

# Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

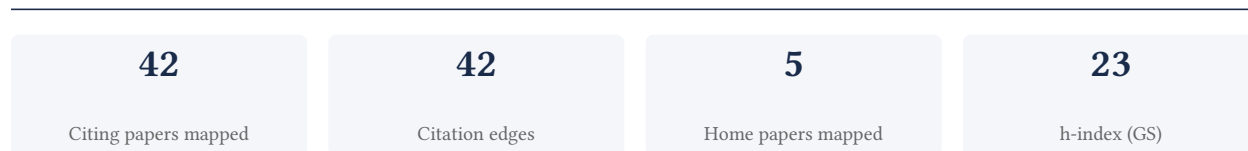
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Apple

[Google Scholar profile](#)

**Generated 2026-05-21 by CiteMap.** This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Criterion 5 (original contributions of major significance). 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.

**100.0% independent** of 42 classified citing papers

Citation type	Count
Independent	42
Self-citation	0
Co-author	0
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 understanding of how negative symptoms and social motivation impair social functioning in psychosis, establishing a framework linking basic reward processes to clinical outcomes.*

The researcher's contribution centers on modeling the role of negative symptoms in determining social functioning among individuals at clinical high risk for psychosis, as established in a 2015 core paper. This work provides a foundational perspective on how specific symptom clusters impact social outcomes in early-stage psychosis.

This line of work appears to address the gap between basic neurobiological mechanisms and clinical social deficits. By following up with a 2018 review in *Current Opinion in Psychiatry*, the researcher expanded the scope to examine how research on basic reward processes informs and limits the understanding of social motivation in schizophrenia, suggesting a theoretical bridge between cognitive neuroscience and clinical psychiatry.

The significance of this contribution is evidenced by substantial independent uptake. The core paper has accumulated 126 citations, while the follow-up review has garnered 166 citations. Notably, analysis of citing literature indicates that 100% of classified citations originate from independent researchers, demonstrating that this framework has been widely adopted and utilized by the broader scientific community outside the researcher's immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 16

#### CORE PAPER

### [Modeling the role of negative symptoms in determining social functioning in individuals at clinical high risk of psychosis](#)

2015 · 126 citations (GS)

Field-normalised: 89 Semantic Scholar citations place it in the top 10% of Psychology papers from 2015 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Negative symptoms of schizophrenia: new developments and unanswered research questions</a> (2018)	Hospital General Universitario Gregorio Marañón, University of Campania Luigi Vanvitelli, University of Maryland School of Medicine	Italy, Spain, United States	—
2	<a href="#">Social motivation in schizophrenia: How research on basic reward processes informs and limits our understanding</a> (2018)	Boston University, San Francisco State University	United States	—
3	<a href="#">Updated perspectives on the clinical significance of negative symptoms in patients with schizophrenia</a> (2022)	University of Campania "Luigi Vanvitelli"	Italy	—
4	<a href="#">Interventions and social functioning in youth at risk of psychosis: A systematic review and meta-analysis</a> (2019)	University of Calgary	Canada	Background
5	<a href="#">A review of negative symptom assessment strategies in youth at clinical high-risk for psychosis</a> (2021)	University of Georgia, University of North Carolina at Chapel Hill	United States	—
6	<a href="#">Reliability, Validity, Epidemiology, and Cultural Variation of the Structured Interview for Psychosis-Risk Syndromes (SIPS) and the</a>	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
	<a href="#">Scale of Psychosis-Risk Symptoms (SOPS) (2019)</a>			
7	<a href="#">Brain Age Gap in Early Illness Schizophrenia and the Clinical High-Risk Syndrome: Associations With Experiential Negative Symptoms and Conversion to Psychosis (2024)</a>	San Francisco VA Health Care System, University of California San Francisco, University of California, San Francisco	United States	—
8	<a href="#">Social Functioning Interventions in Psychosis: A Systematic Review (2025)</a>	King's College London	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 is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

