



Impact Metrics

Workshop for Postgraduate Students

University of Otago Library

1st June 2023

Presentation slides and supporting guide

From the Library homepage, go to:



Services for researchers

Interloans, thesis guide, OUR Archive, ORCID at Otago, research impact.



Postgraduate Library Services Guide

Postgraduate Introduction to Library Services at Home

This guide contains information on library services and resources of interest to postgraduate students.

Home Postgraduate Library Services Effective Search Strategies The Th
Research Data Management Getting Published **Impact Metrics** A - D

Click on a link below to find more information about a service or resource.

Kia Ora Welcome

Session resources

Presentation slides

Related resources

Measuring impact (guide)

PG Guide URL:

https://otago.libguides.com/pgworkshop/impact_metrics

Workshop Outline

- Impact Metrics – uses, limitations
- Journal metrics: Scopus, Web of Science, Google Scholar
- Article metrics
- Alternative metrics (altmetrics)
- Author metrics
- Issues and challenges



Metrics? Research impact?

Metrics aka Bibliometrics

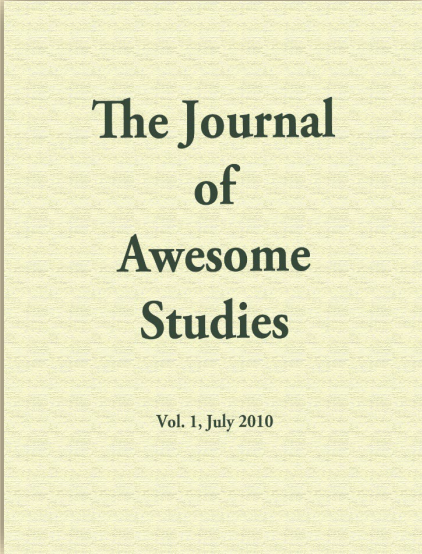
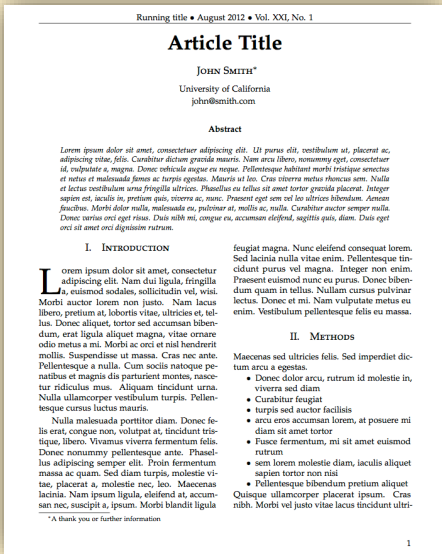
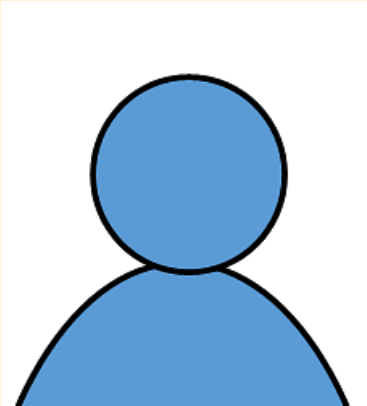
Bibliometrics:

“Bibliometrics are the statistical analyses of [the citation data] for books, articles, or other publications. The analyses are used to track author or researcher output and impact. This can help in promotion and tenure, as well as aiding in funding and grants. Bibliometrics are also used to calculate journal impact factors, which can help you decide into which journal to publish.” [Hunt Library, Embry-Riddle Aeronautical University, 2021]

Impact:

Visibility and use by the academic community.

What are research impact metrics?

Journal metrics: e.g. Impact Factor Rankings	Article-level metrics: e.g. Citations Downloads Views Social media sharing	Author metrics: e.g. H-index
		



Who uses Impact Metrics?

- Researchers (gauge the impact of a study/publication e.g. times cited)
- University Departments & Faculties (via the research published by their researchers and its impact)
- Editors & Publishers (to attract researchers to publish with them and to indicate the status of a journal or other publication)
- Librarians (assisting researchers in gathering metrics and explaining metrics)
- University Administrators & Managers
- Funders & Policy Makers



How might you use them?

