
    - Like SRs, meta-analyses *typically* have a clear pre-defined scope, studies selected in a systematic and reproducible way, clear standards of evidence assessment (but don't *have to*).
    - SRs and meta-analyses are often combined in studies: "systematic review *and* meta-analysis".
    - In contrast to SRs, meta-analyses combine results from previous studies in a *quantitative* way
      → integrate quantitative outcomes reported in the selected studies into one numerical estimate.
    - Can only be applied to studies which report quantitative results; often more exclusive than SRs (e.g., only synthesize studies with the same design and type of measurement, and/or delivered the same intervention)

Defining Meta-Analysis

- Types of Research Synthesis Methods (Harrer, Cuijpers, Furukawa & Ebert, 2021, ch. 1):