# History of Psychology

Session 8: Psychotherapy research

Loreen Tisdall, Center for Cognitive and Decision Sciences November 17, 2025

### **Session information**

Sessions take place Mondays, 8.15-9.45, Chemie, Organische, Grosser Hörsaal OC.

#	Date	Topic	Instructor
1	22.09.2025	Session 1: What kind of science is psychology?	Mata
2	29.09.2025	Session 2: The birth of psychology	Mata
3	13.10.2025	Session 3: Psychoanalysis	Mata
4	20.10.2025	Session 4: Behaviorism	Mata
5	27.10.2025	Session 5: Gestalt psychology (cancelled)	Mata
6	03.11.2025	Session 6: Cognitive psychology	Mata
7	10.11.2025	Session 7: Psychology today	Tisdall
8	17.11.2025	Session 8: Psychotherapy research	Tisdall
9	24.11.2025	Session 9: Psychological testing	Tisdall
10	01.12.2025	Session 10: Decision science	Tisdall
11	08.12.2025	Session 11: What kind of science is psychology? (revisited)	Tisdall
12	15.12.2025	Session 12: Exam	

## Learning Objectives for Today

- Recap: Replication crisis & Open Science in Psychology (S7)
- Distinguish the main psychotherapy approaches and identify their goals and methods
- Distinguish the main phases and identify key events in psychotherapy research, such as the birth of process and outcome research
- Identify the principles/rationale of key tools in evidence-based
   practice, such as randomized control trials and meta-analyses

# Fragmentation and reform in psychology: The replication crisis (RECAP)

### (Dis)Unity as a starting point for the replication crisis

- **Replication** = involves repeating a study with new data and/or participants but following the original methods as closely as possible (direct and conceptual replication)
- Reproducibility = refers to the ability to reach the same results when analyzing the same dataset using the same methods and analyses as described in the original study.

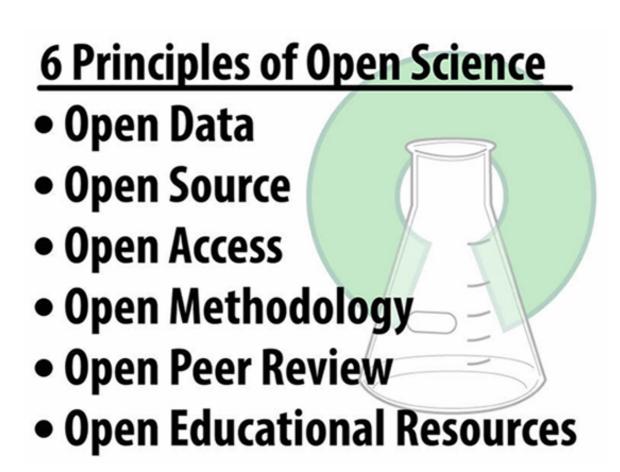
Table 1. Summary of reproducibility rates and effect sizes for original and replication studies overall and by journal/discipline. df/N refers to the information
on which the test of the effect was based (for example, df of t test, denominator df of F test, sample size -3 of correlation, and sample size for z and $\chi^2$ ). Four original
results had P values slightly higher than 0.05 but were considered positive results in the original article and are treated that way here. Exclusions (explanation provided in
supplementary materials, A3) are "replications P < 0.05" (3 original nulls excluded; n = 97 studies); "mean original and replication effect sizes" (3 excluded; n = 97
studies); "meta-analytic mean estimates" (27 excluded; n = 73 studies); "percent meta-analytic (P < 0.05)" (25 excluded; n = 75 studies); and, "percent original effect size
within replication 95% CI" (5 excluded, n = 95 studies).

