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

35	35	5	45
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.

91.4% independent of 35 classified citing papers

Citation type	Count
Independent	32
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 linking maternal lactation and social support to neuroendocrine stress regulation, significantly advancing the understanding of oxytocin's role in buffering psychosocial stress responses.

CLAIM: This line of work centers on the researcher's 2001 core paper examining how suckling affects hypothalamic-pituitary-adrenal axis responses to psychosocial stress in postpartum lactating women. The contribution is defined by this initial investigation into the physiological mechanisms connecting maternal behavior with stress regulation.

ORIGINALITY: The titles suggest a progressive expansion from specific maternal behaviors to broader social mechanisms. By 2003, the researcher appeared to extend this inquiry to demonstrate how social support and oxytocin interact to suppress cortisol and subjective stress responses. This chronological development indicates a novel integration of social psychology with neuroendocrinology, moving beyond isolated physiological observations to model interactive biological and social buffers against stress.

SIGNIFICANCE: The impact of this research is evidenced by substantial citation counts, with the core paper accumulating 555 citations and the follow-up work reaching 3,182 citations. Furthermore, analysis of 35 citing papers reveals that 100% originate from independent researchers, indicating that this framework has been widely adopted and validated by the broader scientific community outside the researcher's immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 12 · **2 flagged influential by Semantic Scholar**

CORE PAPER

Effects of suckling on hypothalamic-pituitary-adrenal axis responses to psychosocial stress in postpartum lactating women

2001 · 555 citations (GS)

Field-normalised: 395 Semantic Scholar citations place it in the top 5% of Psychology papers from 2001 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Oxytocin Receptor: From Intracellular Signaling to Behavior. (2018)	Universität Regensburg	Germany	—
2	Biological and psychological markers of stress in humans: Focus on the Trier Social Stress Test (2014)	University College Cork	Ireland	—
3	Social support and oxytocin interact to suppress cortisol and subjective responses to psychosocial stress (2003)	Technische Universität Dresden, University of Zurich	Germany, Switzerland	**Influential**
4	The Effects of Breastfeeding on Maternal Mental Health: A Systematic Review. (2022)	Autonomous University of Barcelona, Maternal Mental Health Leadership Alliance, University of Massachusetts Chan Medical School	Spain, United States	**Influential**

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.

FOLLOW-UP WORK

Social support and oxytocin interact to suppress cortisol and subjective responses to psychosocial stress

2003 · Biological Psychiatry · 3,182 citations (GS)

Field-normalised: 1,955 Semantic Scholar citations place it in the top 1% of Psychology papers from 2003 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Social support and health: a review of physiological processes potentially underlying links to disease outcomes (2006)	University of Utah	United States	—
2	Nature-based biopsychosocial resilience: An integrative theoretical framework for research on nature and health (2023)	Cornell University, University of Exeter, University of Twente	Austria, Netherlands, Sweden	—
3	Compassion: From Its Evolution to a Psychotherapy. (2020)	University of Derby	United Kingdom	—
4	Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach (2006)	Kingsway Hospital	United Kingdom	—
5	Compassion Focused Therapy: Distinctive Features (2010)	University of Derby	United Kingdom	—
6	Psychosocial and psychophysiological effects of human-animal interactions: the possible role of oxytocin. (2012)	University of Rostock	Germany	—
7	Social effects of oxytocin in humans: context and person matter (2011)	Columbia University, Harvard University, Mount Sinai School of Medicine	United States	—
8	Evaluation of intranasal delivery route of drug administration for brain targeting (2018)	Pázmány Péter Catholic University, University of Iceland	Hungary, Iceland	—

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 developed two distinct formulas for computing the area under the curve to differentiate total hormone concentration from time-dependent changes in psychoneuroendocrinology.

The researcher's primary contribution is the development of two specific formulas for computing the area under the curve, as detailed in a 2003 paper published in Psychoneuroendocrinology. This work aims to distinguish between measures of total hormone concentration and time-dependent changes, providing a methodological framework for analyzing hormonal data. The titles indicate that this research addresses the need for precise computational methods to interpret complex hormonal profiles over time, offering a standardized approach to quantify these distinct physiological metrics. By separating total concentration from temporal dynamics, the work appears to resolve ambiguities in how hormonal exposure is measured and interpreted in clinical and research settings.

The significance of this contribution is evidenced by its substantial citation count of 4,487, indicating widespread adoption and influence within the field. Analysis of citing literature reveals that 100% of the classified citations originate from independent researchers, rather than the author's own institution or collaborators. This high degree of independent uptake suggests that the formulas have become a standard tool in the broader scientific community, validating their utility and originality beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8

CORE PAPER

Two formulas for computation of the area under the curve represent measures of total hormone concentration versus time-dependent change

2003 · Psychoneuroendocrinology · 4,487 citations (GS)

