History of Psychology

Session 8: Psychology today

Loreen Tisdall, Center for Cognitive and Decision Sciences
November 11, 2024

Session information

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

#	Date	Topic	Instructor
1	23.09.2024	Session 1: Introduction	Tisdall
2	30.09.2024	Session 2: Pre-psychology	Mata
3	07.10.2024	Session 3: The birth of psychology	Mata
4	14.10.2024	Session 4: Psychoanalysis	Mata
5	21.10.2024	Session 5: Behaviorism	Mata
6	28.10.2024	Session 6: Gestalt psychology	Mata
7	04.11.2024	Session 7: Cognitive psychology	Mata
8	11.11.2024	Session 8: Psychology today	Tisdall
9	18.11.2024	Session 9: Psychotherapy research	Tisdall
10	25.11.2024	Session 10: Psychological testing	Tisdall
11	02.12.2024	Session 11: Decision science	Tisdall
12	09.12.2024	Session 12: What kind of science is psychology?	Mata

Learning Objectives for Today

- Critically reflect on the idea of ‘schools’ in psychology
- Learn about different psychological associations (or societies), and understand their convergence and divergence
- Discuss the role of the replication crisis in shaping psychology as a discipline

Recap: Different schools in psychology

Schools in psychology = schools of thought, each with their own frameworks, theories, and methodologies to understand human behaviour and explain (the underlying) mental processes

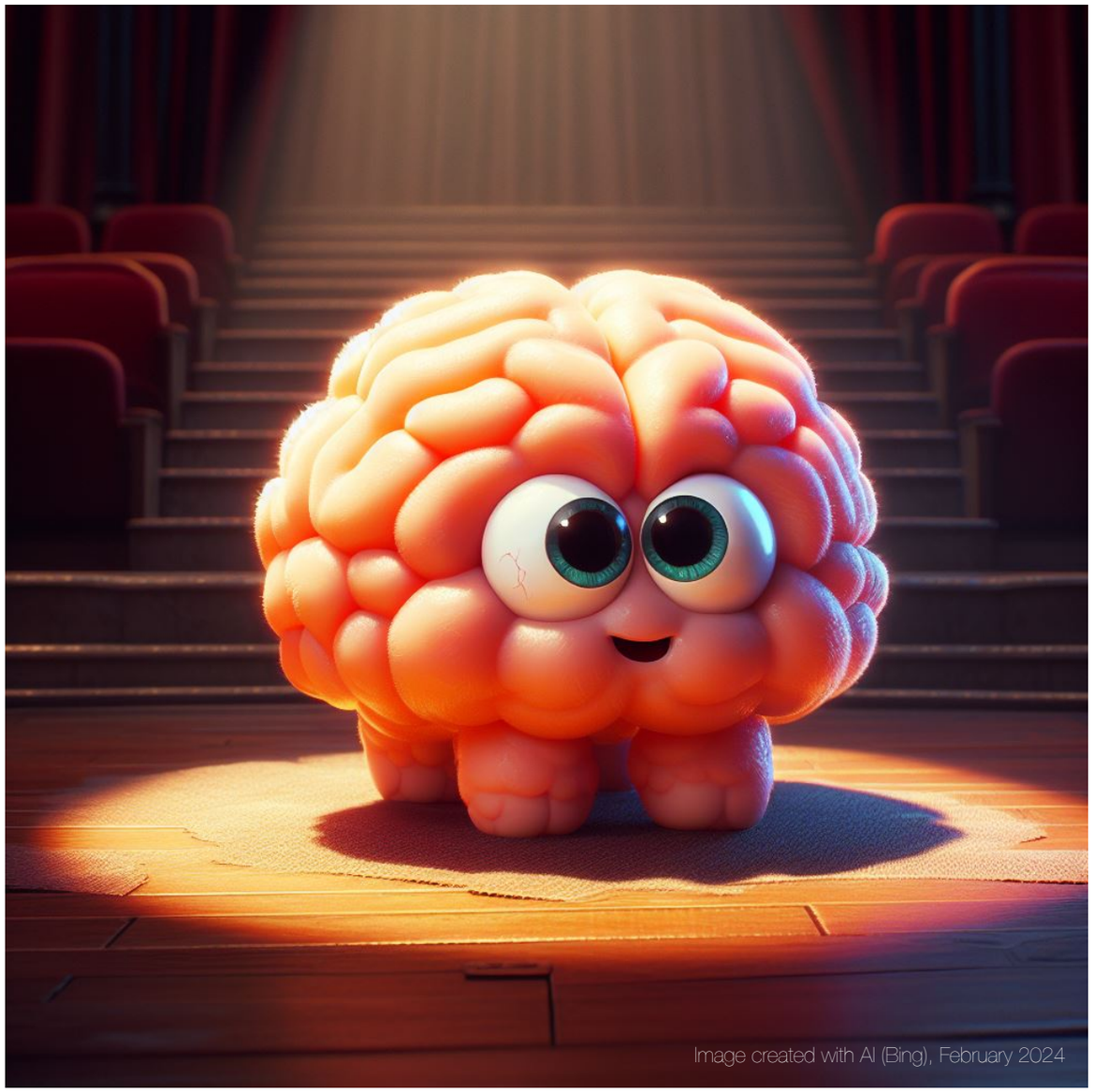
SCHOOL	START	CORE IDEA	METHODS	LEGACY	KEY FIGURE(S)
Structuralism	Late 1800s	Analyzed mental processes by breaking them down into basic components	Introspection (self-observation of conscious experiences), experiments and historical methods	Laid foundation for scientific study of mind, focused on structure	Wilhelm Wundt, Edward Titchener
Functionalism	Late 1800s	Focused on the purpose of consciousness and behavior in helping organisms adapt	Observation in natural settings, practical applications, experiments	Influenced applied psychology fields, informed behaviorism	William James, James Angell
Psychoanalysis	1890s	Emphasized the role of unconscious influences and repressed conflicts on behavior	Dream analysis, free association, analysis of transference	Foundation for psychotherapy, introduced concept of the unconscious mind	Sigmund Freud, Carl Jung
Behaviorism	1900s	Studied observable behavior, arguing behavior is shaped by environmental stimuli	Controlled experiments, classical and operant conditioning	Influenced experimental psychology and applications in education and behavioral therapy	John B. Watson, B.F. Skinner
Gestalt psychology	1910s	Emphasized perception and thinking as holistic patterns rather than separate elements	Observational studies, perceptual experiments	Influenced the study of perception, reasoning, and design applications	Max Wertheimer, Wolfgang Köhler, Kurt Koffka
Cognitive psychology	1940s	Studied mental processes (e.g., perception, memory, language) that shape behavior	Experiments, computational modeling and simulation	Broad influence on psychology and related fields (e.g., computer science), impact on applications (e.g., education cognitive-behavioral therapy)	Noam Chomsky, George Miller