Effe				ect size comparison				Original and replication combined			
	Replications P < 0.05 in original direction	Percent	Mean (SD) original effect size	Median original df/N		Median replication r	Average replication power	Meta- analytic mean (SD) estimate	Percent meta- analytic (P < 0.05)	Percent original effect size within replication 95% CI	Percent subjective "yes" to "Did it replicate?"
Overall	35/97	36	0.403 (0.188)	54	0.197 (0.257)	68	0.92	0.309 (0.223)	68	47	39
JPSP, social	7/31	23	0.29 (0.10)	73	0.07 (0.11)	120	0.91	0.138 (0.087)	43	34	25
JEP:LMC, cognitiv		48	0.47 (0.18)	36.5	0.27 (0.24)	43	0.93	0.393 (0.209)	86	62	54
PSCI, social	7/24	29	0.39 (0.20)	76	0.21 (0.30)	122	0.92	0.286 (0.228)	58	40	32
PSCI, cognitive	8/15	53	0.53 (0.2)	23	0.29 (0.35)	21	0.94	0.464 (0.221)	92	60	53

→ Could psychology's fragmentation into various specialties and schools have influenced research standards and methodologies—and ultimately contributed to the replication / reproducibility crisis?

### Major steps to deal with replication crisis

The current rise of open science practices in psychology is one very visible consequence of the replication crisis!



(CC BY 3.0; 6 Principles of Open Science - <u>adapted from openscienceASAP</u>. Underlying Image: CC by-SA 3.0; <u>Greg Emmerich</u>)

## Summary

- **Schools**: Psychology consists of several schools of thought, each with unique perspectives and methodologies. Key schools include psychoanalysis, behaviorism and cognitive psychology. Despite sharing common goals, psychology is not a fully unified discipline; its diversity of theories and approaches reflects different interpretations of human behavior, leading to varied research methods and applications across the field.
- Associations & societies: Psychological associations like the APA, APS, and Psychonomic Society advance the field by supporting research, setting standards, and promoting psychology's societal role. Each organization may focus on specific areas—for example, the APA emphasizes broad professional standards and public policy, while the APS focuses on advancing scientific psychology, and the Psychonomic Society centers on experimental and cognitive research.
- Replication crisis: The replication crisis has highlighted reliability issues in psychological research, prompting reforms in study design, data transparency, and statistical practices. It is reshaping psychology by fostering a culture of rigor and accountability, ultimately strengthening the discipline's scientific credibility (e.g., via standards developed and set by associations like the APA).

**Psychotherapy Research** 

"Auch die Geschichte der Psychologie und Psychotherapie ist in der neuen Gesetzesordnung explizit als abzudeckendes Wissensgebiet angeführt. Nicht ohne Grund: Psychologiegeschichte ist Teil psychologischer Grundlagenforschung, sie schafft fachliche Identität und ein kritisches Bewusstsein für die historischen und gesellschaftlichen Ermöglichungsbedingungen psychologischer Forschung und Praxis. Als Sprecherin und Beisitzer der Fachgruppe Geschichte der Psychologie möchten wir unserer Hoffnung Ausdruck verleihen, dass in der Ausbildung der kommenden Studierendengenerationen auch Raum und Zeit hierfür geschaffen wird."

# Psychotherapy: Main approaches

There are several forms of psychotherapy, with many of their concepts and methods emerging directly or indirectly from many of the schools we addressed earlier in this course!

APPROACH	GOALS	METHODS
Psychoanalysis / Psychodynamic Therapies	Helps clients discover the unconscious meaning and motivation behind problematic feelings, behaviours, feelings and thoughts	<ul> <li>Close working partnership between therapist and client</li> <li>Clients learn about themselves by exploring their interactions in the therapeutic relationship</li> <li>e.g., psychoanalysis with free association and dream analysis</li> </ul>
Behavior Therapy	Helps clients replace harmful behaviors with beneficial ones	<ul> <li>Focuses on the role of learning and learned associations</li> <li>e.g., techniques rooted in classical conditioning (e.g., exposure, aversion), operant conditioning (e.g., positive/negative reinforcement, token economy), and social learning (e.g., social skills training, modeling, role-playing)</li> </ul>
Humanistic Therapy	Helps clients develop a stronger, healthier sense of self through emphasis on personal growth, self-actualization, and the inherent goodness of individuals	<ul> <li>Centred on empathy, active listening, authenticity, self-reflection, unconditional positive regard, and awareness of the "here and now"</li> <li>e.g., client-centred therapy, gestalt therapy, and existential therapy</li> </ul>
Cognitive Therapy	Helps clients identify and eliminate harmful thought patterns, and replace them with more positive / beneficial ones	<ul> <li>Focuses on what people think rather than what they do</li> <li>e.g., cognitive restructuring / reframing, behavioral activation,</li> <li>Socratic questioning, and cognitive-behavioral therapy</li> </ul>
Integrative / Holistic Therapy	Helps clients achieve their goals, balance, resilience, and a deeper understanding of themselves	Therapists blend elements from different approaches and tailor their treatment according to each client's needs

