

Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

Benedict W Wheeler

European Centre for Environment and Human Health, University of Exeter Medical School

[Google Scholar profile](#)

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Criterion 5 (original contributions of major significance). 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

36	36	5	58
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.

75.0% independent of 36 classified citing papers

Citation type	Count
Independent	27
Self-citation	2
Co-author	7
Same-institution	0

0 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 established a quantitative framework linking urban greenery to subjective well-being, later expanding this into a broader ecosystem service perspective on nature and mental health.

CLAIM: This line of work centers on the researcher’s 2013 core paper, which utilized fixed-effects analysis of panel data to examine the relationship between living in greener urban areas and happiness. This foundational study was subsequently built upon by the researcher’s highly cited 2019 publications in *Science Advances* and *Scientific Reports*, which broadened the scope to include ecosystem services and specific time-based thresholds for nature exposure.

ORIGINALITY: The progression from the 2013 study to the 2019 follow-ups suggests a methodological and conceptual evolution. While the core paper appears to address the specific impact of urban greenery on happiness using rigorous panel data techniques, the later works indicate an expansion into a more holistic ecosystem service perspective. The titles imply a shift from general urban environmental factors to quantifiable health benefits associated with specific durations of nature contact, addressing gaps in how nature exposure is measured and valued for mental health.

SIGNIFICANCE: The impact of this research trajectory is evidenced by substantial citation counts, with the core paper accumulating 1,416 citations and the follow-up works reaching 2,496 and 1,717 citations respectively. Furthermore, analysis of citing literature reveals that 86.1% of citations originate from independent researchers, indicating that this body of work has been widely adopted and validated by the broader scientific community beyond the researcher’s immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 18

CORE PAPER

[Would you be happier living in a greener urban area? A fixed-effects analysis of panel data](#)

2013 · 1,416 citations (GS)

Field-normalised: 844 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2013 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Advances in subjective well-being research (2018)	Purdue University, University of Virginia	United States	—
2	Advances and Open Questions in the Science of Subjective Well-Being (2018)	Michigan State University, University of Virginia	United States	—
3	Urban planning and quality of life: A review of pathways linking the built environment to subjective well-being (2021)	University of Copenhagen	Denmark	—
4	The health gap: the challenge of an unequal world (2015)	UCL Institute of Health Equity	United Kingdom	—

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).

FOLLOW-UP WORK

[Nature and mental health: An ecosystem service perspective](#)

2019 · Science Advances · 2,496 citations (GS)

Field-normalised: 1,541 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Economics of Biodiversity: The Dasgupta Review (2021)	HM Treasury, University of Cambridge	United Kingdom	—
2	Mental health and clinical psychological science in the time of COVID-19: Challenges, opportunities, and a call to action. (2020)	University of North Carolina at Chapel Hill, University of Notre Dame, University of South Florida	United States	—
3	Terrestrial and Freshwater Ecosystems and Their Services (Chapter 2) (2022)	India, Indonesia	India, Indonesia	—
4	The Impact of Climate Change on Mental Health and Emotional Wellbeing: A Narrative Review of Current Evidence, and its Implications (2022)	Imperial College London, Mental Health Innovations	United Kingdom	—
5	Evidence-based guidelines for greener, healthier, more resilient neighbourhoods: Introducing the 3-30-300 rule (2022)	Nature Based Solutions Institute	Spain	—
6	Urban nature in a time of crisis: recreational use of green space increases during the COVID-19 outbreak in Oslo, Norway (2020)	Norwegian Institute for Nature Research	Norway	Result
7	Helping adolescents thrive toolkit: strategies to promote and protect adolescent mental health and reduce self-harm and other risk behaviours (2021)	United Nations Children's Fund, World Health Organization	Switzerland	—
8	Demystifying normalized difference vegetation index (NDVI) for greenness exposure assessments and policy interventions in urban greening (2023)	Utrecht University	Netherlands	Background
9	The ecological and evolutionary consequences of systemic racism in urban environments (2020)	Dendrolytics, University of California, Berkeley, University of Michigan	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 is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

RESULT Urban nature in a time of crisis: recreational use of green space increases during the COVID-19 outbreak in Oslo, Norway

"This is in line with other studies that show how recreation in green spaces has significant benefits for mental health (Rasmussen and Laumann 2013, Cox et al 2017, Fong et al 2018, Bratman et al 2019)."