As an author: Have you published anything?

- Develop a publishing strategy to increase research impact
- Seek funding grants
- Apply for jobs, contracts, promotions
- Check dissemination of research findings

As a reader: Are you undertaking research

- Can help indicate which journals are important in a field
- Can identify indicate researchers whose publications have received much attention
- Useful in identifying key papers for the literature review

As an institution/community/network:

- Compare performance of labs/groups/departments/universities
- Inform research policy and strategy
- Recruit staff



Some Caveats with Metrics

- Predominant use in STEM
- Can we compare across disciplines/subjects?
- What about research not published in English?
- Some articles generally get more citations than others (e.g. review articles vs original research)
- Focus on researchers and not practitioners
- How are journal metrics gamed or skewed?
- Can we *quantify the quality* of anything?
- What is being measured?



Reasons for Citing

- • It contains strong evidence to support my research question
- ● • It is well-known (or notorious) in my field
- • It came up in the journal we are trying to publish in, so we can link our work to it
- • It says something we agree with or that was correct
- • It says something we disagree with or that was incorrect
- • It says something outrageous or provocative
- • It offered a specifically useful case or insight
- • It offered a really unhelpful or misleading case or insight

Source: Meera Sabaratnam, [“Why Metrics Cannot Measure Research Quality”](#), 2014.

Where to start? Research Publishing & Impact Guide

Research Publishing & Impact: Introduction

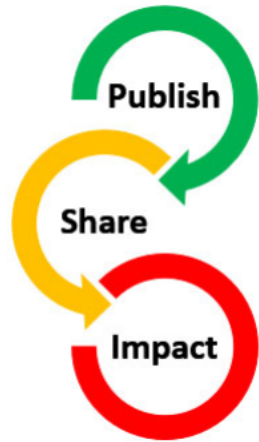
Introduction

Getting Published

Researcher Profiles & Networks

Measuring Impact

Research Publishing and Impact



Publishing your research requires these steps in order to maximise your research impact.

- 1. [Get published](#)
But, before you submit your publication, ensure you...
- 2. [Increase your researcher visibility](#)
By sharing your research... and finally,
- 3. [Track the citations for your publications](#)
To measure your research impact.

Research Support

Do you need assistance to get published, measure your research outputs or maximise your research impact?

Contact your Subject Librarian from:

- [Commerce](#)
- [Education](#)
- [Health Sciences](#)
- [Humanities](#)
- [Law](#)
- [Sciences](#)
- [Canterbury Medical](#)
- [Wellington Medical](#)

Or contact these campus specialists:

- [Business Development Manager or Research Advisor](#)
- [Manager of Copyright and Open Access](#)
- [HEDC](#)
- [Graduate Research School Office](#)
- [Publications/Outputs Office](#)
- [PBRF Office](#)
- [ITS](#)

Using this guide

This guide directs you to the key resources for getting published, establishing a researcher profile, and measuring and maximising your research impact.

What's New?

url: https://otago.libguides.com/research_publishing_impact




(a) Journal Metrics

Serve as an indicator of a **Journal's** prestige.

Journals are often ranked by calculating the average number of times their papers are cited in other research outputs or by other scholars.

1. **Scopus metrics**
2. **Web of Science metrics**
3. **Google Scholar metrics**



1. Scopus metrics

- CiteScore
- SNIP - Source-Normalised Impact per Paper
- SJR - SCImago Journal Rank

Quick guide for Scopus metrics and terminology at :

https://www.elsevier.com/__data/assets/pdf_file/0006/1038642/ACAD_LIB_ResearchMetricsReference_WEB_2020.pdf



About *Scopus*

- Published by Elsevier
 - Includes the *ScienceDirect* e-journal collection
- Indexes >37,000 journals from >5000 publishers
- Citation coverage: 1970 – present
 - Millions of records
 - Millions of patents
 - records being added back to 1788 (e.g. *Lancet* from 1823)
 - health sciences, physical sciences, and social sciences; some life sciences
- Use **Sources** to search for a journal and view its metrics
- Use **Compare Journals** to compare 2-10 journals



