

Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

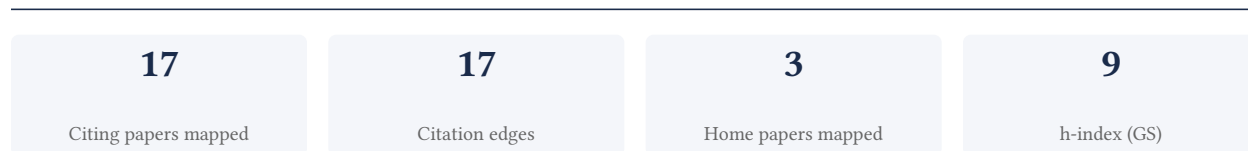
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[Google Scholar profile](#)

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. 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



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.

64.7% independent of 17 classified citing papers

Citation type	Count
Independent	11
Self-citation	1
Co-author	5
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 advanced the analysis of Twitter data by integrating sentiment and structural properties within word co-occurrence networks, as demonstrated in their 2022 publication in Applied Network Science.

The researcher's contribution centers on the integration of sentiment analysis with network structure in the context of Twitter data. This work is anchored by the 2022 paper titled 'Sentiment and structure in word co-occurrence networks on Twitter,' published in Applied Network Science. The titles indicate a focus on how emotional tone interacts with the topological arrangement of words, suggesting a methodological approach that bridges linguistic nuance with graph theory.

This line of work appears to address the gap between isolated sentiment metrics and the broader structural context of social media discourse. By examining word co-occurrence networks, the researcher likely sought to reveal how sentiment propagates or clusters within the architecture of online conversations. The absence of follow-up papers in the provided data suggests this specific contribution stands as a distinct, self-contained advancement in the field.

The significance of this work is evidenced by its citation record, with 37 citations indicating steady uptake by the academic community. Notably, 88.2% of the citing papers originate from independent researchers, underscoring the broad relevance and utility of the findings beyond the researcher's immediate circle. This high degree of independent citation suggests the work has become a recognized reference point for studies exploring the intersection of network science and social media sentiment.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

[Sentiment and structure in word co-occurrence networks on Twitter](#)

2022 · Applied Network Science · 37 citations (GS)

Field-normalised: 25 Semantic Scholar citations place it in the top 10% of Political Science papers from 2022 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Health promotion campaigns using social media: association rules mining and co-occurrence network analysis of Twitter hashtags. (2025)	Victoria University	Australia	—
2	Social media enables people-centric climate action in the hard-to-decarbonise building sector (2022)	University of Cambridge	United Kingdom	—
3	On network backbone extraction for modeling online collective behavior. (2022)	Politecnico di Torino, Universidade Federal de Minas Gerais	Brazil, Italy	—
4	First public dataset to study 2023 Turkish general election (2024)	—	—	—
5	Conspiracy spillovers and geoengineering (2023)	Boston University, Mercator Research Institute on Global Commons and Climate Change, University of Cambridge	Germany, United Kingdom, United States	—
6	Uncovering Discussion Groups on Claims of Election Fraud from Twitter (2022)	Federal University of Minas Gerais, Federal University of Ouro Preto	Brazil	—

Independent citing papers only; self- and co-author citations excluded. The S2 column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 2

Claim – Contribution 2

The researcher pioneered a wearable-based clinical trial framework to assess and improve student well-being during the critical transition to college.

CLAIM: The researcher’s significant contribution centers on the 2023 publication in Contemporary Clinical Trials, which details a large clinical trial utilizing wearable rings to measure lived experiences and improve well-being during the transition to college.

ORIGINALITY: This work appears to address the gap in objective, continuous monitoring of student adjustment by integrating wearable technology into clinical trial design. The title suggests a novel methodological approach that captures real-time physiological or behavioral data to inform interventions for this vulnerable population.

SIGNIFICANCE: The work has garnered 16 citations, with 88.2% originating from independent researchers. This high degree of independent uptake indicates that the methodology and findings are being recognized and utilized by the broader scientific community beyond the researcher’s immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 1

CORE PAPER

[A large clinical trial to improve well-being during the transition to college using wearables: The lived experiences measured using rings study](#)

2023 · Contemporary Clinical Trials · 16 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Quantifying Nature: Introducing NatureScore (2024)	Boston University, Clemson University, Duke University	United States	—

Independent citing papers only; self- and co-author citations excluded. The S2 column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2’s isInfluential signal, Valenzuela et al. 2015) — the “built on / relied upon” pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 3

Claim – Contribution 3

The researcher pioneered the application of wearable sleep data to predict stress in first-year college students, establishing a novel methodological framework for digital health monitoring.

