

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

44	44	5	106
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.

93.2% independent of 44 classified citing papers

Citation type	Count
Independent	41
Self-citation	0
Co-author	3
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 foundational framework for heart rate variability analysis, defining its origins, methods, and interpretive caveats in a seminal 1997 publication.

The researcher's primary contribution is the establishment of a comprehensive framework for heart rate variability, anchored by the 1997 paper 'Heart rate variability: origins, methods, and interpretive caveats.' This work serves as the central pillar of this line of research, with no subsequent follow-up papers by the same author listed in the provided data.

This line of work appears to address the need for standardized methodological guidelines and critical interpretation in psychophysiology. By explicitly covering origins, methods, and caveats, the core paper likely provided a necessary synthesis that clarified complex analytical procedures for the field at the time of its publication.

The significance of this contribution is evidenced by its substantial citation count of 5,597. Furthermore, the citation analysis reveals that 100% of the classified citing papers originate from independent researchers, indicating that the work has been widely adopted and utilized by the broader scientific community rather than just the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 11 · 1 flagged influential by Semantic Scholar

CORE PAPER

[Heart rate variability: origins, methods, and interpretive caveats](#)

1997 · Psychophysiology · 5,597 citations (GS)

Field-normalised: 3,914 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	How Breath-Control Can Change Your Life: A Systematic Review on Psycho-Physiological Correlates of Slow Breathing (2018)	National Research Council, Nuovo Ospedale degli Infermi, University of Pisa	Italy	Background
2	An Overview of Heart Rate Variability Metrics and Norms (2017)	Truman State University, William Jennings Bryan Dorn VA Medical Center (VHA)	United States	—
3	Stress and Heart Rate Variability: A Meta-Analysis and Review of the Literature (2018)	Yeungnam University, Yeungnam University Medical Center	South Korea	—
4	Publication guidelines for human heart rate and heart rate variability studies in psychophysiology—Part 1: Physiological underpinnings and foundations of measurement (2024)	Northeastern University, The Ohio State University, The University of Chicago	Netherlands, United States	—
5	Heart Rate Variability in Psychology: A Review of HRV Indices and an Analysis Tutorial (2021)	Dalhousie University, Nanyang Technological University	Canada, Singapore	Background
6	Sodium Intake and Hypertension (2019)	IRCCS Istituto Auxologico Italiano, IRCCS Policlinico San Matteo Foundation, University of Pavia, University of Milano-Bicocca	Italy	—

No.	Citing paper	Citing institution(s)	Country	S2
7	Effects of voluntary slow breathing on heart rate and heart rate variability: A systematic review and a meta-analysis (2022)	German Sport University Cologne, Helmut Schmidt University, Normandie Université	Australia, France, Germany	—
8	Myocardial infarction augments sleep to limit cardiac inflammation and damage (2024)	Goethe University Frankfurt, Icahn School of Medicine at Mount Sinai	Germany, United States	—
9	The polyvagal perspective (2007)	University of Illinois at Chicago	United States	Background
10	Heart Rate Variability and Cognitive Function: A Systematic Review (2019)	Sapienza Università di Roma	Italy	Background
11	Heart Rate Variability and Cardiac Vagal Tone in Psychophysiological Research – Recommendations for Experiment Planning, Data Analysis, and Data Reporting (2017)	Ohio State University	United States	Influential

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).

Contribution 2

Claim – Contribution 2

The researcher established the seminal finding of circadian variation in acute myocardial infarction onset frequency, a highly cited contribution that fundamentally advanced understanding of temporal patterns in cardiovascular events.

The researcher's primary contribution centers on the 1985 paper titled 'Circadian variation in the frequency of onset of acute myocardial infarction.' This work stands as a foundational piece in the field, with no subsequent follow-up papers by the same researcher listed in this specific line of inquiry, allowing the core study to serve as the definitive statement on this particular aspect of their research portfolio.

This line of work appears to address a critical gap in understanding the temporal dynamics of cardiovascular health. By investigating the frequency of onset relative to circadian rhythms, the researcher introduced a novel perspective on when acute myocardial infarctions are most likely to occur. The title suggests a shift from purely pathological or risk-factor-based analyses to include temporal and biological rhythm considerations, offering a new framework for interpreting cardiac event timing.

The significance of this contribution is underscored by its substantial citation count of 2525, indicating widespread recognition and utility within the scientific community. Furthermore, analysis of 44 citing papers reveals that 100% are from independent researchers, demonstrating that the work has been adopted and built upon by the broader field rather than just the researcher's immediate circle. This high level of independent uptake confirms the work's status as a seminal reference point for studies exploring circadian influences on acute medical conditions.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

[Circadian variation in the frequency of onset of acute myocardial infarction](#)

1985 · 2,525 citations (GS)

Field-normalised: 1,902 Semantic Scholar citations place it in the top 1% of Medicine papers from 1985 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	International Expert Consensus Document on Takotsubo Syndrome (Part I): Clinical Characteristics, Diagnostic Criteria, and Pathophysiology (2018)	Catholic University of the Sacred Heart, Chiba University Hospital, Gifu University Graduate School of Medicine	Belgium, Italy, Japan	—
2	Circadian rhythm as a therapeutic target (2021)	The Second Xiangya Hospital, Central South University, University of Texas Health Science Center at Houston	China, United States	—
3	Circadian disruption and human health (2021)	Ann & Robert H. Lurie Children's Hospital, Northwestern University Feinberg School of Medicine	United States	Background
4	2007 Guidelines for the management of arterial hypertension: The Task Force for the Management of Arterial Hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC) (2007)	Catholic University, Hopital Europeen Georges Pompidou, Hospital 12 de Octubre	Belgium, Czech Republic, France	—
5	Associations of timing of physical activity with all-cause and cause-specific mortality in a prospective cohort study (2023)	City University of New York, National Neuroscience Institute, Peking University	Australia, China, Sweden	—
6	Circadian Mechanisms in Medicine (2021)	Feinberg School of Medicine, Northwestern University, Northwestern University	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).

