

RETHINKING EVIDENCE IN EDUCATIONAL LEADERSHIP AND GOVERNANCE



WHAT IS EVIDENCE

“Evidence is the available body of facts or information indicating whether a belief or proposition is true or valid.”

(Oxford Dictionary)



WHAT IS EVIDENCE AND WHY DOES IT MATTER

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(Sackett, 1996)



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“The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.”

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“Evidence-based education is not a panacea, but is a set of principles and practices for enhancing educational policy and practice.”

(Davies, 1999)



THE WHAT WORKS MOVEMENT IN EDUCATION

Core Idea

- Focus on identifying what works to improve student learning
- Emphasis on evidence-based decision making
- Educational practices should be guided by rigorous empirical research

Origins

- Emerged from the broader evidence-based policy movement (1990s)
- Strong influence from evidence-based medicine
- Promoted in countries such as the USA, UK, and Australia

Goal

- Improve educational outcomes by implementing proven effective interventions



THE WHAT WORKS MOVEMENT IN EDUCATION

Key Principles

- Use of Randomized Controlled Trials (RCTs)
- Reliance on meta-analyses, syntheses and effect sizes
- Identification of effective strategies
- Scaling up successful programs

Key Questions

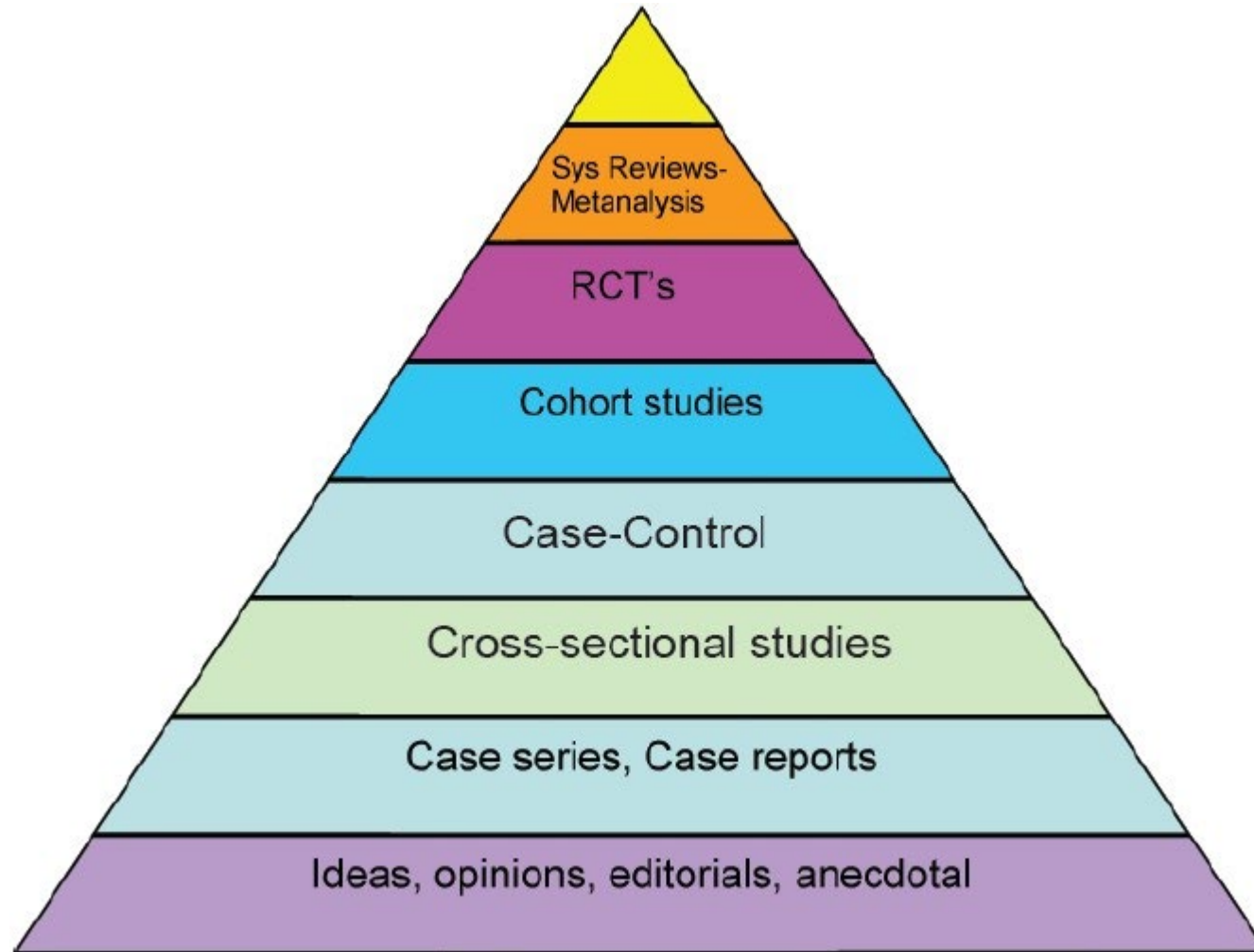
- What improves learning outcomes?
- Which interventions are cost-effective?
- Under what conditions do they work best?



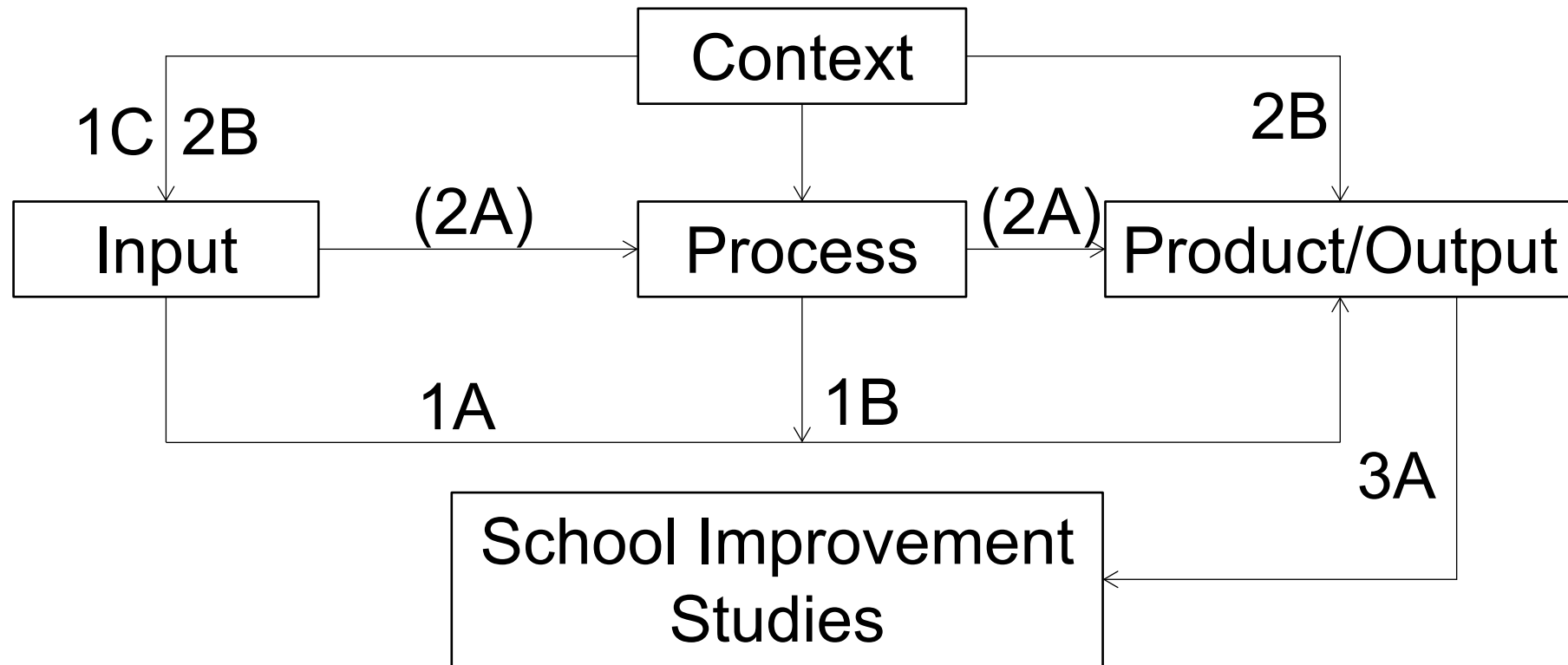
RESEARCH EVIDENCE AS A BASE FOR PRACTICE