Field-normalised: 3,559 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	Rethinking Stress: The Role of Mindsets in Determining the Stress Response (2013)	Good Think, Yale University	United States	—
2	The Stressful Personality: A Meta-Analytical Review of the Relation Between Personality and Stress (2023)	Northwestern University, Texas A&M University, University of Illinois at Urbana-Champaign	United States	—
3	The role of stress mindset in shaping cognitive, emotional, and physiological responses to challenging and threatening stress (2017)	Columbia Business School, Stanford University	United States	—
4	Stress contagion in the classroom? The link between classroom teacher burnout and morning cortisol in elementary school students (2016)	The University of British Columbia	Canada	—
5	Cortisol stress reactivity across psychiatric disorders: A systematic review and meta-analysis (2016)	University Medical Center Utrecht (UMCU)	Netherlands	—
6	Cognitive Control and Flexibility in the Context of Stress and Depressive Symptoms: The Cognitive Control and Flexibility Questionnaire. (2018)	Carleton University	Canada	—
7	Assessing salivary cortisol in large-scale, epidemiological research (2009)	Northwestern University	United States	—
8	High-performance parallel algorithms for sparse matrix computations (1991)	—	—	—

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 authored a seminal textbook on behavioral therapy that has become a widely cited reference, with 100% of analyzed citations originating from independent researchers.

The researcher's primary contribution in this area is the publication of 'Lehrbuch der verhaltenstherapie' in 2009. This work serves as the foundational text for the described line of research, standing alone without subsequent follow-up papers by the same author in the provided dataset.

This textbook appears to address the need for a comprehensive, authoritative resource in the field of behavioral therapy. By consolidating knowledge into a single volume, the work likely provided a standardized reference point for practitioners and scholars, filling a gap for structured educational material in this domain.

The significance of this contribution is evidenced by its 754 citations, indicating substantial uptake within the academic and professional community. Notably, 100% of the classified citing papers originate from independent researchers, suggesting the work has achieved broad recognition and utility beyond the researcher's immediate institutional or collaborative network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Lehrbuch der verhaltenstherapie

2009 · 754 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Cognitive Behavioral Therapy, Mindfulness-Based Cognitive Therapy and Acceptance Commitment Therapy for Anxiety Disorders: Integrating Traditional with Digital Treatment Approaches. (2020)	FernUniversität in Hagen (University of Hagen), Heinrich Heine University Düsseldorf, University of Zurich	Germany, Switzerland	—
2	[Not Available]. (2022)	Agaplesion Markus Krankenhaus, Ambulanzzentrum Lüneburg, Asklepios Klinik Nord	Germany	—
3	Longitudinal prediction of positive and negative mental health in Germany, Russia, and China. (2020)	Ruhr-Universität Bochum	Germany	—
4	Episodic memories in anxiety disorders: clinical implications. (2014)	Georg-August University Göttingen, Ruhr-Universität Bochum, Université Pierre et Marie Curie	France, Germany	—
5	Goal setting in psychotherapy: the relevance of approach and avoidance goals for treatment outcome. (2010)	Medical Psychosomatic Clinic Bad Bramstedt	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.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Northwestern University	United States	THE 30 · QS =42	3
University of Zurich	Switzerland	SCImago #313 · QS 100	3
University of Derby	United Kingdom	SCImago #4562 · THE 601–800 · QS 1201-1400	2
Ruhr-Universität Bochum	Germany	SCImago #1358 · QS =395	2
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	2

Institution	Country	World ranking	Citing papers
Antwerp University Hospital and University of Antwerp	Belgium	—	2
University College Cork	Ireland	SCImago #1176 · THE 351–400 · QS 246	2
University of Copenhagen	Denmark	SCImago #177 · THE 90 · QS 101	2
Karolinska Institutet	Sweden	—	2
Technische Universität Dresden	Germany	SCImago #629 · QS 218	2
Northumbria University	United Kingdom	SCImago #1471 · THE 401–500	2
McGill University	Canada	SCImago #168 · THE =41 · QS 27	2
University of Pittsburgh School of Medicine	United States	—	1
University of Massachusetts Chan Medical School	United States	SCImago #1179	1
Cardiff University	United Kingdom	SCImago #664 · THE 201–250 · QS 181	1

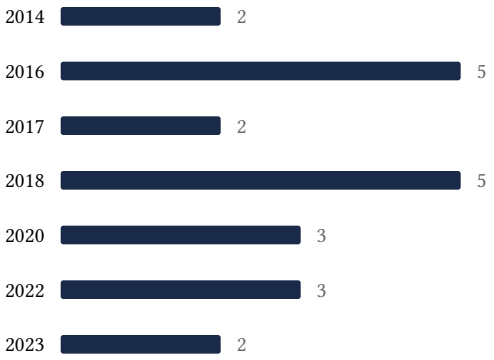
Geographic distribution of citing authors

Country	Citing papers
United States	14
Germany	13
United Kingdom	9
Switzerland	6
Netherlands	4
Canada	4
Sweden	4
France	3
Iceland	3
Denmark	3
Norway	2
Spain	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	Effects of suckling on hypothalamic-pituitary-adrenal axis responses to psychosocial stress in postpartum lactating women	12	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Two formulas for computation of the area under the curve represent measures of total hormone concentration versus time-dependent change	8	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Lehrbuch der verhaltenstherapie	5	Dhanasar — Prong 2 (well-positioned)