...

Is psychology a unified discipline?

Has there been a cognitive revolution?

Your turn!



Should we care about schools in psychology, including their number and prominence?

Why (not)?

~1 minute

The issue of unity and prominence

- Why it matters: Professional identity, resource allocation, and legitimacy
- Attempts to capture trends in psychology have yielded mixed results (e.g., about the "cognitive revolution" and prominence of cognitive psychology)
- General question: Is psychology a unified science or are we dealing with "psychological studies"?
- Historiometric approach to "what is hot in psychology": a) keyword searches in articles appearing in flagship psychology journals, b) same search in dissertation abstracts, and c) citations that appear in articles published in flagship journals to school-specific journals

Table 1
Psychology's Flagship Journals: Top Five Citing and Cited Journals, 2004

Cited	Cited by
Psychological Bulletin	
Journal of Personality and Social Psychology[a]	*Journal of Personality and Social Psychology*[a]
Personality and Individual Differences[a]	*Psychological Bulletin*[a]
Personality and Social Psychology Bulletin[a]	*Journal of Consulting and Clinical Psychology*
Psychological Bulletin[a]	*Psychosomatic Medicine*
Journal of Applied Psychology	*Psychological Review*[a]
Annual Review of Psychology	
Journal of Personality and Social Psychology[a]	*Journal of Personality and Social Psychology*[a]
Personality and Social Psychology Bulletin	*Psychological Review*
Annual Review of Psychology[a]	*Vision Research*
Journal of Applied Psychology	*Personality and Social Psychology Bulletin*
Personality and Individual Differences	*Science*[a]
Psychological Review	
Psychological Review[a]	*Psychological Review*[a]
JEP: Learning, Memory, and Cognition[a]	*JEP: Learning, Memory, and Cognition*[a]
Behavioral and Brain Sciences[a]	*Journal of the Acoustical Society of America*
Psychonomic Bulletin & Review	*JEP: Human Perception and Performance*
Journal of Personality and Social Psychology[a]	*Journal of Personality and Social Psychology*[a]
American Psychologist	
American Psychologist[a]	*American Psychologist*[a]
Journal of Clinical Psychology	*Journal of Personality and Social Psychology*[a]
Professional Psychology: Research and Practice[a]	*Journal of Consulting and Clinical Psychology*[a]
Journal of Personality and Social Psychology[a]	*Psychological Bulletin*[a]
Personality and Individual Differences	*Child Development*