A PYRAMID OF EVIDENCE



THE CIPO MODEL IN EDUCATIONAL RESEARCH



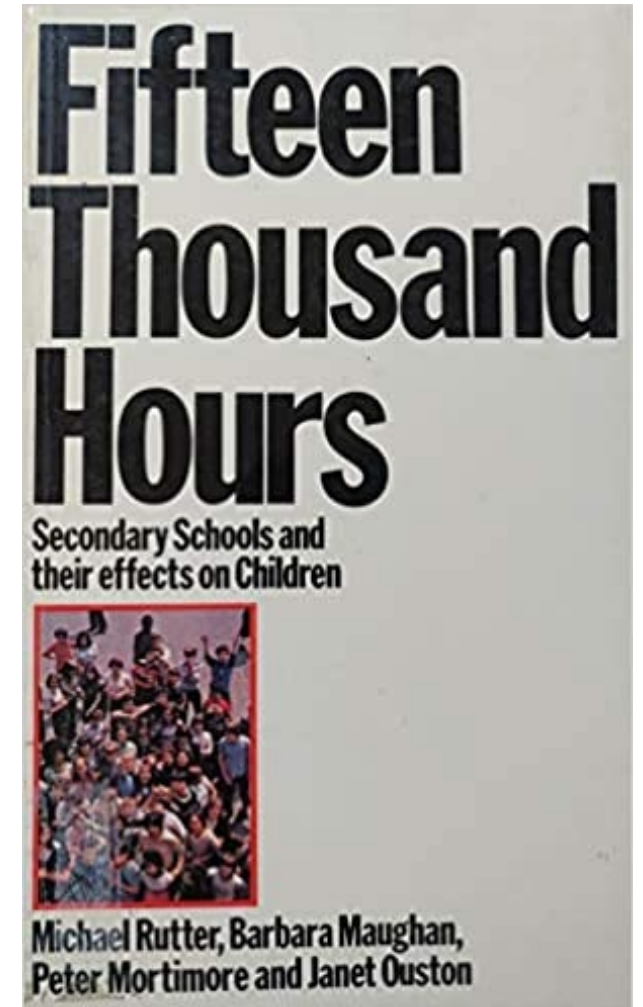
WHY LEADERSHIP

Effective Schools for the Urban Poor*

Ronald Edmonds



Urban schools that teach poor children successfully have strong leadership and a climate of expectation that students will learn.