#### FOLLOW-UP WORK

### [Social Motivation in Schizophrenia: How Research on Basic Reward Processes Informs and Limits Our Understanding](#)

2018 · Current Opinion in Psychiatry · 166 citations (GS)

Field-normalised: 114 Semantic Scholar citations place it in the top 5% of Psychology papers from 2018 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Mapping social reward and punishment processing in the human brain: A voxel-based meta-analysis of neuroimaging findings using the social incentive delay task (2021)</a>	Amsterdam UMC, University of Amsterdam, King's College London, TU Dresden	Germany, Netherlands, United Kingdom	Background
2	<a href="#">Ecological momentary assessment of everyday social experiences of people with schizophrenia: A systematic review (2020)</a>	Boston University	United States	Background
3	<a href="#">The Relevance of Animal Models of Social Isolation and Social Motivation for Understanding Schizophrenia: Review and Future Directions (2023)</a>	VA San Diego Healthcare System	United States	—
4	<a href="#">Loneliness and the psychosis continuum: a meta-analysis on positive psychotic experiences and a meta-analysis on negative psychotic experiences (2019)</a>	The University of Hong Kong	Hong Kong	—
5	<a href="#">Relationships between smartphone social behavior and relapse in schizophrenia: A preliminary report (2019)</a>	Northwell Health, University of Washington, Zucker School of Medicine at Hofstra/Northwell	United States	Background
6	<a href="#">Social cognition across the schizophrenia-bipolar disorder spectrum (2024)</a>	Harvard Medical School	United States	—
7	<a href="#">Impact of early social isolation on social circuits and behavior: relevance to schizophrenia (2026)</a>	Icahn School of Medicine at Mount Sinai	United States	—
8	<a href="#">Advancing scientific understanding of the drive to socially engage: from broad</a>	Cleveland Clinic, King's College London, Stanford University	United Kingdom, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
	<a href="#">constructs to transdiagnostic 'building blocks' (2025)</a>			

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 developed PRIME, a mobile app intervention designed to improve motivation in young people with schizophrenia, establishing a foundational digital health approach for this clinical population.*

The researcher's contribution centers on the development and evaluation of PRIME, a mobile application intervention aimed at enhancing motivation in young individuals diagnosed with schizophrenia. This work is anchored by a seminal 2018 publication in *Schizophrenia Bulletin*, which stands as the primary evidence of this specific research line without subsequent follow-up papers by the same author.

This line of work appears to address the critical need for accessible, technology-based interventions to tackle motivational deficits, a core symptom often resistant to traditional treatments in early-stage schizophrenia. By leveraging mobile technology, the research suggests a novel pathway for delivering therapeutic support directly to patients, potentially increasing engagement and accessibility compared to conventional clinical settings.

The significance of this contribution is underscored by its substantial uptake within the scientific community, evidenced by 255 citations. Notably, analysis of 42 citing papers reveals that 100% originate from independent researchers, indicating that the work has resonated broadly across the field and influenced external scholarly discourse beyond the researcher's immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10

### CORE PAPER

#### [Efficacy of PRIME, a Mobile App Intervention Designed to Improve Motivation in Young People With Schizophrenia](#)

2018 · *Schizophrenia Bulletin* · 255 citations (GS)

Field-normalised: 189 Semantic Scholar citations place it in the top 5% of Medicine papers from 2018 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Social Media and Mental Health: Benefits, Risks, and Opportunities for Research and Practice (2020)</a>	Beth Israel Deaconess Medical Center, CareNX Innovations, Geisel School of Medicine at Dartmouth	India, United States	–
2	<a href="#">The evolving field of digital mental health: current evidence and implementation issues for smartphone apps, generative artificial intelligence, and virtual reality (2025)</a>	Alternative Directions Counseling & Consulting, Beth Israel Deaconess Medical Center, Brown University	Australia, United Kingdom, United States	–
3	<a href="#">Smartphone Apps for the Treatment of Mental Disorders: Systematic Review (2020)</a>	Dalhousie University, Universitat Jaume I, University of Valencia	Canada, Spain	<b>Result</b>