## Psychotherapy: Definitions

==> "the informed and planful application of techniques derived from established psychological principles, by persons qualified through training and experience to understand these principles and to apply these techniques with the intention of assisting individuals to modify such personal characteristics as feelings, values, attitudes, and behaviors which are judged by the therapist to be maladaptive or maladjustive." (Meltzoff & Kornreich, 1970)

==> "the informed and intentional application of clinical methods and interpersonal stances derived from established psychological principles for the purpose of assisting people to modify their behaviors, cognitions, emotions, and/or other personal characteristics in directions that the participants deem desirable." (Norcross, 1990)

Any aspects of these definitions that you find noteworthy?

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Is psychotherapy an example of evidence-based practice in psychology?

(Why) Should it be?

### Your turn!



What is <u>evidence-based practice</u> in psychology?

Talk to your neighbor(s) and exchange ideas!

~2 minutes

# Evidence-based practice in psychology

"Evidence-based practice in psychology (EBPP) is the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences. [...] The purpose of EBPP is to promote effective psychological practice and enhance public health by applying empirically supported principles of psychological assessment, case formulation, therapeutic relationship, and intervention."

APA Presidential Task Force on Evidence-Based Practice

In which year did the APA adopt evidence-based practice in psychology?

2006

## Psychotherapy research

==> the scientific study of the outcomes and processes involved in psychotherapy

==> branch through which psychology as a discipline has strived to **make psychotherapy an evidence-based practice** that does not solely rely on the intuition of clinicians but refers to scientific results - such as controlled studies - to **validate and investigate the efficacy and mechanisms** underlying psychotherapeutic techniques



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(1900s - 1940s)

The birth of psychotherapy research (Outcome and Process Research)

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#### PHASE II

(1950s - 1960s)

The search for scientific rigor

#### **PHASE III**

(1970s - 1980s)

The birth of meta-analysis and institutionalization of randomized control trials

#### **PHASE IV**

(1990 - present)

## Early criticism and call for scientific investigation

- Saul Rosenzweig was a pioneer of early psychotherapy research in 1930s, who coined the Dodo Bird Hypothesis (more on that later!)
- Rosenzweig and Mason conducted experimental work to elicit and study repression (key concept in psychoanalysis, defense mechanism)
- Rosenzweig wrote to Freud with lab results on repression ... and Freud responded:

"I have noted with interest your experimental work in testing psychoanalytic claims. I cannot estimate these confirmations very highly, because the abundance of my reliable observations on which those claims are based makes them independent of experimental testing. Nevertheless, these can do no harm."

Freud, letter to Rosenzweig, 1934

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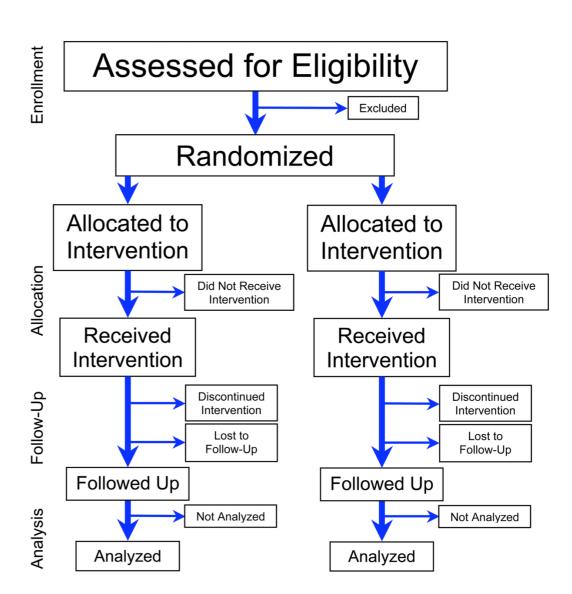
#### **PHASE IV**