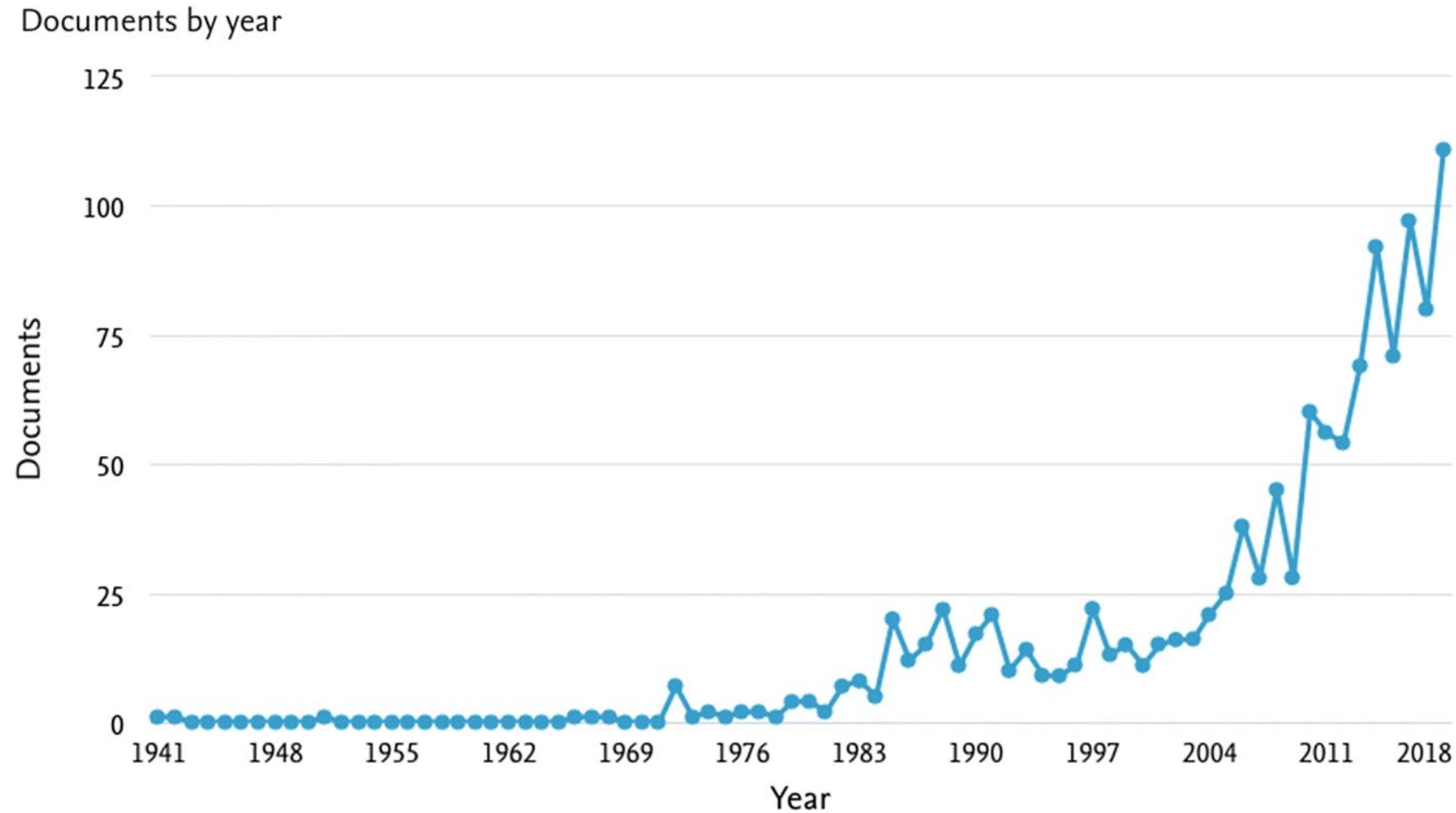


CRITICISM

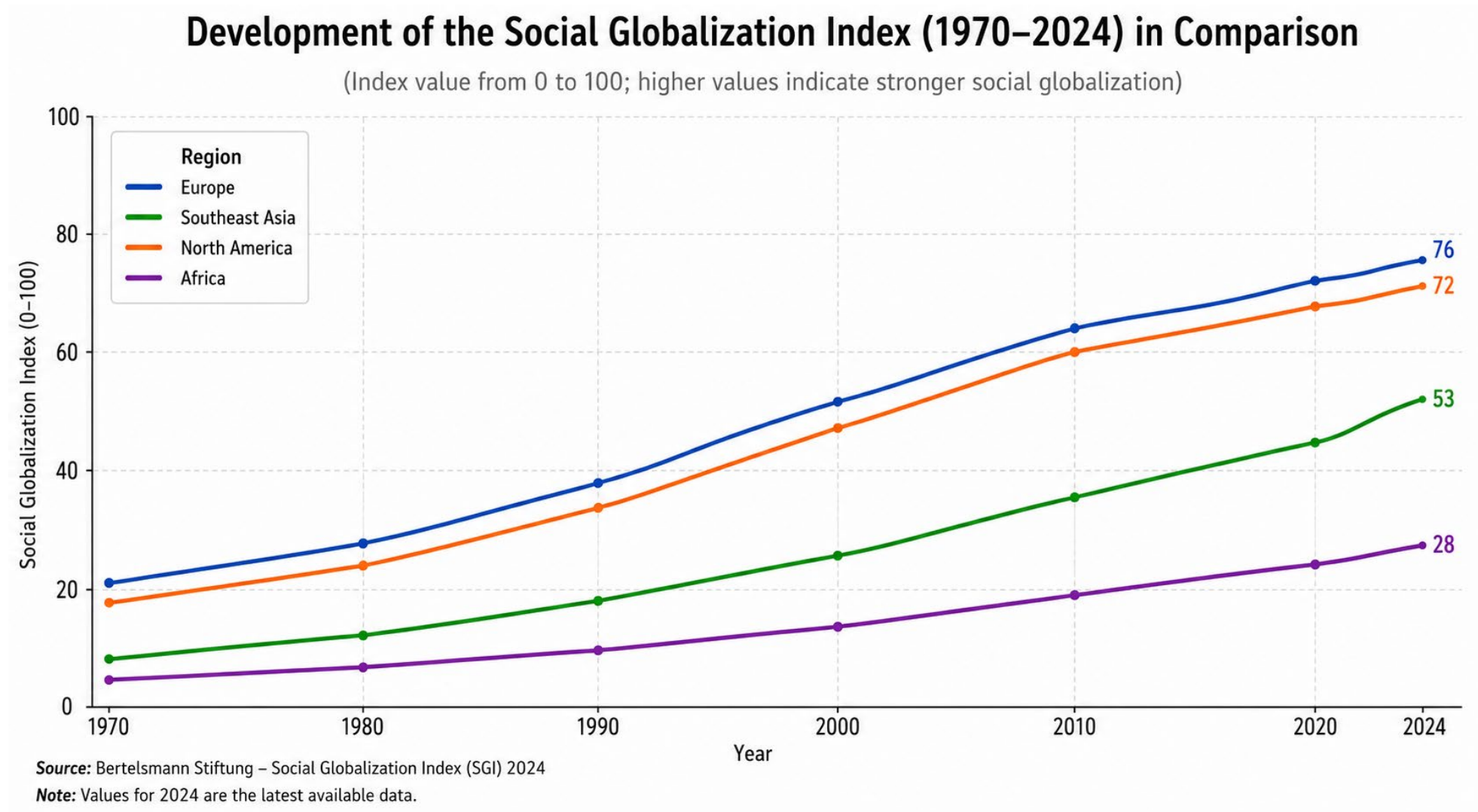
- Risk of oversimplifying complex educational processes
- Limited attention to context and implementation conditions
- Focus on measurable outcomes may narrow educational goals
- Challenges in transferring evidence into everyday practice and governance



