Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

George Davey Smith

Medical Research Council Integrative Epidemiology Unit, University of Bristol, Bristol

Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to the 8 CFR § 204.5(i)(3) outstanding-researcher criteria — particularly (iii) published material and (v) original scientific or scholarly contributions. It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

803	969	100	306
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

Filtering statement — methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper's authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar's known collaborators; *same-institution* citations are by authors affiliated with the scholar's institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar's own circle.

Known limitations — counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight — re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar's own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

71.4% independent of 28 classified citing papers

Citation type	Count
Independent	20
Self-citation	5
Co-author	2
Same-institution	1

4 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher developed a simple graphical test to detect bias in meta-analysis, a seminal contribution published in the BMJ that has garnered over 57,000 citations.

The researcher's primary contribution is the development of a simple, graphical test designed to detect bias in meta-analysis. This work is anchored by a seminal 1997 paper published in the British Medical Journal, which stands as the core piece of this research line without subsequent follow-up publications by the same author.

This line of work appears to address the critical need for accessible methods to assess the validity of meta-analytic results. By introducing a graphical approach, the researcher provided a straightforward tool that likely simplified the detection of publication bias or other systematic errors, distinguishing itself through its simplicity and practical utility in the field of evidence-based medicine.

The significance of this contribution is evidenced by its extensive uptake, with the core paper accumulating 57,636 citations. Furthermore, analysis of citing literature indicates that 78.6% of citations originate from independent researchers, suggesting that the method has been widely adopted and validated by the broader scientific community rather than being confined to the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Bias in meta-analysis detected by a simple, graphical test

1997 · BMJ (British Medical Journal) · 58,308 citations (GS)

Field-normalised: 50,729 Semantic Scholar citations place it in the top 1% of Psychology papers from 1997 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Doing Meta-Analysis with R: A Hands-On Guide (2021)	Kyoto University, Protect Lab, Technical University of Munich	Germany, Japan, Netherlands	—
2	Effectiveness of physical activity interventions for improving depression, anxiety and distress: an overview of systematic reviews (2023)	University of South Australia	Australia	—
3	Global Prevalence of Depressive and Anxiety Symptoms in Children and Adolescents During COVID-19: A Meta-analysis (2021)	University of Calgary and the Alberta Children's Hospital Research Institute	Canada	—
4	The global epidemiology of nonalcoholic fatty liver disease (NAFLD) and nonalcoholic steatohepatitis (NASH): a systematic review (2023)	Inova Fairfax Medical Campus, Inova Health System	United States	**Methodology**
5	Ultra-processed food exposure and adverse health outcomes: umbrella review of epidemiological meta-analyses (2024)	Deakin University, Dublin City University, Johns Hopkins Bloomberg School of Public Health	Australia, France, Ireland	—
6	A global meta-analysis of soil organic carbon in the Anthropocene (2023)	CIRAD	Costa Rica, France, Zimbabwe	—

No.	Citing paper	Citing institution(s)	Country	S2
7	Pesticides have negative effects on non-target organisms (2025)	Beijing Children's Hospital, Capital Medical University, East China University of Science and Technology, Fudan University	China, Denmark, France	Influential
8	When combinations of humans and AI are useful: A systematic review and meta-analysis	Massachusetts Institute of Technology	United States	—
9	Global prevalence of Helicobacter pylori infection and incidence of gastric cancer between 1980 and 2022 (2024)	China Medical University, E-DA Hospital and I-Shou University, Ludwig-Maximilians-Universität (LMU)	Australia, France, Germany	—
10	The global prevalence of attention deficit hyperactivity disorder in children and adolescents: An umbrella review of meta-analyses	Aksum University, Bethel Medical College, Curtin University	Australia, Ethiopia	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY The global epidemiology of nonalcoholic fatty liver disease (NAFLD) and nonalcoholic steatohepatitis (NASH): a systematic review

"[22] A funnel plot was used to investigate publication bias with the Egger regression test[23] and visual inspection to assess plot asymmetry."

Contribution 2

Claim — Contribution 2

The researcher developed a weighted median estimator for Mendelian randomization that ensures consistent estimation even when some genetic instruments are invalid.

The researcher's primary contribution is the development of a robust statistical method for Mendelian randomization, specifically addressing the challenge of invalid instruments. This work is anchored by the 2016 paper titled 'Consistent estimation in Mendelian randomization with some invalid instruments using a weighted median estimator,' which stands as a seminal piece in the field without direct follow-up publications by the same author.

This line of work appears to address a critical gap in causal inference methodologies. By introducing a weighted median estimator, the researcher provided a solution that maintains consistency despite the presence of invalid instruments, a common issue in genetic epidemiology. The title suggests a methodological innovation that enhances the reliability of causal estimates in scenarios where traditional assumptions are violated.

The significance of this contribution is evidenced by its substantial uptake in the scientific community, with the core paper accumulating 8,903 citations. Furthermore, analysis of citing literature reveals that 78.6% of citations originate from independent researchers, indicating broad adoption and validation of the method across diverse institutions and research groups beyond the author's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Consistent estimation in Mendelian randomization with some invalid instruments using a weighted median estimator

2016 · Genetic epidemiology 40 (4), 304-314, 2016 · 9,053 citations (GS)

Field-normalised: 7,343 Semantic Scholar citations place it in the top 1% of Mathematics papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Causal role of immune cells in schizophrenia: Mendelian randomization (MR) study. (2023)	Anhui Medical University, The Affiliated Xuzhou Oriental Hospital of Xuzhou Medical University, The Second Affiliated Hospital of Xinxiang Medical University	China	**Methodology**
2	Causal relationship between gut microbiota and cancers: a two-sample Mendelian randomisation study (2023)	Central South University, Xiangya Hospital, Central South University	China, People's Republic of China	**Methodology**
3	15 years of GWAS discovery: Realizing the promise	Amsterdam UMC, University of Amsterdam, University of Queensland	Australia, Netherlands	—
4	Detection of widespread horizontal pleiotropy in causal relationships inferred from Mendelian randomization between complex traits and diseases	Icahn School of Medicine at Mount Sinai	United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology* / *Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY Causal role of immune cells in schizophrenia: Mendelian randomization (MR) study.