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# Randomized Control Trial (RCT)

#### Randomized control(led) trial (RCT)

A type of scientific (often medical) experiment, where the people being studied are randomly allocated one or other of the different treatments under study. RCTs are considered the gold standard for a clinical trial. RCTs are often used to test the <a href="efficacy">efficacy</a> or <a href="efficacy">effectiveness</a> of various types of medical intervention and may provide information about adverse effects, such as drug reactions. Random assignment of intervention is done after subjects have been assessed for eligibility and recruited, but before the intervention to be studied begins.



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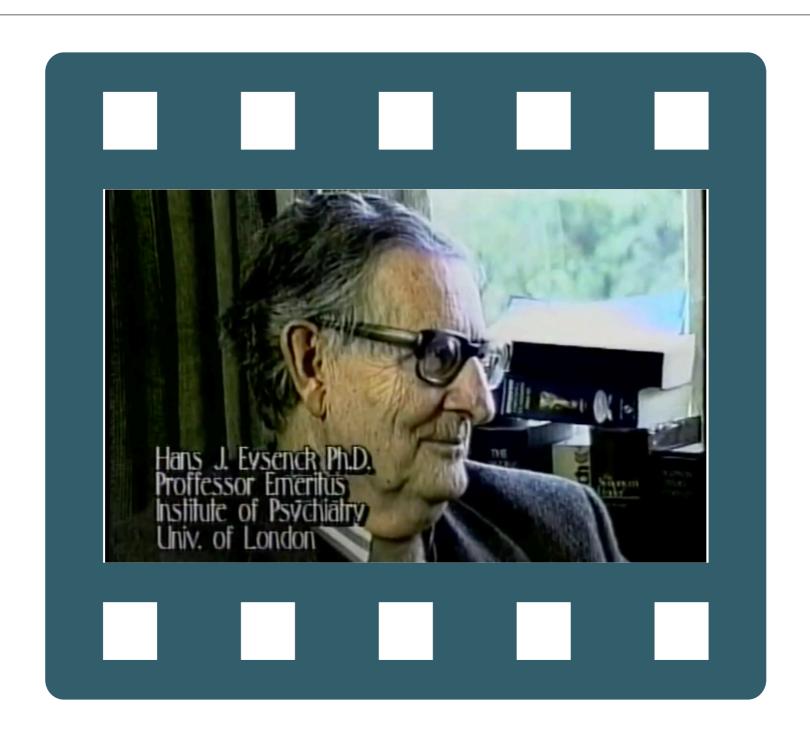
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(1990 - present)