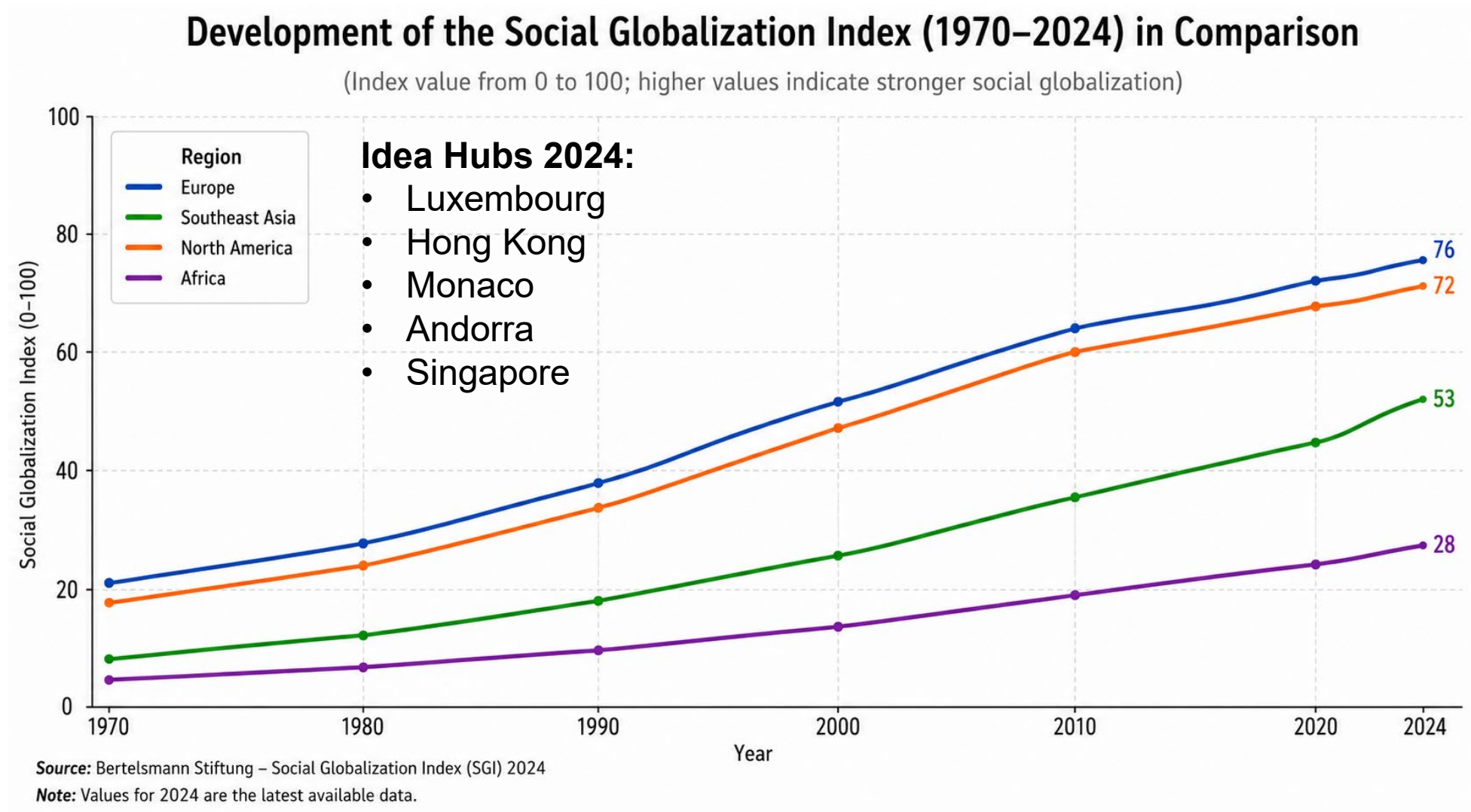
WHERE WE ARE NOW – IL 1940-2018



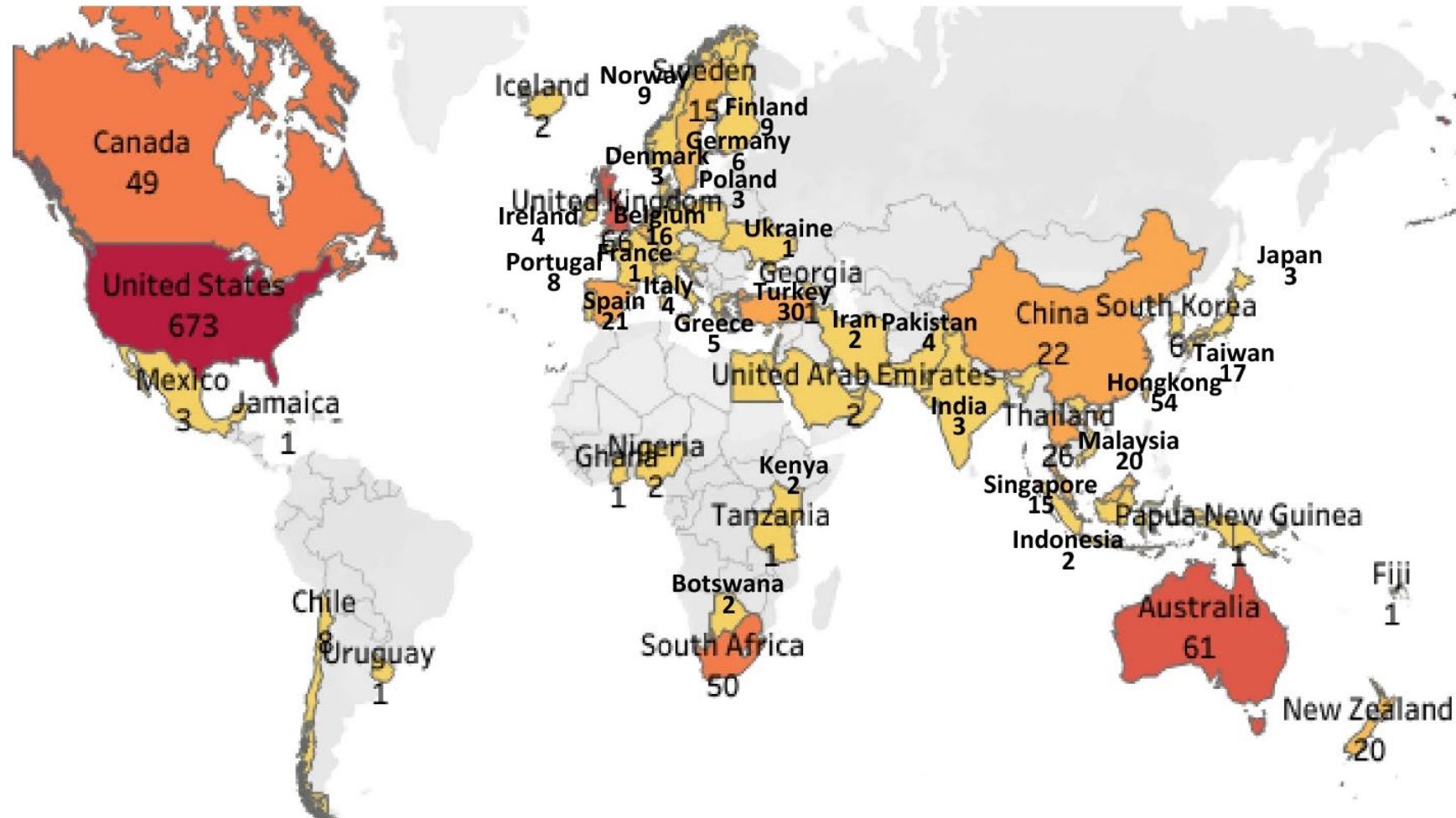
WHERE WE ARE NOW – THE FLOW OF IDEAS 1970-2024



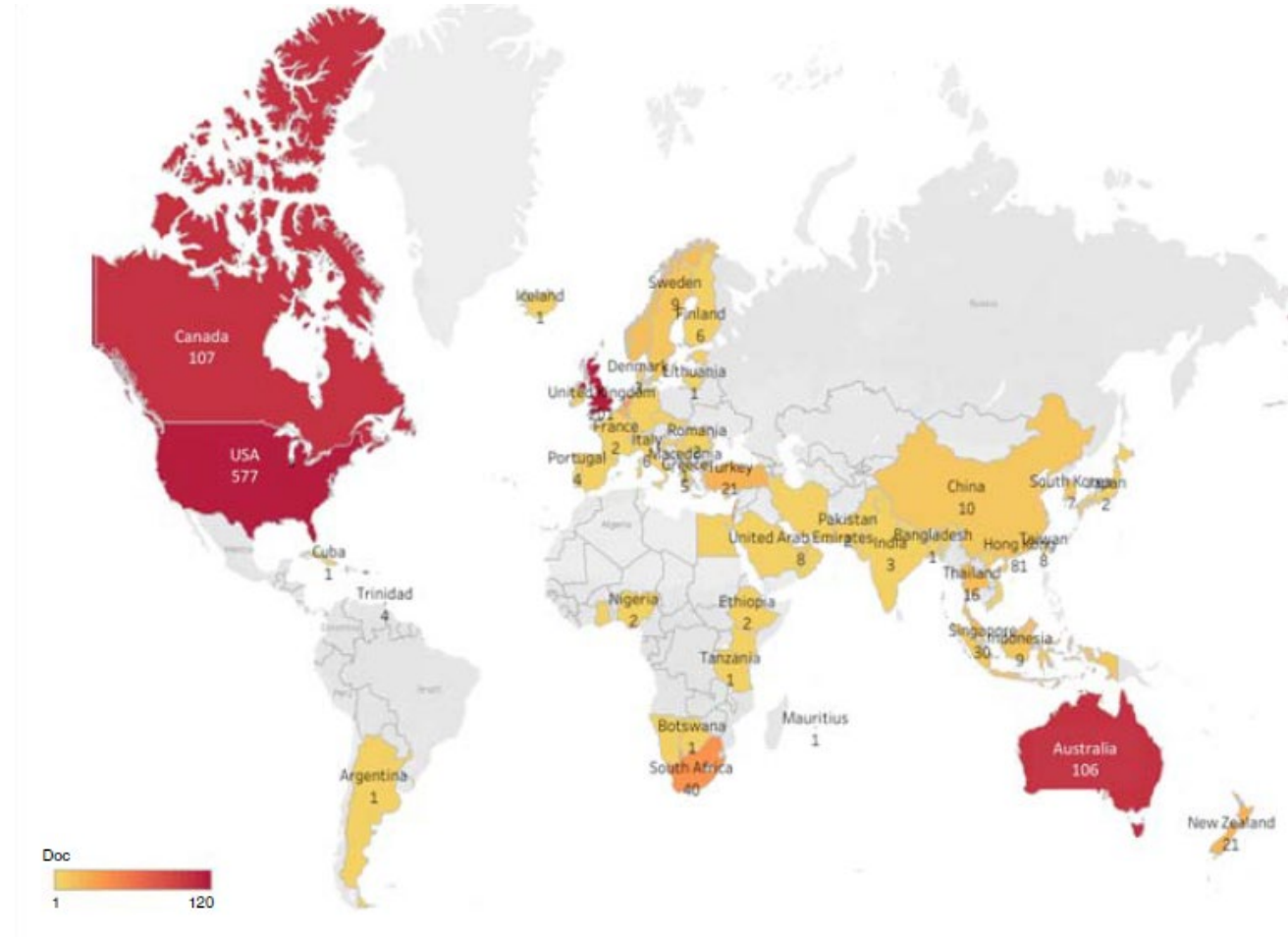
WHERE WE ARE NOW – THE FLOW OF IDEAS 1970-2024