Note. *JEP* = *Journal of Experimental Psychology.*
[a] Also in the top five in 1999.

➡ Flagship journals cite themselves and each other, but do not cite school-specific journals (e.g., cognitive psychology) more often

Spear (2007). Prominent schools or other active specialties? A fresh look at some trends in psychology. *Review of General Psychology, 11*(4), 363-380

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Table 3
Top 10 Psychology Journals Ranked by Impact Factor and Number of Citations, 2004 (1999)

Rank 2004 (1999)	Journal title	No. of cites	Impact factor
	Journal rankings by impact factor		
1 (3)	*Annual Review of Psychology*	3,639	12.80
2 (−)	*Trends in the Cognitive Sciences*	3,580	7.99
3 (2)	*Psychological Bulletin*	15,557	7.71
4 (6)	*Monographs of the Society for Research in Child Development*	1,249	7.29
5 (5)	*Psychological Review*	12,753	7.15
6 (1)	*Behavioral and Brain Sciences*	3,926	7.13
7 (4)	*Advances in Experimental Social Psychology*	1,614	6.23
8 (76)	*Psychological Methods*	1,247	5.53
9 (7)	*American Psychologist*	9,444	5.49
10 (8)	*Journal of Cognitive Neuroscience*	5,578	5.28
	Journal rankings by number of citations		
1 (1)	*Journal of Personality and Social Psychology*	26,161	3.632
2 (2)	*Psychological Bulletin*	15,557	7.701
3 (3)	*Journal of Consulting and Clinical Psychology*	13,372	4.233
4 (9)	*Journal of Clinical Psychiatry*	12,916	4.806
5 (4)	*Psychological Review*	12,753	7.145
6 (5)	*Child Development*	12,670	3.278
7 (8)	*Journal of the American Academy of Child and Adolescent Psychiatry*	11,730	3.529
8 (6)	*Physiology and Behavior*	11,259	2.044
9 (12)	*Neuropsychologia*	9,865	3.668
10 (7)	*American Psychologist*	9,444	5.494

➡ Strong representation of (cognitive) neuroscience journals among high-impact journals, but no mainstream apparent

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Table 4
Top 10 Publication Outlets for the Top Five U.S. Psychology PhD Departments, 1996-2005

Rank	Journal	No. of publications
1	*Journal of Personality and Social Psychology*	194
2	*Journal of Neuroscience*	125
3	*Psychological Science*	96
4	*Journal of Cognitive Neuroscience*	75
5	*Behavioral and Brain Sciences/American Psychologist*	70
6	*NeuroImage*	66
7	*Journal of Consulting and Clinical Psychology*	65
8	*Contemporary Psychology: APA Review of Books*	64
9	*Personality and Social Psychology Bulletin*	61
10	*Behavioral Neuroscience*	60

Note. Searches were performed using the “Address” search field specifying both university and department. For example, the exact search string for Stanford was “AD=(Stanford Univ SAME Dept Psychol)”.

Table 5
Program Affiliations of Faculty from Top Five U.S. Psychology Departments

School	No. of faculty	Neuroscience program	Cognitive program	Both programs	Cognitive neuroscience
Stanford	31	8 (26%)	10 (32%)	3 (10%)	—
Michigan	105	15 (14%)	21 (20%)	0 (0%)	21 (20%)
Yale	29	8 (28%)	11 (38%)	5 (17%)	—
UCLA	91	15 (16%)	13 (14%)	3 (3%)	—
Illinois U-C	65	16 (25%)	7 (11%)	0 (0%)	10 (15%)
Total	321	55 (17%)	64 (20%)	21 (6%)	31 (10%)

Note. UCLA = University of California, Los Angeles; U-C = Urbana-Champaign.