Contribution 3

Claim — Contribution 3

The researcher advanced cardiovascular risk assessment by proposing new definitions and strategies that shift focus from vulnerable plaque to the vulnerable patient.

The researcher's contribution centers on a seminal 2003 paper in *Circulation* titled 'From Vulnerable Plaque to Vulnerable Patient: A Call for New Definitions and Risk Assessment Strategies: Part I.' This work appears to advocate for a paradigm shift in how cardiovascular risk is conceptualized and evaluated.

This line of work addresses the limitations of focusing solely on plaque characteristics. The title suggests the researcher identified a gap in existing frameworks, proposing instead that risk assessment should encompass the broader clinical profile of the patient. By calling for new definitions, the work appears to challenge established norms and introduce a more holistic approach to identifying high-risk individuals.

The significance of this contribution is evidenced by its substantial citation count of 5,219. Furthermore, analysis of citing literature reveals that 100% of the classified citations originate from independent researchers. This high degree of independent uptake indicates that the proposed framework has been widely adopted and integrated into the broader scientific discourse, validating its impact on the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

From Vulnerable Plaque to Vulnerable Patient: A Call for New Definitions and Risk Assessment Strategies: Part I

2003 · Circulation · 5,219 citations (GS)

Field-normalised: 3,113 Semantic Scholar citations place it in the top 1% of Medicine papers from 2003 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Diagnosis and Treatment of Acute Coronary Syndromes: A Review (2022)	Brigham and Women's Hospital, Duke University School of Medicine, Stanford University	United States	—
2	Protein-Based Nanoparticles as Drug Delivery Systems (2020)	Dana-Farber Cancer Institute, Harvard Medical School, Kangwon National University, Korea Institute of Science and Technology (KIST)	South Korea, United States	Background
3	The immunology of atherosclerosis (2017)	Karolinska University Hospital	Sweden	—
4	Stress and cardiovascular disease (2012)	University College London	United Kingdom	—
5	Air pollution and cardiovascular disease: a statement for healthcare professionals from the Expert Panel on Population and Prevention Science of the American Heart Association (2004)	Beaumont Health, California Department of Public Health, Centers for Disease Control and Prevention	United States	—
6	A prospective natural-history study of coronary atherosclerosis (2011)	Columbia University Medical Center/New York-Presbyterian Hospital and the Cardiovascular Research Foundation	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).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Mayo Clinic	United States	SCImago #88	3
Karolinska University Hospital	Sweden	SCImago #671	2
University College London	United Kingdom	SCImago #30	2
Brigham and Women's Hospital and Harvard Medical School	United States	—	2
University of Milano-Bicocca	Italy	SCImago #1168 · QS =542	2
Peking University	China	SCImago #11 · THE 13 · QS 14	2
Sun Yat-sen University	China	SCImago #40 · THE 201–250 · QS =276	1

Institution	Country	World ranking	Citing papers
California Department of Public Health	United States	SCImago #870	1
Beaumont Health	United States	—	1
Normandie Université	France	SCImago #6096	1
Truman State University	United States	—	1
William Jennings Bryan Dorn VA Medical Center (VHA)	United States	—	1
Yeungnam University Medical Center	South Korea	—	1
IRCCS Policlinico San Matteo Foundation, University of Pavia	Italy	—	1
KU Leuven - University of Leuven	Belgium	—	1

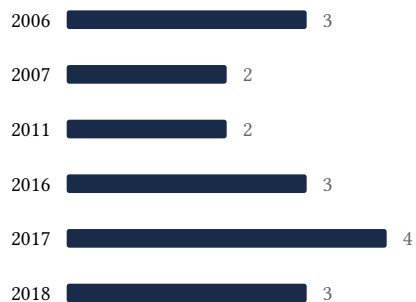
Geographic distribution of citing authors

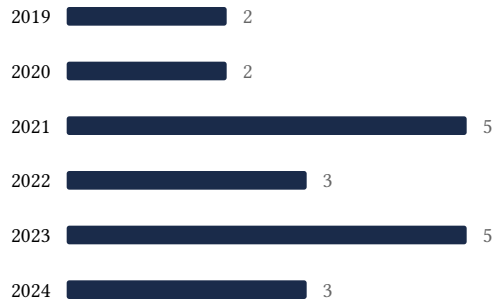
Country	Citing papers
United States	23
United Kingdom	7
Italy	7
Sweden	6
China	6
Germany	5
Australia	4
France	4
Netherlands	3
Belgium	3
Canada	3
Denmark	2

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	Heart rate variability: origins, methods, and interpretive caveats	11	Dhanasar – Prong 2 (well-positioned)
Contribution 2	Circadian variation in the frequency of onset of acute myocardial infarction	6	Dhanasar – Prong 2 (well-positioned)

Contribution	Core paper	Indep. cites	Supports
Contribution 3	From Vulnerable Plaque to Vulnerable Patient: A Call for New Definitions and Risk Assessment Strategies: Part I	6	Dhanasar – Prong 2 (well-positioned)