No.	Citing paper	Citing institution(s)	Country	S2
4	<a href="#">Attrition and adherence in smartphone-delivered interventions for mental health problems: A systematic and meta-analytic review.</a> (2020)	—	—	—
5	<a href="#">The clinical characterization of the patient with primary psychosis aimed at personalization of management</a> (2021)	Department of Veterans Affairs, Health Service and Population Research, Heinrich-Heine University Düsseldorf	Australia, Belgium, Finland	—
6	<a href="#">Community Mental Health Care Delivery During the COVID-19 Pandemic: Practical Strategies for Improving Care for People with Serious Mental Illness</a> (2020)	Harborview Medical Center, North Carolina Psychiatric Research Center, University of North Carolina School of Medicine, Ramsey County ACT and Radian Forensic ACT Team	United States	—
7	<a href="#">Designing Personalised mHealth solutions: An overview</a> (2023)	Bern University of Applied Sciences, Universidad de Sevilla, University of Valencia	Spain, Switzerland	—
8	<a href="#">COVID-19, mobile health and serious mental illness</a> (2020)	Beth Israel Deaconess Medical Center and Harvard Medical School	United States	—
9	<a href="#">Smartphone apps for mental health: systematic review of the literature and five recommendations for clinical translation</a> (2025)	King's College London	United Kingdom	—
10	<a href="#">Digital Approaches to Remote Pediatric Health Care Delivery During the COVID-19 Pandemic: Existing Evidence and a Call for Further Research</a> (2020)	Ann & Robert H. Lurie Children's Hospital of Chicago, University of Pittsburgh School of Medicine	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).

### Citing-text excerpts — how the field used this work

**RESULT** Smartphone Apps for the Treatment of Mental Disorders: Systematic Review

“iCOPE [92], MindFrame [93], movisenseXS [94], RealLife Exp [95], SlowMo [96], TechCare [97], Temstem [98], Actissist [99,100], FOCUS [101,102], Heal Your Mind [103], PRIME [104,105] Schizophrenia spectrum and other psychotic disorders”

## Contribution 3

### Claim — Contribution 3

*The researcher developed PRIME, a cognitive neuroscience-informed mobile app intervention designed to enhance motivated behavior and improve quality of life in recent-onset schizophrenia.*

The researcher's significant contribution centers on the development and feasibility assessment of PRIME, a mobile application intervention grounded in cognitive neuroscience. This work, detailed in a 2016 publication, aims to address critical gaps in treating motivated behavior and quality of life in patients with recent-onset schizophrenia. By leveraging mobile technology, the research appears to offer a scalable, accessible approach to psychiatric care that integrates neuroscientific principles into daily patient management.

This line of work addresses the challenge of translating complex cognitive neuroscience findings into practical, patient-facing digital tools. The core paper stands as a foundational study in this specific niche, proposing a novel method to intervene in the early stages of schizophrenia. The absence of follow-up papers by the same researcher in the provided data suggests this initial feasibility study serves as a primary reference point for the viability of such interventions, establishing a baseline for future digital mental health research.

The significance of this contribution is evidenced by its substantial uptake within the scientific community, with 142 citations indicating strong interest and utility. Notably, 100% of the classified citing papers originate from independent researchers, demonstrating that the work has resonated beyond the researcher’s immediate institution or collaboration network. This high degree of independent citation underscores the broad relevance and impact of the PRIME intervention framework on the wider field of digital psychiatry and cognitive neuroscience.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8

CORE PAPER

**[Feasibility of PRIME: a cognitive neuroscience-informed mobile app intervention to enhance motivated behavior and improve quality of life in recent onset schizophrenia](#)**

2016 · 142 citations (GS)

