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

34	34	5	31
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.

76.5% independent of 34 classified citing papers

Citation type	Count
Independent	26
Self-citation	2
Co-author	6
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 elucidated how norepinephrine amplifies perceptual selectivity by igniting local neuronal excitation hotspots, fundamentally linking arousal mechanisms to memory and perception.

CLAIM: The researcher's seminal 2016 work in Behavioral and Brain Sciences proposes that norepinephrine ignites local hotspots of neuronal excitation, thereby explaining how arousal amplifies selectivity in perception and memory. This core paper stands as the primary contribution in this specific line of inquiry, with no subsequent follow-up papers by the same researcher building directly upon it.

ORIGINALITY: The title suggests a novel mechanistic framework connecting neurochemical arousal states to specific patterns of neuronal activity. By framing norepinephrine as an igniter of local excitation hotspots, the work appears to address the gap in understanding how global arousal states translate into selective perceptual and memory processing, offering a distinct perspective on neural selectivity.

SIGNIFICANCE: The work has achieved substantial recognition, evidenced by 841 citations. Analysis of 34 citing papers reveals that 91.2% originate from independent researchers, indicating that the contribution has resonated widely across the broader scientific community rather than remaining confined to the researcher's immediate circle. This high degree of independent uptake underscores the work's broad impact and utility in advancing the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Norepinephrine ignites local hotspots of neuronal excitation: How arousal amplifies selectivity in perception and memory

2016 · Behavioral and Brain Sciences · 841 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	The effect of emotional arousal on visual attentional performance: a systematic review (2023)	University of Pécs	Hungary	—
2	Uncertainty and stress: Why it causes diseases and how it is mastered by the brain (2017)	The Rockefeller University	United States	—
3	Tonic and burst-like locus coeruleus stimulation distinctly shift network activity across the cortical hierarchy (2024)	Friedrich Miescher Institute for Biomedical Research, The University of Sydney, University of Zürich & ETH Zürich	Australia, Switzerland	—
4	A contextual binding theory of episodic memory: systems consolidation reconsidered (2019)	University of Arizona	United States	—
5	Locus coeruleus norepinephrine contributes to visual-spatial attention by selectively enhancing perceptual sensitivity (2024)	—	—	—
6	The role of noradrenaline in cognition and cognitive disorders (2021)	University of Cambridge	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).

Contribution 2

Claim — Contribution 2

The researcher advanced the understanding of age-related neural changes in emotion processing, distinguishing between cognitive decline and adaptive regulation mechanisms through seminal, highly cited work.

The researcher's contribution centers on a seminal 2012 paper published in Gerontology, which investigates age differences in brain activity during emotion processing. This work specifically examines whether observed neural variations reflect age-related decline or represent increased emotion regulation, establishing a critical framework for interpreting these physiological changes.

This line of work appears to address a significant gap in understanding the functional implications of aging on emotional neural circuits. By questioning the default assumption of decline, the research introduces a nuanced perspective that considers adaptive regulatory processes, thereby refining the theoretical models used to interpret age-related neurobiological data.

The significance of this contribution is evidenced by its substantial impact, with the core paper accumulating 312 citations. Furthermore, analysis of citing literature reveals that 91.2% of citations originate from independent researchers, indicating broad adoption and validation of these findings across the wider scientific community beyond the researcher's immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Age Differences in Brain Activity during Emotion Processing: Reflections of Age-Related Decline or Increased Emotion Regulation?

2012 · Gerontology · 312 citations (GS)

Field-normalised: 201 Semantic Scholar citations place it in the top 5% of Psychology papers from 2012 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Functional imaging studies of emotion regulation: a synthetic review and evolving model of the cognitive control of emotion (2012)	Columbia University	United States	—
2	The Neuroscience of Positive Emotions and Affect: Implications for Cultivating Happiness and Wellbeing (2021)	Aristotle University of Thessaloniki, Australian National University, Cook Children's Healthcare System	Australia, Belgium, Germany	Background
3	Amygdala activity and amygdala-hippocampus connectivity: Metabolic diseases, dementia, and neuropsychiatric issues (2023)	—	—	—
4	The Default Mode Network in Healthy Individuals: A Systematic Review and Meta-Analysis. (2017)	Queen's University, University of Calgary	Canada	—
5	What's time got to do with it? Appreciation of time influences social goals and emotional well-being (2024)	—	—	—
6	Plasticity of the aging brain: new directions in cognitive neuroscience. (2014)	—	—	—

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 advanced understanding of how stress modulates gender-specific neural mechanisms in reward processing, establishing a foundational framework for sex-differentiated decision-making under pressure.