➡ Top 5 US psychology departments publish in and are affiliated with cognitive (neuro)science, but overall no school-specific dominance

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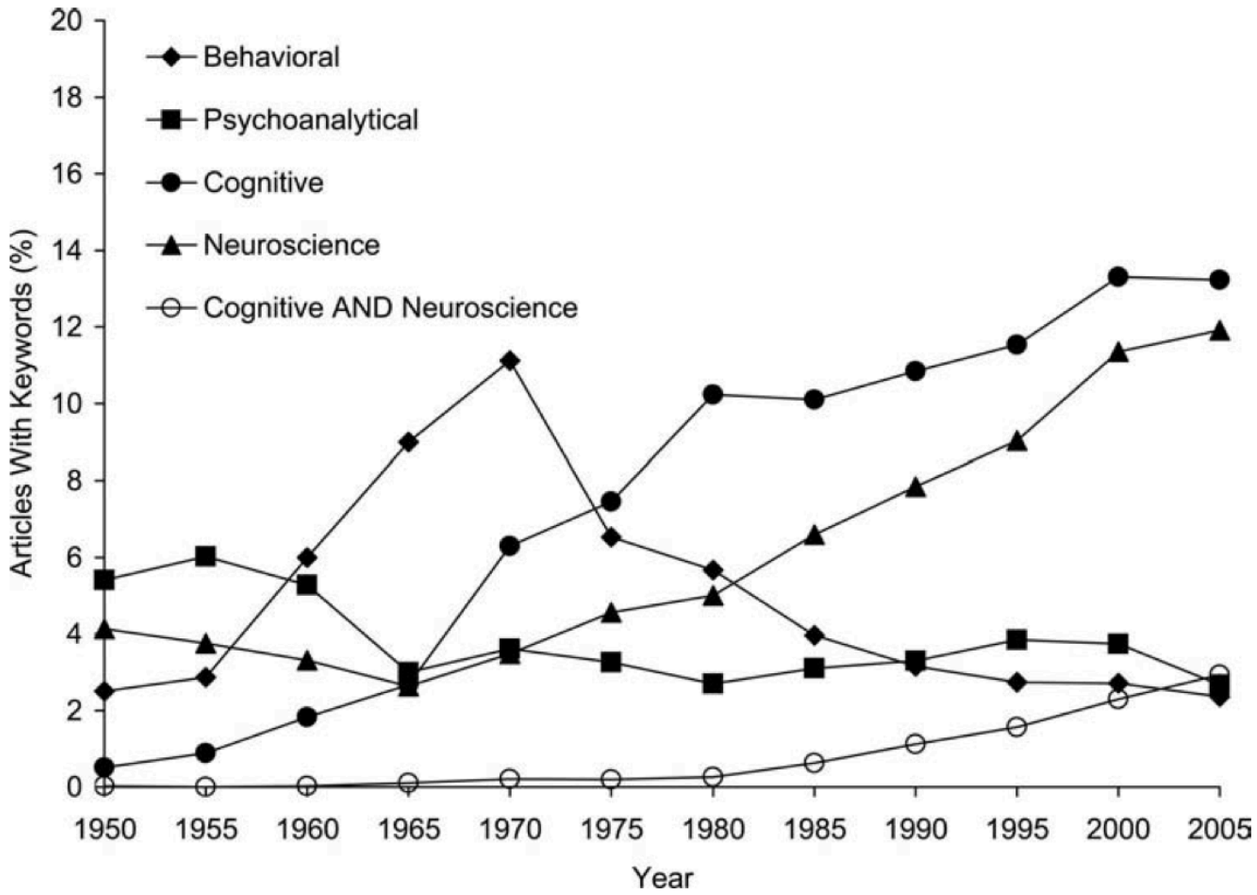

Figure 1. Keyword searches on all refereed journal articles in PsycINFO, 1950–2005.

➡ Cognitive and neuroscientific approaches are certainly prominent within psychology but neither dominate; new speciality areas among others

Spear (2007). Prominent schools or other active specialties? A fresh look at some trends in psychology. *Review of General Psychology, 11*(4), 363-380

The issue of unity and prominence

"…the discipline is so vast and so **specialized (or fragmented)** that one can find evidence for the vitality of most any of the commonly recognized fields of psychology. […] a **disunity** view does provide a sensible framework for interpreting empirical patterns in psychological research."