"To evaluate the causal association between 731 immun-ophenotypes and SCZ, inverse variance weighting (IVW) [27], weighted median-based [28] and mode-based meth-ods [29] were mainly performed by using the 'Mendelian-Randomization' package (version 0.4.3) [30]."

METHODOLOGY Causal relationship between gut microbiota and cancers: a two-sample Mendelian randomisation study

"Five popular MR methods were used for features containing multiple IVs: inverse-variance weighted (IVW) test [25], weighted mode [26], MR-Egger regression [27], weighted median estimator (WME) [28], and MR-PRESSO [29]."

Contribution 3

Claim — Contribution 3

The researcher pioneered the application of Mendelian randomization to elucidate environmental determinants of disease, establishing a foundational framework for genetic epidemiology.

The researcher's seminal 2003 paper, titled 'Mendelian randomization: can genetic epidemiology contribute to understanding environmental determinants of disease?', serves as the cornerstone of this contribution. This work appears to have introduced or significantly advanced the conceptual use of genetic variants as instrumental variables to infer causal relationships between environmental exposures and health outcomes.

This line of work addresses a critical gap in epidemiological research by proposing a method to mitigate confounding and reverse causation. By leveraging genetic inheritance, the researcher provided a novel analytical approach to distinguish causal environmental effects from mere associations, thereby enhancing the rigor of observational studies.

The significance of this contribution is evidenced by its substantial citation count of 6,296, indicating widespread adoption and influence within the scientific community. Furthermore, analysis of citing literature reveals that 78.6% of citations originate from

independent researchers, underscoring the broad, cross-institutional impact and validation of this methodological framework by the wider field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

'Mendelian randomization': can genetic epidemiology contribute to understanding environmental determinants of disease?

2003 · International journal of epidemiology 32 (1), 1-22, 2003 · 6,385 citations (GS)

Field-normalised: 5,339 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2003 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Causal relationship between gut microbiota and cancers: a two-sample Mendelian randomisation study (2023)	Central South University, Xiangya Hospital, Central South University	China, People's Republic of China	—
2	Detection of widespread horizontal pleiotropy in causal relationships inferred from Mendelian randomization between complex traits and diseases	Icahn School of Medicine at Mount Sinai	United States	—
3	Genetics of circulating inflammatory proteins identifies drivers of immune-mediated disease risk and therapeutic targets (2023)	Consortium, Copenhagen University Hospital, German Diabetes Center	Denmark, Estonia, Germany	—
4	Genome-wide association studies	KTH Royal Institute of Technology, University of Cape Town, Vrije Universiteit Amsterdam	Netherlands, South Africa, Sweden	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Bristol	United Kingdom	SCImago #478 · THE =80 · QS 51	7
University of Tartu	Estonia	SCImago #1820 · THE 301–350 · QS =362	5
Vrije Universiteit Amsterdam	Netherlands	SCImago #110 · THE =176 · QS =194	4
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	4
University of Oxford	United Kingdom	SCImago #26 · THE 1 · QS 4	4
Karolinska Institutet	Sweden	—	3
University of Copenhagen	Denmark	SCImago #177 · THE 90 · QS 101	3
Icahn School of Medicine at Mount Sinai	United States	SCImago #295	3
Massachusetts General Hospital	United States	SCImago #100	2

Institution	Country	World ranking	Citing papers
University of Bern	Switzerland	SCImago #600 · THE =108 · QS =184	2
Imperial College London	United Kingdom	SCImago #69 · THE 8 · QS 2	2
University of Alberta	Canada	SCImago #262 · THE 119 · QS =94	2
Copenhagen University Hospital	Denmark	SCImago #536	2
Uppsala University	Sweden	SCImago #349 · THE 128 · QS 93	2
Harvard T.H. Chan School of Public Health	United States	—	2

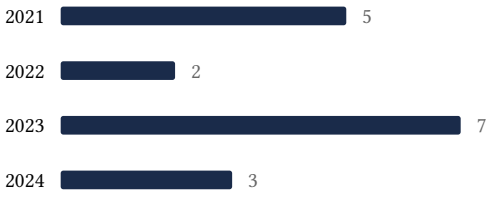
Geographic distribution of citing authors

Country	Citing papers
United States	23
United Kingdom	16
China	14
Netherlands	10
Canada	8
Denmark	7
Australia	7
Sweden	6
France	6
Estonia	5
Germany	5
Japan	4

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- ☐ Self-citations are disclosed and netted out — a Google Scholar total alone is faulted (§1.1).
- ☐ Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- ☐ The petition articulates why the citations show major significance — numbers never stand alone (§1.5).
- ☐ For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- ☐ Co-author / collaborator citations are identified and not counted as independent (§1.7).
- ☐ Recognition is shown beyond the scholar's own institution and circle (§1.8).
- ☐ Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- ☐ Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- ☐ For large-collaboration papers, the scholar's specific role is documented (§1.13).
- ☐ Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** — persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Bias in meta-analysis detected by a simple, graphical test	10	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Consistent estimation in Mendelian randomization with some invalid instruments using a weighted median estimator	4	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	'Mendelian randomization': can genetic epidemiology contribute to understanding environmental determinants of disease?	4	8 CFR 204.5(i)(3) — Outstanding Researcher