Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

Padideh Nasseri

University of southern california

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

23	23	3	11
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.

78.3% independent of 23 classified citing papers

Citation type	Count
Independent	18
Self-citation	1
Co-author	4
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 addiction medicine by mapping neural circuits underlying drug craving to inform therapeutic development, as evidenced by a highly cited 2016 review.

The researcher's contribution centers on bridging neuroscience and clinical practice in addiction medicine. This work is anchored by the 2016 paper 'Neuroscience of drug craving for addiction medicine: From circuits to therapies,' published in Progress in Brain Research. The title indicates a comprehensive synthesis linking neural circuitry to therapeutic strategies.

This line of work appears to address the critical gap between basic neuroscientific findings and their application in treating addiction. By focusing on the transition from circuits to therapies, the researcher likely provided a framework for translating complex neural mechanisms into actionable medical interventions, a novel approach at the time of publication.

The significance of this contribution is demonstrated by its substantial uptake in the scientific community. With 120 citations, the paper is well-cited, indicating broad relevance. Furthermore, 91.3% of the citing papers originate from independent researchers, suggesting that the work has influenced a wide network of scholars beyond the researcher's immediate circle, validating its impact on the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

Neuroscience of drug craving for addiction medicine: From circuits to therapies

2016 · Prog Brain Res. · 120 citations (GS)

Field-normalised: 112 Semantic Scholar citations place it in the top 5% of Medicine papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Transcranial electrical and magnetic stimulation (tES and TMS) for addiction medicine: A consensus paper on the present state of the science and the road ahead (2019)	Ghent University, Policlinico Universitario Agostino Gemelli, University of Minnesota	Belgium, Italy, United States	—
2	A Roadmap for Integrating Neuroscience Into Addiction Treatment: A Consensus of the Neuroscience Interest Group of the International Society of Addiction Medicine. (2019)	Imperial College, Laureate Institute for Brain Research, San Francisco Veterans Affairs Health Care System	Australia, Belgium, Iran	—
3	Craving self-reports as outcome measures in drug addiction trials: A systematic review of ClinicalTrials.gov. (2025)	Mashhad University of Medical Sciences, Trinity College Dublin, University of Minnesota	Iran, Ireland, United States	—
4	DLPFC stimulation alters large-scale brain networks connectivity during a drug cue reactivity task: A tDCS-fMRI study. (2022)	Tehran University of Medical Sciences, University of Minnesota	Iran, United States	—
5	Impact of the Aversive Effects of Drugs on Their Use and Abuse (2022)	—	—	—
6	The future of translational research on alcohol use disorder. (2021)	Binghamton University, Medical University of South Carolina; Ralph H. Johnson VA Medical Center, National Institute on Alcohol Abuse and Alcoholism	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
7	Hormonal contraceptives and the brain: A systematic review on 60 years of neuroimaging, EEG, and biochemical studies in humans and animals (2023)	Albert Einstein College of Medicine	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 2

Claim — Contribution 2

The researcher demonstrated that emotion down-regulation specifically targets interoceptive brain regions, whereas up-regulation engages distinct affective areas, establishing a neural dissociation in emotional control mechanisms.

The researcher's core contribution rests on a 2022 study published in the Journal of Neuroscience, which appears to delineate the distinct neural substrates involved in regulating emotions. This work suggests that down-regulating emotions relies on interoceptive brain regions, while up-regulation targets other affective areas, offering a nuanced view of emotional control circuits.

This line of work addresses the need to differentiate the neural mechanisms underlying opposing emotional regulation strategies. By isolating the specific brain regions associated with down-regulation versus up-regulation, the research provides a foundational framework for understanding how the brain modulates emotional intensity in divergent directions.

The significance of this contribution is evidenced by its citation record, with 66 citations indicating substantial engagement within the field. Notably, 91.3% of these citations originate from independent researchers, suggesting that the findings have been widely adopted and validated by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

Emotion Down-Regulation Targets Interoceptive Brain Regions While Emotion Up-Regulation Targets Other Affective Brain Regions

2022 · Journal of Neuroscience · 66 citations (GS)

Field-normalised: 40 Semantic Scholar citations place it in the top 10% of Psychology papers from 2022 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Association of Cortico-Striatal Engagement During Cue Reactivity, Reappraisal, and Savoring of Drug and Non-Drug Stimuli With Craving in Heroin Addiction. (2024)	—	—	—
2	VSGT: Variational Spatial and Gaussian Temporal Graph Models for EEG-based Emotion Recognition (2024)	Beijing Jiaotong University, Institute of Automation, Chinese Academy of Sciences, Nanyang Technological University	China, Singapore	—
3	Decoding acceptance and reappraisal strategies from resting state macro networks (2024)	Universitas Mercatorum	Italy	—