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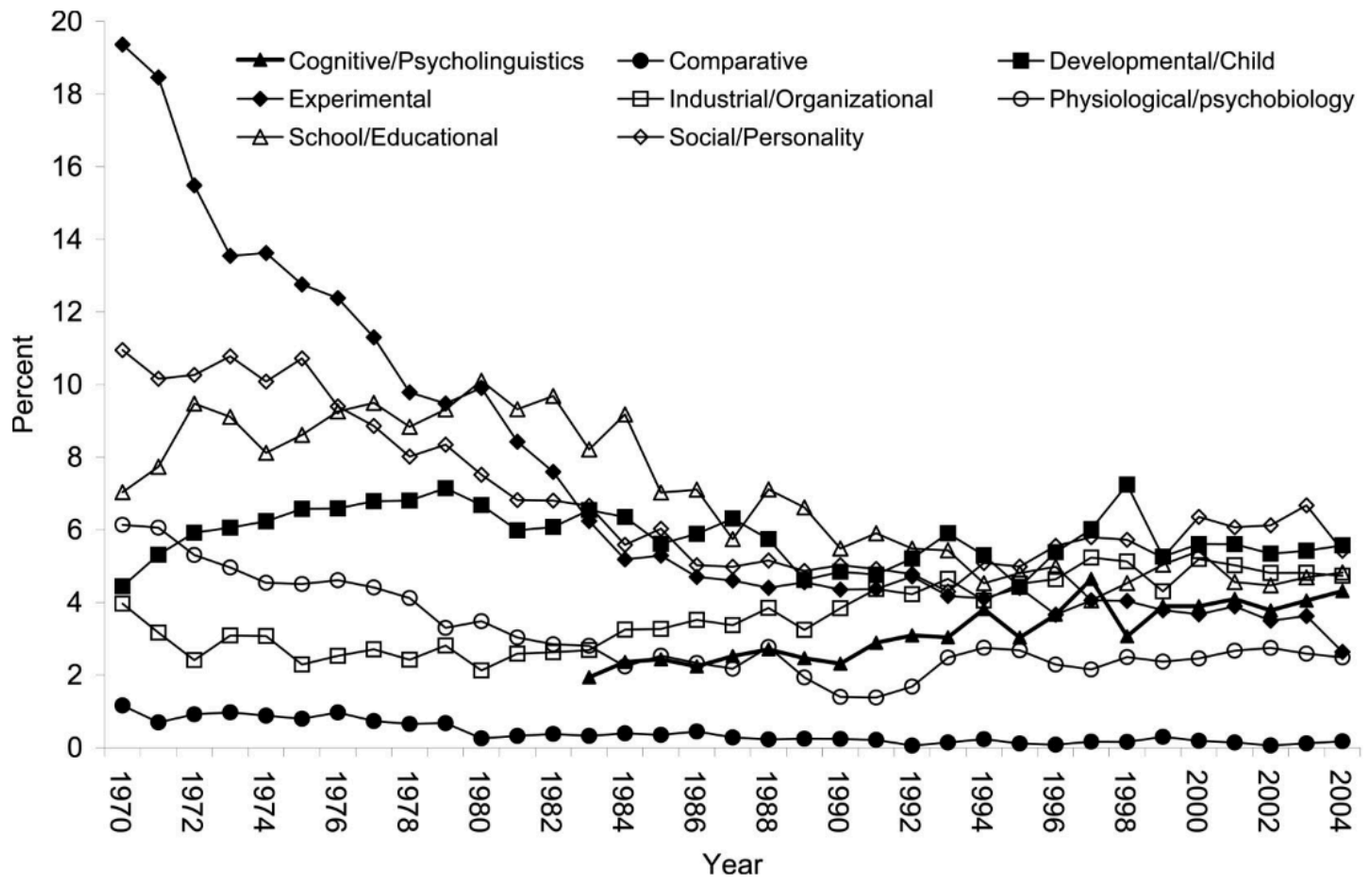

Figure 3. Psychology PhDs by specialty area, 1970–2004.