# Hans Eysenck's attack on psychotherapy (1952): A catalyst for change



# Hans Eysenck's attack on psychotherapy (1952): A catalyst for change

Table 1
Summary of Reports of the Results of Psychotherapy

		N	Cured; much improved	Improved	Slightly improved	Not improved; died; left treatment	% Cured; much improved; improved
(A)	Psychoanalytic						
	Fenichel [13, pp. 28–40]	484	104	84	99	197	39
	Kessel & Hyman [24]	34	16	5	4	9	62
	Jones [22, pp. 12-14]	59	20	8	28	3	47
	Alexander [1, pp. 30–43]	141	28	42	23	48	50
	Knight [25]	42	8	20	7	7	67
	All cases	760	3	35	4	125	44%
(R)	Eclectic						
	Huddleson [20]	200	19	74	80	27	46
	Matz [30]	775	10	310	310	145	41
	Maudsley Hospital	113	10	310	310	143	71
Э.	Report (1931)	1721	288	900	5	533	69
4	Maudsley Hospital	1/21	200	300	,	,55	0,7
4.	Report (1935)	1711	371	765	5	575	64
5	Neustatter [32]	46	9	14	8	15	50
	Luff & Garrod [27]	500	140	135	26	199	55
	Luff & Garrod [27]	210	38	84	54	34	68
	Ross [34]	1089	547	306		236	77
	Yashin [40]	100	29	29	-	42	58
	Curran [7]	83		51		32	
	Masserman &	05		J1		32	61
	Carmichael [29]	50	7	20	5	18	54
12	Carmichael &	20	,	20	_	10	<b>.</b> .
12.	Masserman [4]	77	16	25	14	22	53
13	Schilder [35]	35	11	11	6	7	63
	Hamilton & Wall [16]	100	32	34	17	17	66
	Hamilton et al. [15]	100	48	5	17	32	51
	Landis [26]	119	40	47	• ·	32	73
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• · ·	(quoted Neustatter)	270	58	132	55	25	70
18.	Wilder [39]	54	3	24	16	11	50
	Miles et al. [31]	53	13	18	13	9	58
	All cases	7293		61	26	532	64%

"In view of the importance of the issues involved, it seemed worth while to examine the evidence relating to the actual effects of psychotherapy, in an attempt to seek clarification on a point of fact." (p. 659)

"We may now turn to the figures as presented. Patients treated by means of psychoanalysis improve to the extent of 44 per cent; patients treated eclectically improve to the extent of 64 per cent; patients treated only custodially or by general practitioners improve to the extent of 72 per cent [DATA NOT SHOWN IN TABLE]. There thus appears to be an inverse correlation between recovery and psychotherapy; the more psychotherapy, the smaller the recovery rate." (p. 660)

"[...] should give pause to those who would wish to give an important part in the training of clinical psychologists to a skill the existence and effectiveness of which is still unsupported by any scientifically acceptable evidence. [...] The figures fail to support the hypothesis that psychotherapy facilitates recovery from neurotic disorder." (p. 662)

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"We may now turn to the figures as presented." Patients treat alysis improve to the treated Eysenck's work was heavily criticized, for example on the basis of his use of neral seemingly different standards to define cent control groups, illness severity, standards for ears recovery, etc., **BUT: Led to further efforts in** the re psychotherapy research!!!

"[...] show the page of the training of clinical psychologists to a skill the existence and effectiveness of which is still unsupported by any scientifically acceptable evidence. [...] The figures fail to support the hypothesis that psychotherapy facilitates recovery from neurotic disorder." (p. 662)

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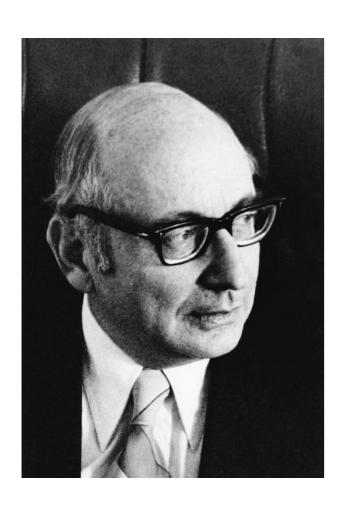
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#### **PHASE IV**

(1990 - present)

## Competing therapeutical approaches

 Joseph Wolpe (1915 - 1997) was a South African psychiatrist and one of the most influential figures in behavior therapy



#### **Reciprocal inhibition**

= a technique in which a response or feeling (e.g., anxiety) is inhibited by another feeling or response that is not compatible with the former; Wolpe used reciprocal inhibition in the form of assertiveness training under the assumption that one cannot be angry/anxious while simultaneously assertive at same time.