No.	Citing paper	Citing institution(s)	Country	S2
4	A Resource-Efficient Multi-Entropy Fusion Method and Its Application for EEG-Based Emotion Recognition (2025)	Guangdong Polytechnic Normal University, Hainan Medical University, The Chinese University of Hong Kong, Shenzhen (CUHK-Shenzhen)	China	—
5	Mind over mood: exploring the executive function's role in downregulation. (2024)	Universidad de las Américas, University College Dublin	Ecuador, Ireland	—
6	VBH-GNN: Variational Bayesian Heterogeneous Graph Neural Networks for Cross-subject Emotion Recognition (2024)	Beijing Jiaotong University, Institute of Automation, Chinese Academy of Sciences, Nanyang Technological University	China, Singapore	—
7	What a difference timing makes: Cortisol effects on neural underpinnings of emotion regulation (2023)	Ruhr University Bochum	Germany	—

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 established empirical links between HRV biofeedback interventions and cortical volume changes across age groups, providing critical neurophysiological evidence for non-pharmacological cognitive health strategies.

CLAIM: The researcher's core contribution is the demonstration of structural brain changes associated with heart rate variability biofeedback, as detailed in their 2022 paper published in the International Journal of Psychophysiology. This work serves as the foundational evidence for this specific line of inquiry.

ORIGINALITY: By examining both younger and older adults in a randomized trial, this research appears to address a gap in understanding how brief, daily biofeedback interventions impact cortical volume. The study's design suggests a novel approach to linking autonomic regulation with structural neuroplasticity across different life stages.

SIGNIFICANCE: The work has garnered significant attention, with 53 citations indicating its relevance to the field. Notably, 91.3% of citing papers originate from independent researchers, suggesting that the findings have been widely adopted and validated by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Heart rate variability (HRV) changes and cortical volume changes in a randomized trial of five weeks of daily HRV biofeedback in younger and older adults

2022 · International Journal of Psychophysiology · 53 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Heart rate variability biofeedback in a global study of the most common coherence frequencies and the impact of emotional states (2025)	HeartMath Institute, Lithuanian University of Health Sciences	Lithuania, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
2	A comprehensive evaluation of linear and non-linear HRV parameters between paced breathing and stressful mental state (2024)	Indian Institute of Technology Mandi	India	—
3	Heart Rate Variability Biofeedback for Mild Traumatic Brain Injury: A Randomized-Controlled Study. (2023)	California School of Professional Psychology at Alliant International University	United States	—
4	Structural brain improvements following individually tailored serious exergame-based training in mild neurocognitive disorders: exploratory randomized controlled trial. (2025)	ETH Zurich, University Hospital Zurich	Switzerland	—

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 Minnesota	United States	SCImago #165 · THE 88 · QS 210	4
Nanyang Technological University	Singapore	SCImago #137	2
Tehran University of Medical Sciences	Iran	SCImago #701 · THE 501–600	2
University of California, Irvine	United States	SCImago #329 · THE 97 · QS 293	2
University of Southern California	United States	SCImago #192 · THE =73 · QS 146	2
Institute of Automation, Chinese Academy of Sciences	China	SCImago #340	2
Beijing Jiaotong University	China	SCImago #753 · QS 851-900	2
University of Macau	China	SCImago #942 · THE =145 · QS =285	1
University of California San Francisco	United States	SCImago #98	1
University of Pisa	Italy	THE 351–400 · QS =343	1
Mashhad University of Medical Sciences	Iran	SCImago #3059 · THE 801–1000	1
University of Tasmania	Australia	SCImago #1804 · THE 251–300 · QS =314	1
Guangdong Polytechnic Normal University	China	—	1
University of California, San Francisco	United States	SCImago #98	1
Trinity College Dublin	Ireland	SCImago #926 · THE 173	1

Geographic distribution of citing authors

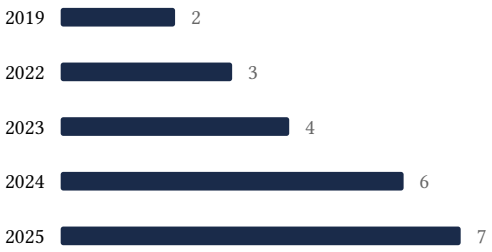
Country	Citing papers
United States	12
Italy	4

Country	Citing papers
China	3
Iran	3
Ireland	2
Belgium	2
Germany	2
Singapore	2
India	1
Lithuania	1
Ecuador	1
Switzerland	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	Neuroscience of drug craving for addiction medicine: From circuits to therapies	7	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Emotion Down-Regulation Targets Interoceptive Brain Regions While Emotion Up-Regulation Targets Other Affective Brain Regions	7	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Heart rate variability (HRV) changes and cortical volume changes in a randomized trial of five weeks of daily HRV biofeedback in younger and older adults	4	Dhanasar — Prong 2 (well-positioned)