WHERE WE ARE NOW – IL 1940-2018



WHERE WE ARE NOW – PUBLICATIONS LEADERSHIP AND SCHOOL IMPROVEMENT



Note: $n=1,613$



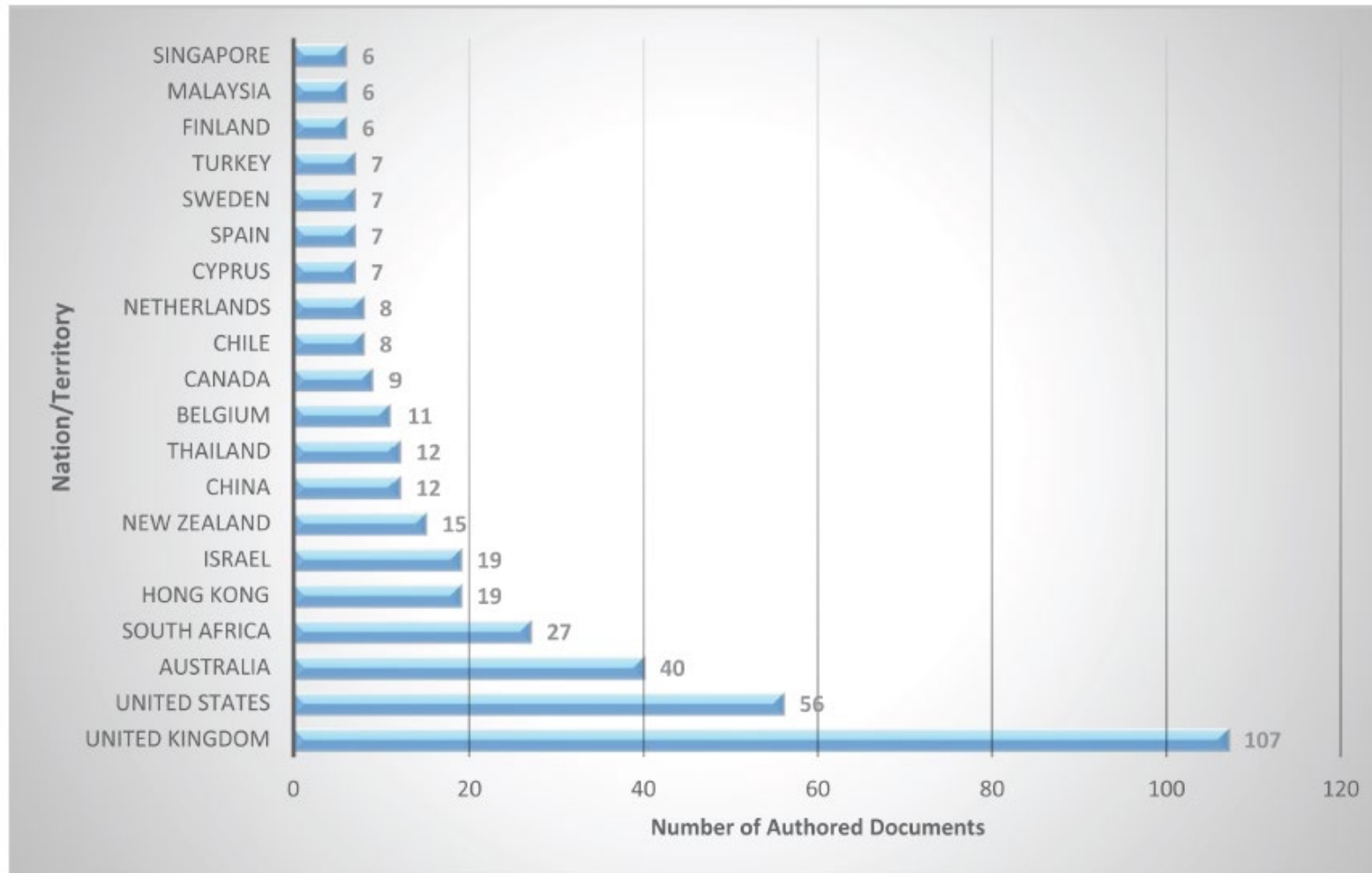
WHERE WE ARE NOW – WHO IS LEADING THE FIELD

Rank	Author	Institutional affiliation	Nation	Documents (local)	Scopus citations	CPD local
1	Leithwood, K.	U. of Toronto	Canada	62	3,042	49.1
2	Hallinger, P.	Mahidol U. ^a	USA/HK/Thailand	69	2,793	40.5
3	Heck, R.H.	U. of Hawaii	USA	27	2,053	76.0
4	Harris, A.	U. of Bath ^b	UK/Malaysia	40	1,761	44.0
5	Jantzi, D.	U. of Toronto	Canada	19	1,289	67.8
6	Louis, K.S.	U. of Minnesota	USA	18	979	54.4
7	Hoy, W.	Ohio State U.	USA	16	779	48.7
8	Hopkins, D.	IOE/U. of London	UK	18	724	40.2
9	Fullan, M.	U. of Toronto	Canada	13	652	50.2
10	Hargreaves, A.	Boston College	UK/USA	9	617	68.6
11	Robinson, V.M.J.	U. of Auckland	New Zealand	4	610	152.5
12	Tschannen-Moran, M.	Northwestern U.	USA	7	589	84.1
13	Slegers, P.	U. of Twente	The Netherlands	13	551	42.4
14	Muijs, D.	U. of Southampton	UK	9	542	60.2
15	Day, C.	U. of Nottingham	UK	18	538	29.9
16	Murphy, J.	Vanderbilt U.	USA	34	532	15.6
17	Stoll, L.	IOE/U. of London	UK	14	525	37.5
18	Sammons, P.	Oxford U.	UK	13	499	38.4
19	Daly, A.	U. of San Diego	USA	12	486	40.5
20	Marks, H.M.	Ohio State U.	USA	4	485	121.3

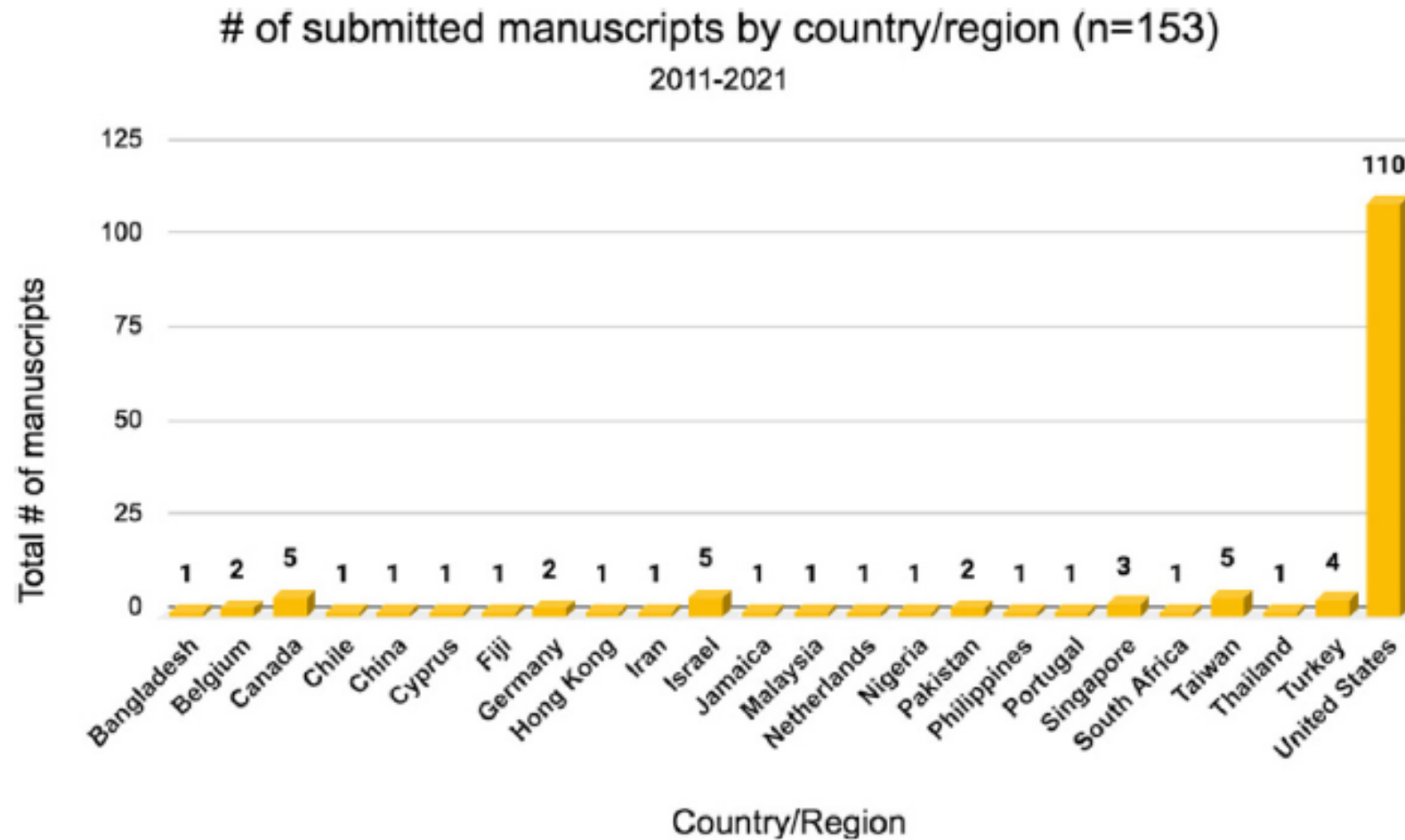
Notes: CPD – citations per document; H-index for 2017 retrieved from Scopus. ^aAlso Vanderbilt UU, Education UU. of Hong Kong, Chulalongkorn UU; ^balso IOE UU. College London, UU. of Malaya