#### Systematic desensitization

= a technique to help people effectively overcome phobias and other anxiety disorders based on principles of classical conditioning; a person is exposed to a stimulus at a low level, and once no negative reaction is present a stronger version of the negative stimulus is given

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- 1975: Beck, Mahoney, & Meichenbaum publish Cognitive Therapy
- 1976: Gene Glass coins the term meta-analysis

#### PHASE IV

(1990 - present)

## Systematic Review & Meta-Analysis

"Systematic review attempts to collate all empirical evidence that fits pre-specified eligibility criteria to answer a specific research question. It uses explicit, systematic methods that are selected with a view to minimizing bias, thus providing reliable findings from which conclusions can be drawn and decisions made [184,185]. The key characteristics of a systematic review are: (a) a clearly stated set of objectives with an explicit, reproducible methodology; (b) a systematic search that attempts to identify all studies that would meet the eligibility criteria; (c) an assessment of the validity of the findings of the included studies, for example through the assessment of risk of bias; and (d) systematic presentation, and synthesis, of the characteristics and findings of the included studies."

"Meta-analysis is the use of statistical techniques to integrate and summarize the results of included studies. Many systematic reviews contain meta-analyses, but not all. By combining information from all relevant studies, meta-analyses can provide more precise estimates of the effects of health care than those derived from the individual studies included within a review."

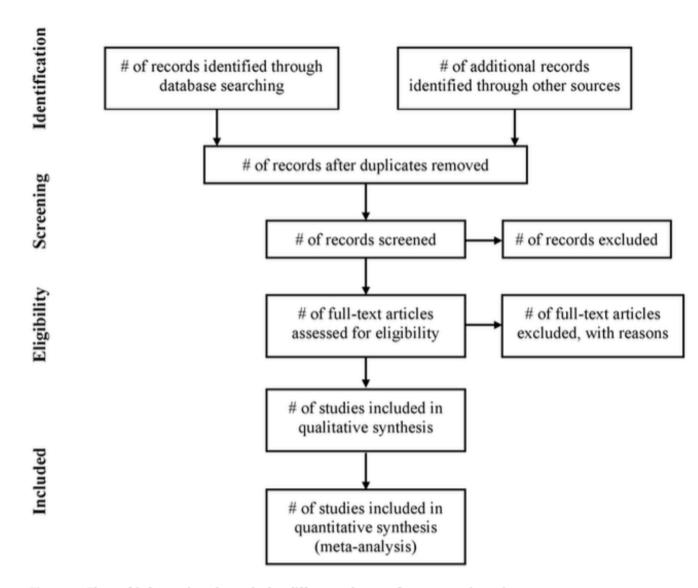


Figure 1. Flow of information through the different phases of a systematic review. doi:10.1371/journal.pmed.1000100.g001

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- 1976: Gene Glass coins the term meta-analysis
- 1977: Meta-analysis by Glass & Smith shows effectiveness of psychotherapy

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# Smith & Glass (1977)

TABLE 3: Effects of Ten Types of Therapy on Any Outcome Measure

Type of therapy	Average effect size	No. of effect sizes	Standard error of mean effect size	Mdn treated person's percentile status in control group	_
Psychodynamic	.59	96	.05	72	
Adlerian	.71	16	.19	76	
Eclectic	.48	70	.07	68	
Transactional					
analysis	.58	25	.19	72	
Rational-emotive	.77	35	.13	78	
Gestalt	.26	8	.09	60	
Client-centered	.63	94	.08	74	
Systematic					
desensitization	.91	223	.05	82	
Implosion	.64	45	.09	74	
Behavior					
modification	.76	132	.06	78	

"Results of nearly 400 controlled evaluations of psychotherapy and counseling were coded and integrated statistically. The findings provide convincing evidence of the efficacy of psychotherapy. On the average, the typical therapy client is better off than 75% of untreated individuals."

# Smith & Glass (1977)

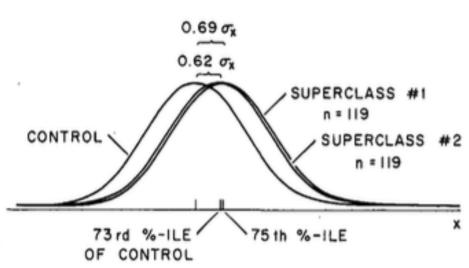


Figure 4. Effect of Superclass #1 (behavioral) and Superclass #2 (nonbehavioral). (Data drawn only from experiments in which Superclass #1 and Superclass #2 were simultaneously compared with control.)