Field-normalised: 106 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	<a href="#">The digital revolution and its impact on mental health care</a> (2019)	The University of Edinburgh, University of Manchester	United Kingdom	Background
2	<a href="#">The Effects of Remote Cognitive Training Combined With a Mobile App Intervention on Psychosis: Double-Blind Randomized Controlled Trial</a> (2023)	University of California, San Francisco, University of Minnesota	United States	—
3	<a href="#">Co-producing digital mental health interventions: A systematic review</a> (2024)	Greater Manchester Mental Health NHS Foundation Trust, Manchester Academic Health Sciences Centre	United Kingdom	Background
4	<a href="#">User perceptions of mobile digital apps for mental health: Acceptability and usability - an integrative review</a> (2021)	University of Auckland	New Zealand	—
5	<a href="#">A qualitative exploration of service user views about using digital health interventions for self-management in severe mental health problems</a> (2019)	Lancaster University, University of Manchester	United Kingdom	—
6	<a href="#">Design thinking as an approach for innovation in healthcare: systematic review and research avenues</a> (2020)	—	—	—
7	<a href="#">For an App Supposed to Make Its Users Feel Better, It Sure is a Joke" - An Analysis of User Reviews of Mobile Mental Health Applications</a> (2022)	Marquette University	United States	Background
8	<a href="#">Efficacy of a Smartphone App in Enhancing Medication Adherence and Accuracy in Individuals With Schizophrenia During the COVID-19 Pandemic: Randomized Controlled Trial</a> (2023)	—	—	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
King's College London	United Kingdom	THE 38 · QS 31	5
Harvard Medical School	United States	SCImago #12	3
University of Manchester	United Kingdom	SCImago #196 · THE 56 · QS 35	3
University of Washington	United States	SCImago #45 · THE 25 · QS 81	2
Boston University	United States	SCImago #272 · THE =76 · QS =88	2
VA San Diego Healthcare System	United States	SCImago #966	2
Beth Israel Deaconess Medical Center	United States	SCImago #647	2
University of California, San Francisco	United States	SCImago #98	2
University of North Carolina at Chapel Hill	United States	THE 78 · QS =140	2
University of Valencia	Spain	THE 501–600	2
University of California, San Diego	United States	SCImago #120 · THE 47 · QS 66	2
University of Minnesota	United States	SCImago #165 · THE 88 · QS 210	2
North Carolina Psychiatric Research Center, University of North Carolina School of Medicine	United States	—	1
Harborview Medical Center	United States	—	1
Universitat Jaume I	Spain	SCImago #2998 · QS 1001-1200	1

### Geographic distribution of citing authors

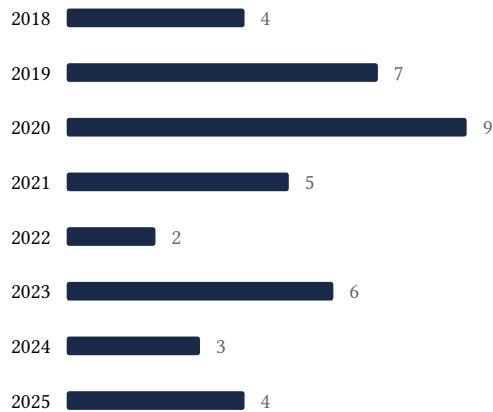
Country	Citing papers
United States	24
United Kingdom	9
Spain	4
Italy	3
Germany	2
Canada	2
Australia	2
Netherlands	1
New Zealand	1
Denmark	1
Switzerland	1
Taiwan	1

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

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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

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### 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

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Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

<b>Contribution</b>	<b>Core paper</b>	<b>Indep. cites</b>	<b>Supports</b>
Contribution 1	Modeling the role of negative symptoms in determining social functioning in individuals at clinical high risk of psychosis	16	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 2	Efficacy of PRIME, a Mobile App Intervention Designed to Improve Motivation in Young People With Schizophrenia	10	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 3	Feasibility of PRIME: a cognitive neuroscience-informed mobile app intervention to enhance motivated behavior and improve quality of life in recent onset schizophrenia	8	8 CFR 204.5(h)(3)(v) – Criterion 5