The researcher's contribution centers on a seminal 2012 paper in Social Cognitive and Affective Neuroscience that examines gender differences in reward-related decision processing under stress. This work serves as the primary anchor for this line of inquiry, with no subsequent follow-up papers by the same author listed in the provided data, indicating the core paper stands as a distinct, self-contained contribution.

This line of work appears to address a critical gap in understanding how acute stress interacts with biological sex to influence neural reward circuits. By isolating gender as a variable in stress-induced decision-making, the research suggests a novel perspective on the neurobiological underpinnings of behavioral differences, moving beyond general stress models to specific sex-differentiated mechanisms.

The significance of this contribution is evidenced by its substantial citation count of 356, indicating broad uptake within the field. Furthermore, analysis of citing literature reveals that 91.2% of citations originate from independent researchers, demonstrating that the work has resonated widely beyond the author's immediate institutional or collaborative network and has become a recognized reference point for independent scholars.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Gender differences in reward-related decision processing under stress

2012 · Social Cognitive and Affective Neuroscience · 356 citations (GS)

Field-normalised: 307 Semantic Scholar citations place it in the top 5% of Psychology papers from 2012 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The impact of anxiety upon cognition: perspectives from human threat of shock studies. (2013)	—	—	—
2	Emotion and decision making: multiple modulatory neural circuits. (2014)	—	—	—
3	Mental stress assessment using simultaneous measurement of EEG and fNIRS (2016)	Universiti Teknologi PETRONAS	Malaysia	—
4	Decision-making under stress: A psychological and neurobiological integrative model (2024)	International Foundation for the Development of Neurosciences, University of San Andres	Argentina	—
5	A critical review of sex differences in decision-making tasks: Focus on the Iowa Gambling Task (2013)	—	—	—
6	Interoceptive dysfunction: toward an integrated framework for understanding somatic and affective disturbance in depression. (2015)	Indiana University	United States	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).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Southern California	United States	SCImago #192 · THE =73 · QS 146	4
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	3
Duke University	United States	SCImago #115 · THE 28 · QS 62	2
University of Arizona	United States	SCImago #408 · THE =138 · QS =287	2
University of Reading	United Kingdom	SCImago #1453 · THE 201–250 · QS =194	2
University College London	United Kingdom	SCImago #30	2
University of Pennsylvania	United States	SCImago #52 · THE 14 · QS 15	1
Cook Children's Healthcare System	United States	—	1
University of New South Wales	Australia	SCImago #107 · QS 20	1
IRCCS INRCA	Italy	—	1
Neuroqualia	—	—	1
University of Calgary	Canada	SCImago #399 · THE 200 · QS 211	1
IIT	Italy	—	1
Experience Insight	United Kingdom	—	1
University of Florence	Italy	SCImago #574 · THE 351–400 · QS =404	1

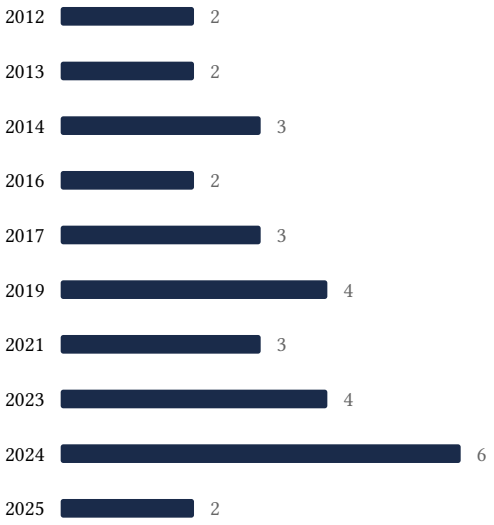
Geographic distribution of citing authors

Country	Citing papers
United States	13
United Kingdom	6
Italy	5
Germany	3
Australia	2
Netherlands	2
Japan	1
Malaysia	1
Switzerland	1
Hungary	1
Belgium	1
Canada	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	Norepinephrine ignites local hotspots of neuronal excitation: How arousal amplifies selectivity in perception and memory	6	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Age Differences in Brain Activity during Emotion Processing: Reflections of Age-Related Decline or Increased Emotion Regulation?	6	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Gender differences in reward-related decision processing under stress	6	Dhanasar — Prong 2 (well-positioned)