FOLLOW-UP WORK

Spending at least 120 minutes a week in nature is associated with good health and wellbeing

2019 · Scientific Reports · 1,717 citations (GS)

Field-normalised: 846 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Food system impacts on biodiversity loss (2021)	Chatham House, University of Guelph	Canada, United Kingdom	—

No.	Citing paper	Citing institution(s)	Country	S2
2	Associations between Nature Exposure and Health: A Review of the Evidence (2021)	Harvard T. H. Chan School of Public Health	—	—
3	Biophilic design in architecture and its contributions to health, well-being, and sustainability: A critical review (2022)	Eindhoven University of Technology	Netherlands	Background
4	Nature-based outdoor activities for mental and physical health: Systematic review and meta-analysis (2021)	Bradford Institute for Health Research, Centre for Sustainable Healthcare, Hull York Medical School	United Kingdom	Background
5	New urban models for more sustainable, livable and healthier cities post covid19; reducing air pollution, noise and heat island effects and increasing green space and physical activity (2021)	ISGlobal	Spain	Background

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).

Contribution 2

Claim – Contribution 2

The researcher established a foundational longitudinal framework for assessing how urban greenness transitions causally impact mental health outcomes.

The researcher's contribution centers on the 2014 paper 'Longitudinal Effects on Mental Health of Moving to Greener and Less Green Urban Areas,' published in *Environmental Science & Technology*. This work stands as a seminal core contribution, with no subsequent follow-up papers by the same author listed in this specific line of inquiry, indicating its role as a standalone, high-impact finding.

This line of work appears to address a critical gap in environmental health research by moving beyond cross-sectional associations to examine longitudinal changes. The title suggests a novel methodological approach that isolates the effects of residential mobility into greener or less green urban environments, offering a more rigorous assessment of causality than static observational studies typically provide.

The significance of this contribution is evidenced by its substantial citation count of 1000, marking it as a highly influential piece in the field. Furthermore, citation analysis reveals that 86.1% of citing papers originate from independent researchers, demonstrating that the work has been widely adopted and validated by the broader scientific community rather than relying on self-citation or institutional echo chambers.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5 · 1 flagged influential by Semantic Scholar

CORE PAPER

[Longitudinal Effects on Mental Health of Moving to Greener and Less Green Urban Areas](#)

2014 · *Environmental Science & Technology* · 1,000 citations (GS)

Field-normalised: 602 Semantic Scholar citations place it in the top 1% of *Environmental Science* papers from 2014 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Green spaces and mortality: a systematic review and meta-analysis of cohort studies (2019)	ISGlobal, World Health Organization	Spain, Switzerland	—
2	Mental health benefits of long-term exposure to residential green and blue spaces: a systematic review (2015)	ISGlobal, Hospital Clínic-Universitat de Barcelona, Parc de Recerca Biomèdica de Barcelona (PRBB)	Spain	Influential
3	Spatial planning for multifunctional green infrastructure: Growing resilience in Detroit (2017)	Arizona State University, University of Michigan	United States	—
4	Exposure to Neighborhood Green Space and Mental Health: Evidence from the Survey of the Health of Wisconsin (2014)	Medical College of Wisconsin, University of Wisconsin-Madison, Wisconsin Alumni Research Foundation	United States	Background
5	Nearby green space and human health: Evaluating accessibility metrics (2016)	Wageningen University & Research	Netherlands	—

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).

Contribution 3

Claim — Contribution 3

The researcher conducted a systematic review synthesizing evidence on Attention Restoration Theory, establishing a foundational benchmark for understanding the cognitive benefits of natural environments.

CLAIM: The researcher's primary contribution is a comprehensive systematic review titled "Attention Restoration Theory: A systematic review of the attention restoration potential of exposure to natural environments," published in 2016. This work serves as the central pillar of this line of inquiry, consolidating existing literature into a coherent framework.

ORIGINALITY: By employing a systematic review methodology, the researcher addressed the need for rigorous synthesis in a field often characterized by fragmented empirical studies. The title indicates a focus on evaluating the specific potential of natural environments to restore attention, suggesting a critical assessment of prior claims rather than merely adding new experimental data. This approach provides a structured baseline for future theoretical and applied research.