➡ PhD degrees in cognitive psychology have remained fairly constant; since 1980s, **50% of PhDs in clinical/counseling psychology** (not shown)

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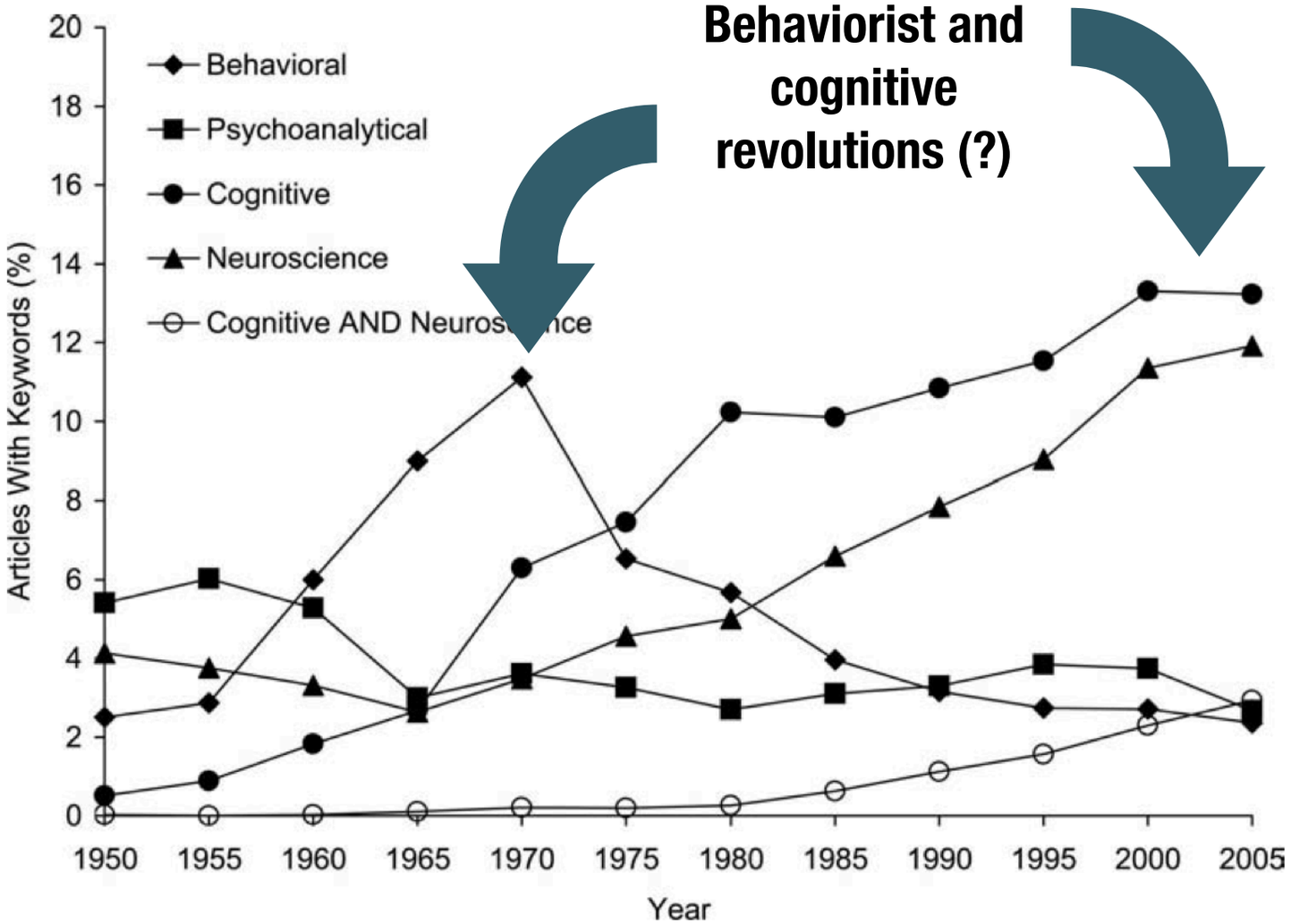
Scientific revolutions?



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- **Revolution** = one dominant approach is replaced *completely* by another (cf. Thomas Kuhn's idea of scientific revolutions)
- Behaviorism to Cognitivism: continuity or discontinuity? Theories and methods?
- E.g., Chomsky versus Skinner: cognitive explanation of language development that is incompatible with (strict) behaviorist principles
- Implications for how we understand scientific progress: **Evolution** (gradual change) instead of revolution (sudden rupture)?