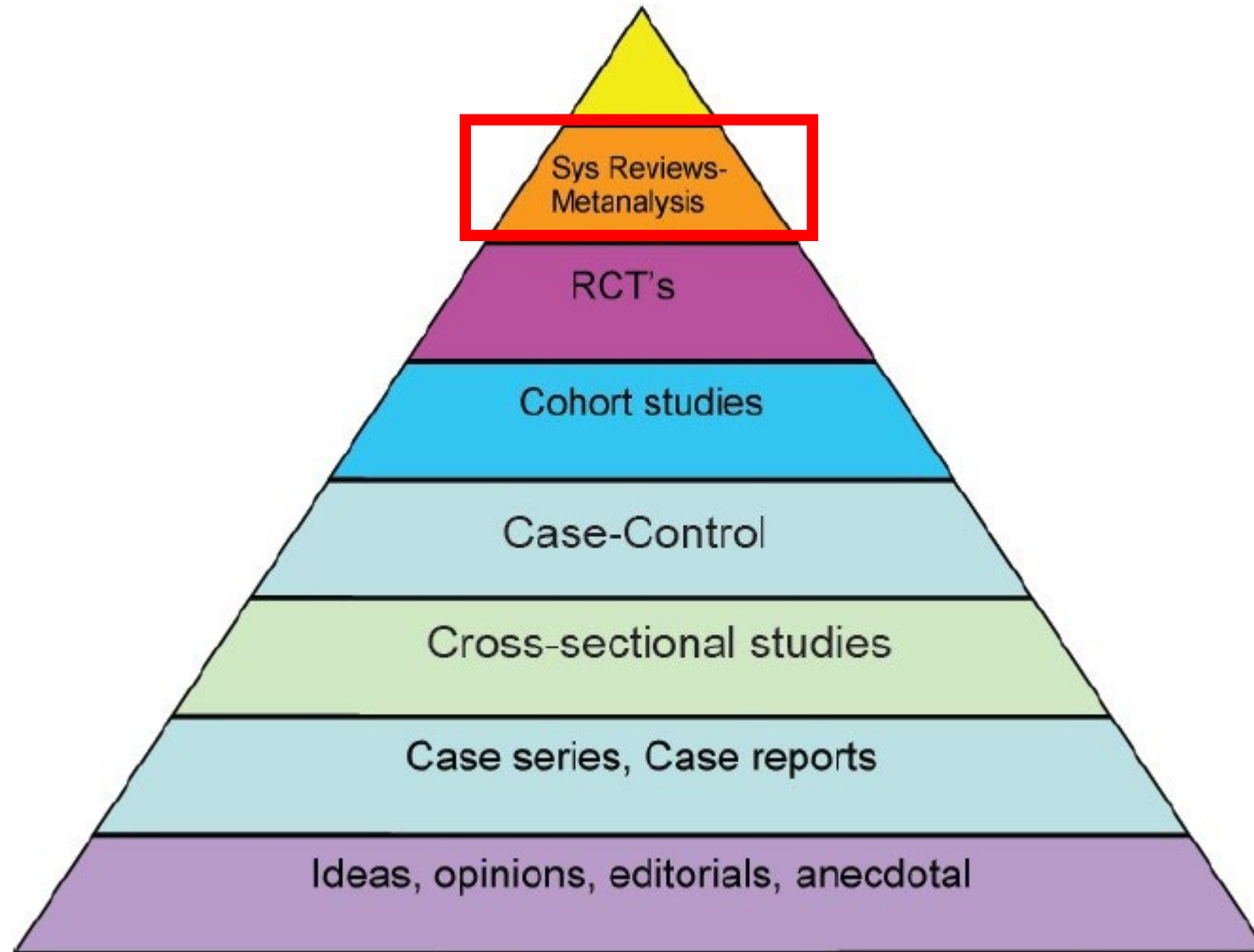
WHERE WE ARE NOW – PUBLICATIONS EMAL



WHERE WE ARE NOW – PUBLICATIONS EAQ



A PYRAMID OF EVIDENCE - REMEMBER



WHERE WE ARE NOW – THE RISE OF META SYNTHESSES

2000–2010: Establishment

The founding of the Campbell Collaboration set rigorous standards for evidence-based social science.