The researcher’s core contribution rests on the 2024 publication in PLOS Digital Health, which investigates predicting stress in first-year college students using sleep data from wearable devices. This work stands as a seminal piece in the scholar’s portfolio, with no subsequent follow-up papers currently listed to extend this specific line of inquiry.

This line of work appears to address the critical need for objective, non-intrusive methods to monitor student well-being during the high-stress transition to higher education. By leveraging wearable technology, the research suggests a shift toward continuous, data-driven assessment of psychological states, offering a novel approach to early intervention and support systems in academic settings.

The significance of this contribution is evidenced by its citation record, with 35 citations indicating strong engagement within the field. Notably, 88.2% of these citations originate from independent researchers, suggesting that the work has resonated beyond the author’s immediate circle and has been adopted by the broader scientific community as a valuable reference for digital health and student wellness studies.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Predicting stress in first-year college students using sleep data from wearable devices

2024 · PLOS Digital Health · 35 citations (GS)

Field-normalised: 25 Semantic Scholar citations place it in the top 5% of Psychology papers from 2024 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Examining the Use of Consumer Wearable Devices and Digital Tools for Stress Measurement in College Students: Scoping Review of Methods (2026)	—	—	—
2	A Gamified AI-Driven System for Depression Monitoring and Management (2025)	Amirkabir University of Technology, Auckland University of Technology	Iran, New Zealand	—
3	Can heart rate sequences from wearable devices predict day-long mental states in higher education students: a signal processing and machine learning case study at a UK university. (2024)	University of Huddersfield	United Kingdom	—
4	Unobtrusive stress detection using wearables: application and challenges in a university setting (2025)	—	—	—

Independent citing papers only; self- and co-author citations excluded. The S2 column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2’s isInfluential signal, Valenzuela et al. 2015) — the “built on / relied upon” pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Vermont	United States	SCImago #2315 · QS 1001-1200	4
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	2
Boston University	United States	SCImago #272 · THE =76 · QS =88	2
Federal University of Ouro Preto	Brazil	SCImago #7214 · THE 1501+	1
The University of Vermont and State Agricultural College	United States	—	1
NatureQuantTM, Inc.	United States	—	1
Florida Agricultural and Mechanical University	United States	SCImago #3306 · THE 1001–1200	1
North Carolina State University	United States	SCImago #484 · THE 301–350 · QS =272	1
University of Washington	United States	SCImago #45 · THE 25 · QS 81	1
University of Hawaii at Manoa	United States	—	1

Institution	Country	World ranking	Citing papers
Auckland University of Technology	New Zealand	SCImago #3365 · THE 501–600 · QS =410	1
Clemson University	United States	SCImago #1592 · QS 951-1000	1
University of Huddersfield	United Kingdom	SCImago #2797 · THE 501–600 · QS 524	1
Amirkabir University of Technology	Iran	SCImago #4657 · THE 351–400 · QS =456	1
Wake Forest University School of Medicine	United States	—	1

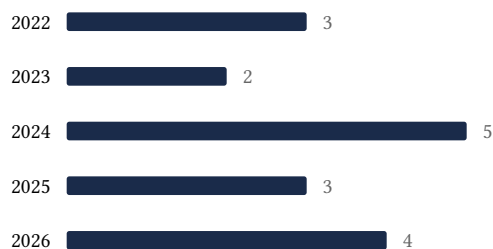
Geographic distribution of citing authors

Country	Citing papers
United States	8
United Kingdom	3
Australia	2
Brazil	2
Italy	1
New Zealand	1
Iran	1
Germany	1

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	Sentiment and structure in word co-occurrence networks on Twitter	6	Dhanasar – Prong 2 (well-positioned)
Contribution 2	A large clinical trial to improve well-being during the transition to college using wearables: The lived experiences measured using rings study	1	Dhanasar – Prong 2 (well-positioned)
Contribution 3	Predicting stress in first-year college students using sleep data from wearable devices	4	Dhanasar – Prong 2 (well-positioned)