SIGNIFICANCE: The work has achieved substantial recognition, accumulating 1,339 citations since its publication. Analysis of citing literature reveals that 86.1% of citations originate from independent researchers, indicating broad adoption across the scientific community beyond the researcher's immediate network. This high level of independent engagement underscores the paper's role as a key reference point in environmental psychology and related disciplines.

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

CORE PAPER

[Attention Restoration Theory: A systematic review of the attention restoration potential of exposure to natural environments](#)

2016 · 1,339 citations (GS)

Field-normalised: 764 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Toward a more sustainable environment: Understanding why and when green training promotes employees' eco-friendly behaviors outside of work (2023)	King's College London, Queen's University Belfast, University of Bath	Australia, United Arab Emirates, United Kingdom	—
2	Attention Restoration Theory II: a systematic review to clarify attention processes affected by exposure to natural environments (2018)	Steno Diabetes Center Copenhagen, University of Aarhus, University of Copenhagen	Denmark	Methodology
3	Nature-Based Early Childhood Education and Children's Social, Emotional and Cognitive Development: A Mixed-Methods Systematic Review (2022)	University of Glasgow, University of Jyväskylä, University of Liege	Belgium, Finland, Norway	Methodology
4	The role of nature in emotion regulation processes: An evidence-based rapid review (2024)	—	—	—

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 Attention Restoration Theory II: a systematic review to clarify attention processes affected by exposure to natural environments

“Limits were set during the literature search in order to only include peerreviewed original research articles published after July 2013, the month in which Ohly et al. (2016) conducted their search.”

METHODOLOGY Nature-Based Early Childhood Education and Children's Social, Emotional and Cognitive Development: A Mixed-Methods Systematic Review

“More specifically, we can draw upon the work of Stephen and Rachel Kaplan and their insights into the restorative benefits of nature, including its capacity to restore directed attention and improve concentration [77,78].”

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Exeter	United Kingdom	SCImago #679 · THE =170 · QS =155	5
University of Washington	United States	SCImago #45 · THE 25 · QS 81	5
Uppsala University	Sweden	SCImago #349 · THE 128 · QS 93	4
University of British Columbia	Canada	SCImago #144 · THE 45 · QS 40	3
University of Virginia	United States	SCImago #451 · THE =166 · QS 275	3
ISGlobal	Spain	—	3
World Health Organization	Switzerland	SCImago #172	2
Wageningen University & Research	Netherlands	SCImago #428 · THE 66 · QS =153	2
Willamette Partnership	United States	—	2
University of Glasgow	United Kingdom	SCImago #351 · THE 84 · QS 79	2
University of Michigan	United States	SCImago #43 · THE 23 · QS 45	2

Institution	Country	World ranking	Citing papers
Stanford University	United States	SCImago #18 · THE =5 · QS 3	2
University of Copenhagen	Denmark	SCImago #177 · THE 90 · QS 101	2
University of California, Berkeley	United States	SCImago #95 · THE 9 · QS =17	2
University of Vienna	Austria	THE =95 · QS 152	2

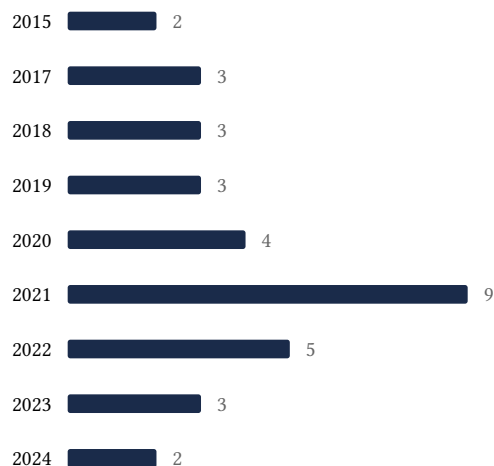
Geographic distribution of citing authors

Country	Citing papers
United Kingdom	15
United States	13
Netherlands	5
Spain	5
Sweden	4
Canada	4
Australia	3
Germany	3
Switzerland	3
Denmark	2
Austria	2
Portugal	2

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	Would you be happier living in a greener urban area? A fixed-effects analysis of panel data	18	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 2	Longitudinal Effects on Mental Health of Moving to Greener and Less Green Urban Areas	5	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 3	Attention Restoration Theory: A systematic review of the attention restoration potential of exposure to natural environments	4	8 CFR 204.5(h)(3)(v) – Criterion 5