2011–2019: Rapid Expansion

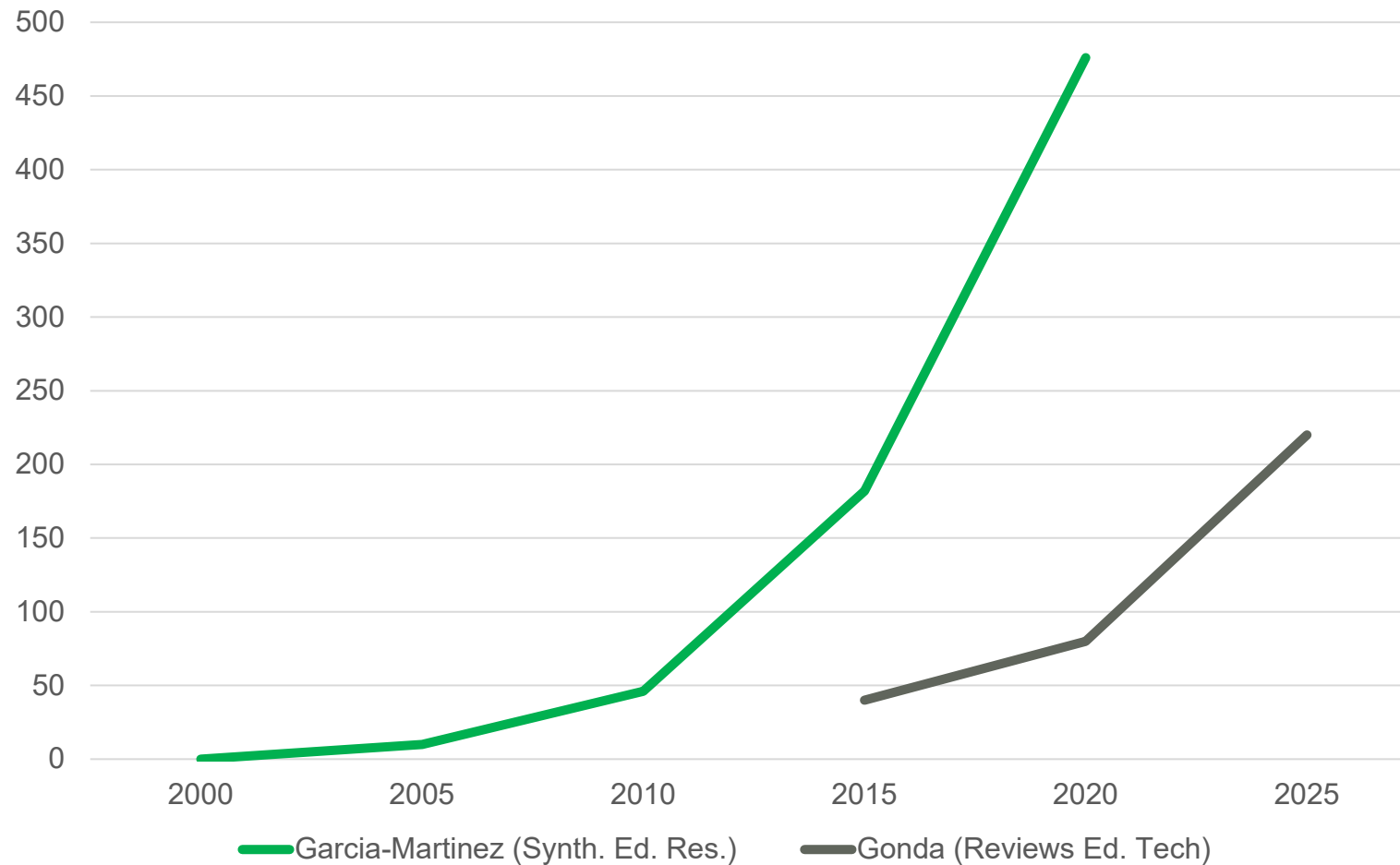
Shift towards "Evidence-Based Education" as a policy requirement in the anglophone world.

2020–2026: Exponential Boom

Global internationalization and AI-assisted screening tools lead to a record-breaking publication surge.



WHERE WE ARE NOW – THE RISE OF META SYNTHESSES



WHERE WE ARE NOW – THE RESEARCH WASTE PROBLEM

The massive surge in synthesis leads to significant inefficiencies in scientific output (Chalmers & Glasziou, 2009):

- **Redundant Reviews:** Multiple research teams publishing identical meta-analyses on the same topic within the same year.
- **Reporting Flaws:** Essential statistical data (e.g., standard deviations) are omitted in primary studies, rendering them useless for future synthesis.
- **Publication Bias:** Negative or "null" results vanish into drawers, heavily distorting the objectivity of meta-analyses.



WHERE WE ARE NOW – THE RESEARCH WASTE PROBLEM

Wu & Shen (2022) identified 12 meta-analyses on educational leadership and student achievement, published between 2000 and 2020 – still counting!

Massive Data Overlap: Multiple teams independently extracted identical data from the same primary studies, wasting thousands of research hours.

Static Knowledge Gain: Results consistently yielded effect sizes of 0.34, adding zero incremental value to the field after the initial meta-analysis.

Opportunity Cost: Scarce resources were funneled into a saturated topic instead of addressing urgent, unexplored educational gaps.



WHERE WE ARE NOW – THE WEIRD PROBLEM

*“A recent cross-cultural meta-analysis conducted by Karadag (2020) indicated that the majority of studies between 2008 and 2018 investigating the relationship between educational leadership and student achievement came from the Anglophone world. Approximately **95% of all research on the topic is from the “core Anglosphere”** (Vucetic, 2020), a group of anglophone countries representing about 5% of the global population in 2023.”*

(Pietsch et al., 2025)



WHERE WE ARE NOW – THE METHOD PROBLEM

> 60% of all studies are qualitative -> will not fit meta analyses, need other approaches.

80% of all quantitative studies are cross-sectional.

10% of all quantitative studies are descriptive only.

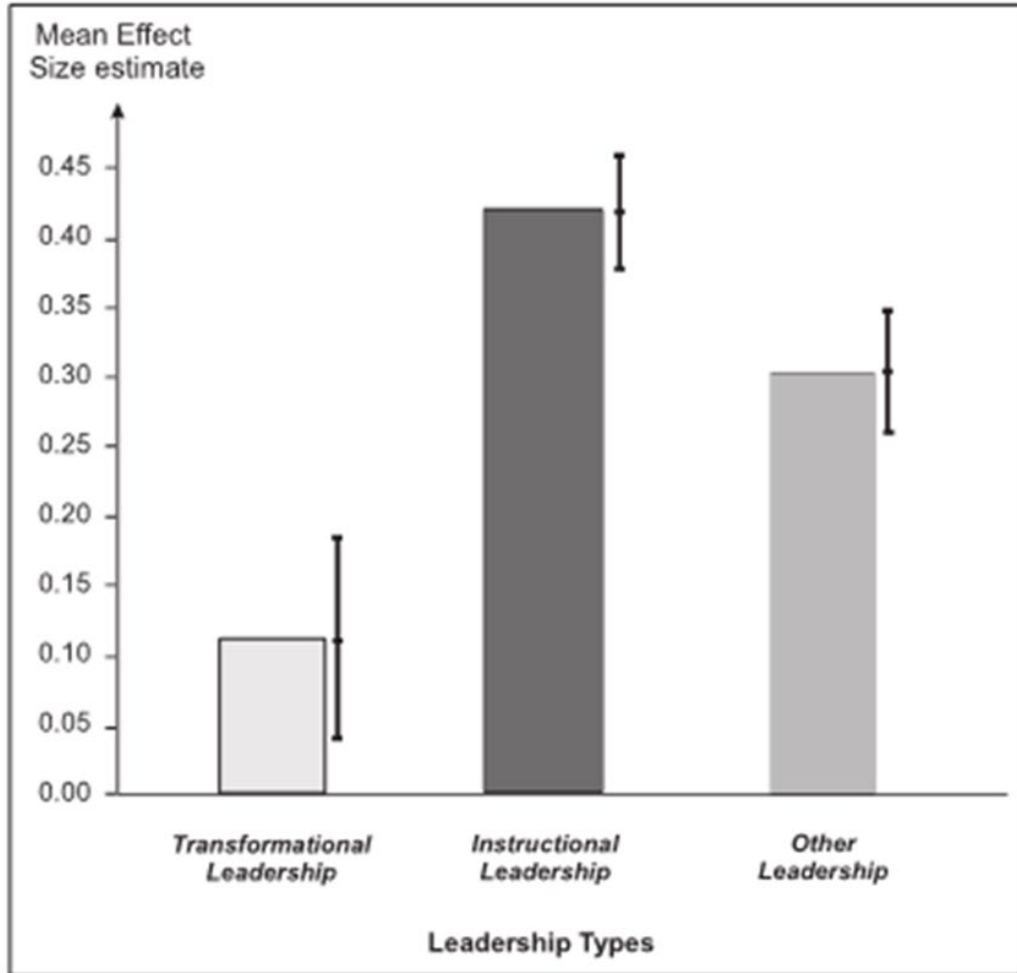
5% of all quantitative studies use longitudinal approaches.

5% of all quantitative studies lack the reporting of methods in some way.