"[...] Few important differences in effectiveness could be established among many quite different types of psychotherapy. More generally, virtually no difference in effectiveness was observed between the class of all behavioral therapies (systematic desensitization, behavior modification) and the nonbehavioral therapies (Rogerian, psychodynamic, rational-emotive, transactional analysis, etc.)"



"Everybody has won, and all must have prizes." Lewis Carroll (1865),

Alice's Adventures in

Wonderland

https://en.wikipedia.org/wiki/Dodo\_(Alice's\_Adventures\_in\_Wonderland)

#### **Dodo bird verdict**

A controversial topic in psychotherapy, referring to the claim that all psychotherapies, regardless of their specific components, produce equivalent outcomes. The conjecture was introduced by Saul Rosenzweig in 1936, drawing on imagery from Lewis Carroll's novel Alice's Adventures in Wonderland, but only came into prominence with the emergence of new research evidence in the 1970s (e.g., Smith & Glass, 1977).

### PHASE I

(1900s - 1940s)

The birth of psychotherapy research (Outcome and Process Research)

- **1899:** Freud publishes *The Interpretation of Dreams*
- **1936:** Saul Rosenzweig publishes Some Implicit Common Methods in Diverse Forms of Psychotherapy
- **1930s:** Institutions started outcome research by documenting treatment results (mainly tables, tallies), but overall poor and unstandardized documentation
- 1940: Carl Rogers records and transcribes therapy sessions
- 1946: First time that a section on mental disorders was included in the *International Classification of Diseases (ICD-6)* manual
- 1948: Use of a placebo control design by the Medical Research Council

### **PHASE II**

(1950s - 1960s)

The search for scientific rigor

- **1950s:** Carl Rogers publishes *Client-centered Therapy*
- **1952:** Publication of the first edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*
- 1952: Hans Eysenck attempts to integrate primary outcome studies, suggesting that the effect of psychotherapy is equal to or less than spontaneous recovery
- **1956:** Placebo control in psychotherapy research advocated by Rosenthal & Frank
- **1958:** Joseph Wolpe publishes Psychotherapy by Reciprocal Inhibition
- 1958: APA and NIMH organize conferences on psychotherapy

#### **PHASE III**

(1970s - 1980s)

The birth of meta-analysis and institutionalization of randomized control trials

- 1975: Beck, Mahoney, & Meichenbaum publish Cognitive Therapy
- 1976: Gene Glass coins the term meta-analysis
- 1977: Meta-analysis by Glass & Smith shows effectiveness of psychotherapy
- 1979: Systematic analysis of language in psychotherapy by Russell & Stiles hints at commonality
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- 1982: Publication of Converging Themes in Psychotherapy, a book promoting common factors theory

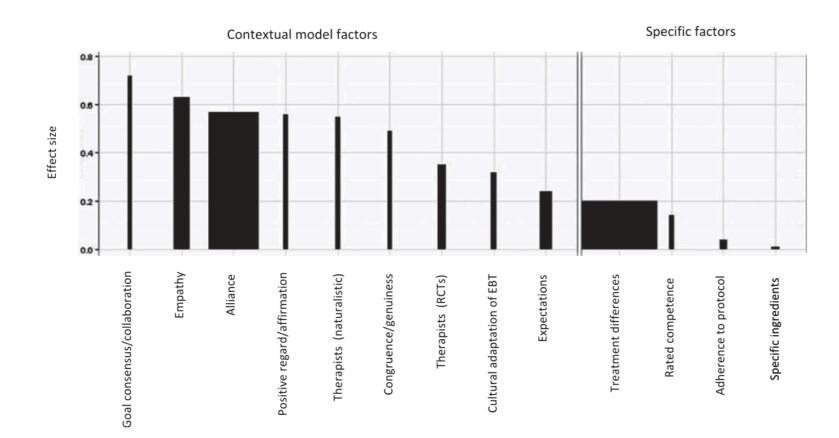
#### PHASE IV

(1990 - present)

# The Great (Psychotherapy) Debate: Common factors versus specificity

#### **Common factors theory**

A theory guiding some research in clinical psychology and counseling psychology, which proposes that different approaches and evidence-based practices in psychotherapy and counseling share common (pan-theoretical) factors that account for much of the effectiveness of a psychological treatment.