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Criticisms concerning the narrative of ‘schools’

What’s in a name? When you think of the different ‘schools’ of psychology, what image comes to mind?

- Original sources lend little support for the idea of all-out warring schools and heroic fights between schools, and much more applied research than acknowledged by the school-view
- The historian Edwin Boring wrote hugely popular book A history of experimental psychology (1929) - he believed in controversy as a driver of science, and tended to magnify existing discussions into fights between schools
- **The idea of quarreling schools seems more like a re-interpretation of the original meaning of the philosophical term ‘school’, and may have functioned as a shortcut to summarise (and simplify) the history of psychology**

Images created using AI (ChatGPT 4o), November 2024

So far so good … any questions?

Psychology:
Science or profession?

Your turn!

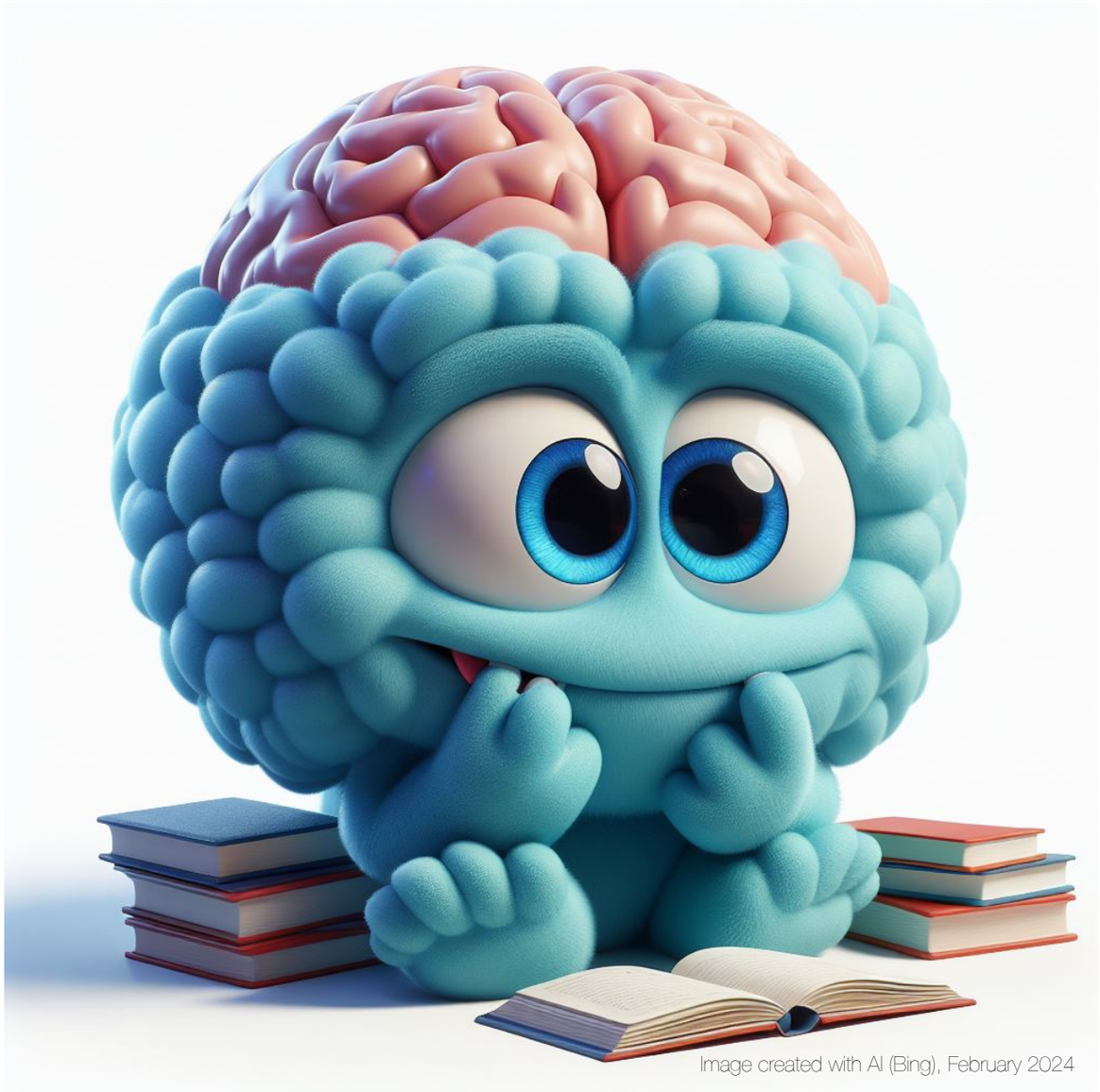
Image created with AI (Bing), February 2024

Can you think of a professional organization of psychologists?