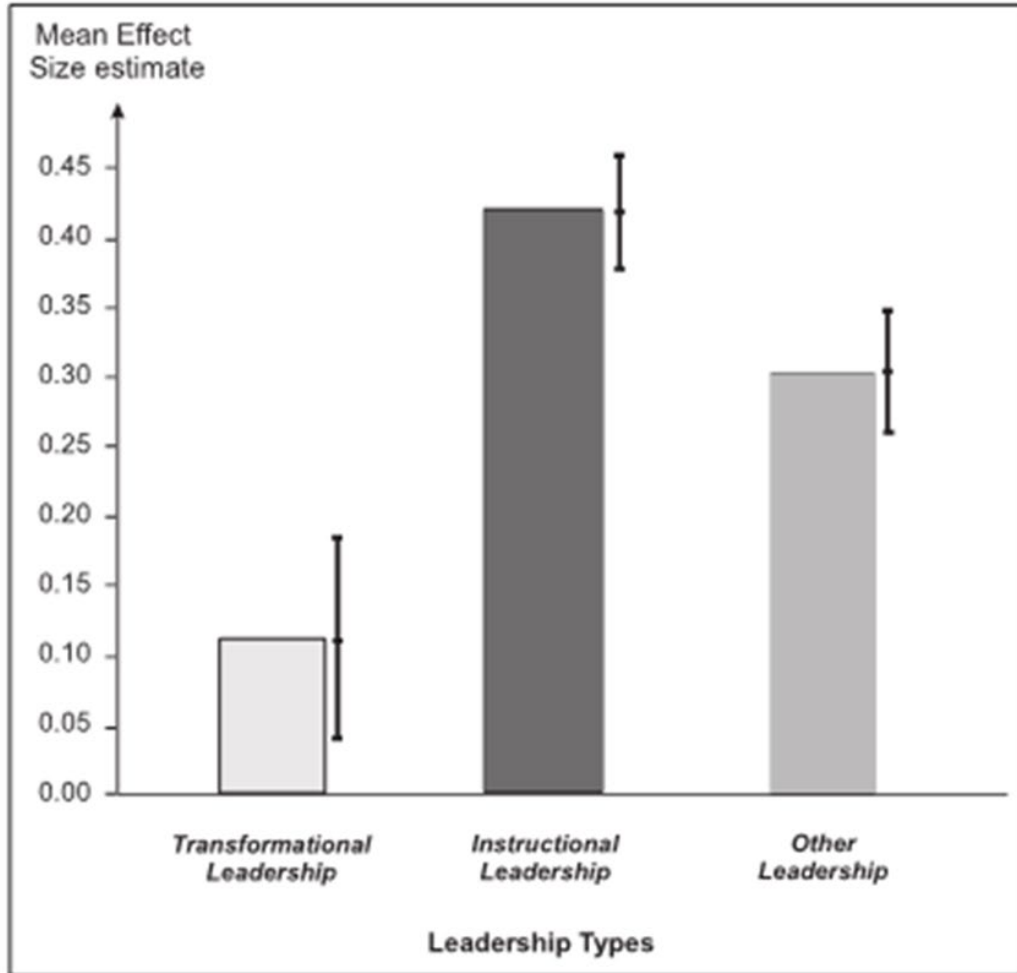
<1% of all quantitative studies are RCTs.



WHERE WE ARE NOW – A META-ANALYSIS EXAMPLE



WHERE WE ARE NOW – A META ANALYSIS EXAMPLE



- Based on 27 primary studies published between 1978 and 2006
- 67% from the United States (N = 18), N = 2 from Canada, and N = 1 each from Australia, England, Hong Kong, Israel, the Netherlands, New Zealand, and Singapore
- 59% conducted in primary schools (N = 16), N = 4 in secondary schools, and N = 7 in other school types
- ~80% of the studies were cross-sectional.



WHERE TO GO FROM HERE – FOSTER RESEARCH QUALITY

Avoid becoming the 13th redundant meta-analysis. The focus must shift from re-synthesizing the same data to finding the gaps.

Audit before acting: Rigorous searching in PROSPERO and OSF registries to ensure your review isn't already underway.

The "Incremental Value" Test: Ask: Does this synthesis provide a new perspective or just a new p-value for a known effect ($d=0.34$)?

Review of Reviews: If the field is saturated, perform Umbrella Reviews to reconcile conflicting syntheses.



WHERE TO GO FROM HERE – MASTER CAUSALITY

95% of current leadership studies only proves correlation, not causation. The future of educational evidence belongs to robust causal inference.

Longitudinal Designs: Move beyond "snapshots." We need data that follows leadership cycles over many years to see latent effects on student learning.

Quasi-Experiments: Rigorous searching in PROSPERO and OSF registries to ensure your review isn't already underway.

The "Incremental Value" Test: Since pure RCTs are rare, leverage *natural experiments* or *Propensity Score Matching* to approximate causal impact.

Mechanism Focus: Stop asking "What works?" (the average effect) and start asking "How does it work?" by testing mediating paths (Process studies).



WHERE TO GO FROM HERE – BREAK THE WEIRD MONOPOLY

95% of current evidence represents only 5% of the global population. The future of educational governance is global and contextual.

Global South Partnerships: Foster co-authored research with scholars from outside the Anglosphere.

Comparative Leadership: Investigate how leadership manifests in hierarchical vs. horizontal cultures.

Contextual Moderators: Treat "Context" not as a nuisance variable, but as the primary object of study.



WHERE TO GO FROM HERE – BE AN OPEN SCIENTIST

Combatting Research Waste starts at your desktop. Transparency is the new "Impact Factor."

Pre-registration: Register every quantitative hypothesis before data collection.

Synthesizable Reporting: Always report SDs, effect sizes, and full correlation matrices.

Open Data & Code: Share your R/Python/Stata scripts on OSF to ensure reproducibility.



WHERE TO GO FROM HERE – BRIDGE THE METHOD DEVIDE

Since 60% of our field's work is qualitative, we must stop ignoring it in our Evidence Pyramids.

Meta-Ethnography: Develop skills in synthesizing qualitative studies to explain *why* leadership practices fail or succeed.

Mixed-Method Synthesis: Integrating statistical effects with qualitative insights to provide "Thick Evidence" for governance.

Realist Synthesis: Moving from "What works" to "What works for whom, in which circumstances, and why?"



WHERE TO GO FROM HERE – LOOK BEYOND YOUR DISCIPLINARY HORIZON

Educational Leadership is not an island. Excellence often lies in Interdisciplinary Cross-Pollination.

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Advanced Econometrics: Borrowing Identification Strategies (DiD, RDD, Synthetic Control) from economics to isolate causal effects without RCTs.

Organizational Behavior: Integrating psychological insights on Burnout, Collective Efficacy, and Motivation from corporate leadership research.

Public Administration: Adapting Governance Frameworks to analyze street-level bureaucracy, public accountability, and institutional implementation science.

Data Science: Using NLP & Machine Learning to map and synthesize the "Qualitative Tsunami" into searchable evidence maps.



KEY TAKEAWAYS



EVIDENCE REDUNDANCY & TRANSPARANCY

Problem: Many nearly identical meta-analyses and reviews create noise and "Research Waste."

YOUR ADVANTAGE

Audit registries (PROSPERO/OSF) to **find the "White Spots."** Avoid the crowd; a niche synthesis is 10x more citeable.



METHODOLOGICAL GAP

Problem: 80% cross-sectional snapshots vs. <1% RCTs. Most data only proves correlation, not causation.

YOUR ADVANTAGE

Master **Causal Inference** (DiD, RDD, Longitudinal). Be the expert who answers "Why" and "How," not just "What."



THE WEIRD MONOPOLY

Problem : 95% of leadership evidence represents only 5% of the global population (Anglosphere).

YOUR ADVANTAGE

Challenge the Anglosphere. Diversify your sample. Non-WEIRD context is the fastest path to high-tier international impact.



THEORYZING BEYOND BORERS

Problem: Intellectual Silos. Leadership research often ignores breakthroughs in Public Admin, Economics, or Data Science.

YOUR ADVANTAGE

Interdisciplinary Pollination. Borrow frameworks from Public Administration, Economy and Psychology to build a unique research profile.