- Wampold argues that larger effects of goal consensus, empathy, and therapeutic alliance relative to treatment differences speaks for "common factors".
- Chambless emphasizes specificity and argues that common factors are likely more important for some mental health problems (e.g., depression) than others (OCD, phobia)

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# PHASE IV (1990 - present)

- 1993: Cochrane Collaboration is founded to systematize (and communicate) evidence in medicine; sister organization for psychology, the Campbell Collaboration, is founded in 1999
- **1995:** Empirically supported treatments designated by Division 12 (Clinical Psychology) of the APA on the basis of RCTs
- **2001:** Institute of Medicine adopts evidence-based practice in medicine
- **2006:** APA adopts evidence-based practice in psychology

### The work continues ...

## Theoretical and Practical Barriers to Practitioners' Willingness to Seek Training in Empirically Supported Treatments

Rebecca E. Stewart, Dianne L. Chambless, and Jonathan Baron

University of Pennsylvania

To identify barriers to the dissemination of empirically supported treatments (ESTs), a random sample of psychologists in independent practice (N=1291) was asked to complete measures of attitudes towards ESTs and willingness to attend a 3-hour, 1-day, or 3-day workshop in an EST of their choice. The strongest predictor of unwillingness to obtain EST training was the amount of time and cost required for the workshop, followed by objections to the need for EST training. Psychodynamic (compared to cognitive-behavioral) and more experienced practitioners agreed more strongly with the objections to ESTs overall, as did those whose graduate schools had not emphasized psychotherapy research. Results suggest that both practical and theoretical barriers are significant obstacles to EST dissemination. © 2011 Wiley Periodicals, Inc. J Clin Psychol 68:8–23, 2012.

Keywords: empirically supported treatments; private practitioners; dissemination; workshop; training

## Summary

- **Psychotherapy:** Psychotherapy as application of clinical methods derived from psychological science for the purpose of assisting people to modify cognition and behavior; partial mapping between "schools" and psychotherapeutic approaches
- Psychotherapy Research: the scientific treatment of the outcomes and processes (mechanisms) related to psychotherapy
- The Great (Psychotherapy) Debate: a debate about the role of common mechanisms present across therapeutic approaches (e.g., empathy, shared goals) and those that are specific to some approaches (e.g., identification of defense mechanisms in psychoanalysis vs. exposure to phobias in behavioral therapy); meta-analyses seem to provide evidence for both (with larger effects for common factors)
- Evidence-based practice: progression from outcome to process research; creation of standard (scientific) evaluation procedures including the use of controls (e.g., placebo), random assignment (i.e., RCT), systematic and unbiased assessment of empirical data (i.e., systematic reviews and meta-analysis), aided by the establishment of guidelines (e.g., PRISMA) and institutions/repositories (Cochrane, Campbell); parallels between Medicine and Psychology

# Key reading

Braakmann, D. (2015). Historical Paths in Psychotherapy Research. In: Gelo, O., Pritz, A., Rieken, B. (eds) *Psychotherapy Research*. Springer, Vienna. <a href="https://doi.org/">https://doi.org/</a>
<a href="https://doi.org/">10.1007/978-3-7091-1382-0</a> 3

### Additional readings (optional)

Wampold, B. E. (2015). The great psychotherapy debate: The evidence for what makes psychotherapy work. <a href="https://ebookcentral.proquest.com/lib/unibasch-ebooks/detail.action?">https://ebookcentral.proquest.com/lib/unibasch-ebooks/detail.action?</a> <a href="page-2013/pg-9-1968907">pq-origsite=primo&docID=1968907</a>