~1 minute

(Dis)Unity: APA, APS, and the Psychonomic Society

American Psychological Association (APA): primary organization of psychologists in the US founded in 1892 (https://www.apa.org/); focuses on advancing psychology as a broad professional and scientific field

- ➡ *"Our mission is to promote the advancement, communication, and application of psychological science and knowledge to benefit society and improve lives."*
- ➡ *Membership, conferences, journals, guidelines, citation styles, practicioner codes of conduct*

Psychonomic Society: founded in 1959 by a group of experimental psychologists (cf. Experimentalists under Titchener in 1904); preeminent society for the experimental study of cognition (https://www.psychonomic.org/)

- ➡ *"The mission of the Psychonomic Society is to foster the science of cognition through the advancement and communication of basic research in experimental psychology and allied sciences."*
- ➡ *Membership, conferences, journals, advocates for importance of experimentation in psychology*

Association for Psychological Science (APS): splinter group from the APA founded in 1988 (https://www.psychologicalscience.org/); focuses on advancing psychological science with an emphasis on promoting rigorous research and evidence-based findings

- ➡ *"Today, APS has a global membership and remains committed to combining traditional scientific values of rigor and transparency with innovative methods and practices in the conduct and application of research."*
- ➡ *Membership, conferences, journals, advocates for importance of science in psychology*

Cautin, R. L. (2009). The founding of the Association for Psychological Science: Part 1. Dialectical tensions within organized psychology. *Perspectives on Psychological Science, 4*(3), 211-223. https://journals.sagepub.com/doi/pdf/10.1111/j.1745-6924.2009.01120.x

Dewsbury, D. A., & Bolles, R. C. (1995). The founding of the Psychonomic Society. *Psychonomic Bulletin & Review, 2,* 216-233. https://link.springer.com/content/pdf/10.3758/BF03210961.pdf

Fragmentation and reform in psychology:
The replication crisis

(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 χ^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).

	Effect size comparison							Original and replication combined			
	Replications $P < 0.05$ in original direction	Percent	Mean (SD) original effect size	Median original *df/N*	Mean (SD) replication effect size	Median replication *df/N*	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	13/27	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?

https://nobaproject.com/modules/the-replication-crisis-in-psychology

Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. Science, 349(6251), aac4716. https://www.science.org/doi/epdf/10.1126/science.aac4716

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 - adapted from openscienceASAP.
Underlying Image: CC by-SA 3.0; Greg Emmerich)

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).

Key reading

Spear, J. H. (2007). Prominent schools or other active specialties? A fresh look at some trends in psychology. *Review of General Psychology, 11*(4), 363-380. https://journals.sagepub.com/doi/pdf/10.1037/1089-2680.11.4.363?casa_token=064jN7lEL04AAAAA:tmPJ_d9-eLwZlfweaSiT6MvUX0qnFgnv0FY0GwpoRjdqE0bmbTFicAu8lQ2YM4eG4dqqNKA5zPDYeA

Additional readings (optional)

Gibson, E. J. (1994). Has psychology a future? *Psychological Science, 5*(2), 69-76. https://www.jstor.org/stable/pdf/40063067.pdf?casa_token=ctNw7JlQgWoAAAAA:nrlOLBm3EtRAJekUNEck-3WCQXzRksbPwphag6HZv0Ceuyps48Q-UgM90sSZUq6ZPx4Vu5JmvMuNvSvR-G0Aw0OS3ccBHzibVHOPJsh4cfoWqF7r0FNJ

Barrett, L. F. (2009). The future of psychology: Connecting mind to brain. *Perspectives on Psychological Science, 4*(4), 326-339. https://journals.sagepub.com/doi/pdf/10.1111/j.1745-6924.2009.01134.x?casa_token=s11Hcqv5uikAAAAA:_QZd9NE6r2p7wSMdEXNly7xND2KQkN-003XcZd_BTCAdjfoCy21y8AtDEy3Ga7es_oduubMOscUZ0A