CiteScore (Scopus)

- A new'*ish* metric (launched in 2016)
- Calculated in the same way as the Journal Impact Factor
 - Calculated by dividing the number of citations to papers published in the previous **four** years
 - Calculation is based on *all document types* as a denominator
 - Calculated monthly

For example: *British Journal of Sports Medicine*

Source details

British Journal of Sports Medicine
Scopus coverage years: 1964, from 1974 to Present
Publisher: BMJ Publishing Group
ISSN: 0306-3674 E-ISSN: 1473-0480
Subject area: Medicine: Orthopedics and Sports Medicine Health Professions: Physical Therapy, Sports Therapy and Rehabilitation
Source type: Journal

[View all documents >](#) [Set document alert](#) [Save to source list](#) [Source Homepage](#) [CCC - Get permissions](#)

CiteScore **CiteScore rank & trend** Scopus content coverage

i Improved CiteScore methodology
CiteScore 2021 counts the citations received in 2018-2021 to articles, reviews, conference papers, book chapters and data papers published in 2018-2021, and divides this by the number of publications published in 2018-2021. [Learn more >](#)

CiteScore **2021**

21.3 = $\frac{15,229 \text{ Citations 2018 - 2021}}{716 \text{ Documents 2018 - 2021}}$

Calculated on 05 May, 2022

CiteScore rank 2021 **①**

CiteScoreTracker 2022 **①**

20.5 = $\frac{12,883 \text{ Citations to date}}{627 \text{ Documents to date}}$

Last updated on 05 September, 2022 • Updated monthly

CiteScore rank ① 2021 ▼ In category: Orthopedics and Sports Medici... ▼			
★	#1 284	British Journal of Sports Medicine	21.3 99th percentile
	Rank	Source title	CiteScore 2021 Percentile
★	#1	British Journal of Sports Medicine	21.3 99th percentile
	#2	Sports Medicine	19.8 99th percentile
	#3	Journal of Cachexia, Sarcopenia and Muscle	14.1 99th percentile
	#4	Journal of Bone and Mineral Research	11.3 98th percentile
	#5	Journal of Sport and Health Science	10.8 98th percentile
	#6	Exercise and Sport Sciences Reviews	10.4 98th percentile
	#7	Osteoarthritis and Cartilage	10.2 97th percentile
	#8	American Journal of Sports Medicine	9.8 97th percentile
	#9	International Journal of Sport Nutrition and Exercise Metabolism	9.6 97th percentile
	#10	Arthroscopy - Journal of Arthroscopic and Related Surgery	8.5 96th percentile
	#11	Physical Education and Sport Pedagogy	8.3 96th percentile
	#12	Journal of Bone and Joint Surgery - Series A	8.0 95th percentile
	#13	Skeletal Muscle	7.9 95th percentile
	#14	Scandinavian Journal of Medicine and Science in Sports	7.6 95th percentile

Compare Sources

Source details

Feedback > **Compare sources >**

British Journal of Sports Medicine
Scopus coverage years: 1964, from 1974 to Present
Publisher: BMJ Publishing Group
ISSN: 0306-3674 E-ISSN: 1473-0480
Subject area: Medicine: Orthopedics and Sports Medicine Health Professions: Physical Therapy, Sports Therapy and Rehabilitation
Source type: Journal

[View all documents >](#) [Set document alert](#) [Save to source list](#) [Source Homepage](#) [CCC - Get permissions](#)

CiteScore 2021
21.3

SJR 2021
3.867

SNIP 2021
5.133

CiteScore

CiteScore rank & trend

Scopus content coverage

i

Improved CiteScore methodology
CiteScore 2021 counts the citations received in 2018-2021 to articles, reviews, conference papers, book chapters and data papers published in 2018-2021, and divides this by the number of publications published in 2018-2021. [Learn more >](#)

x

CiteScore 2021

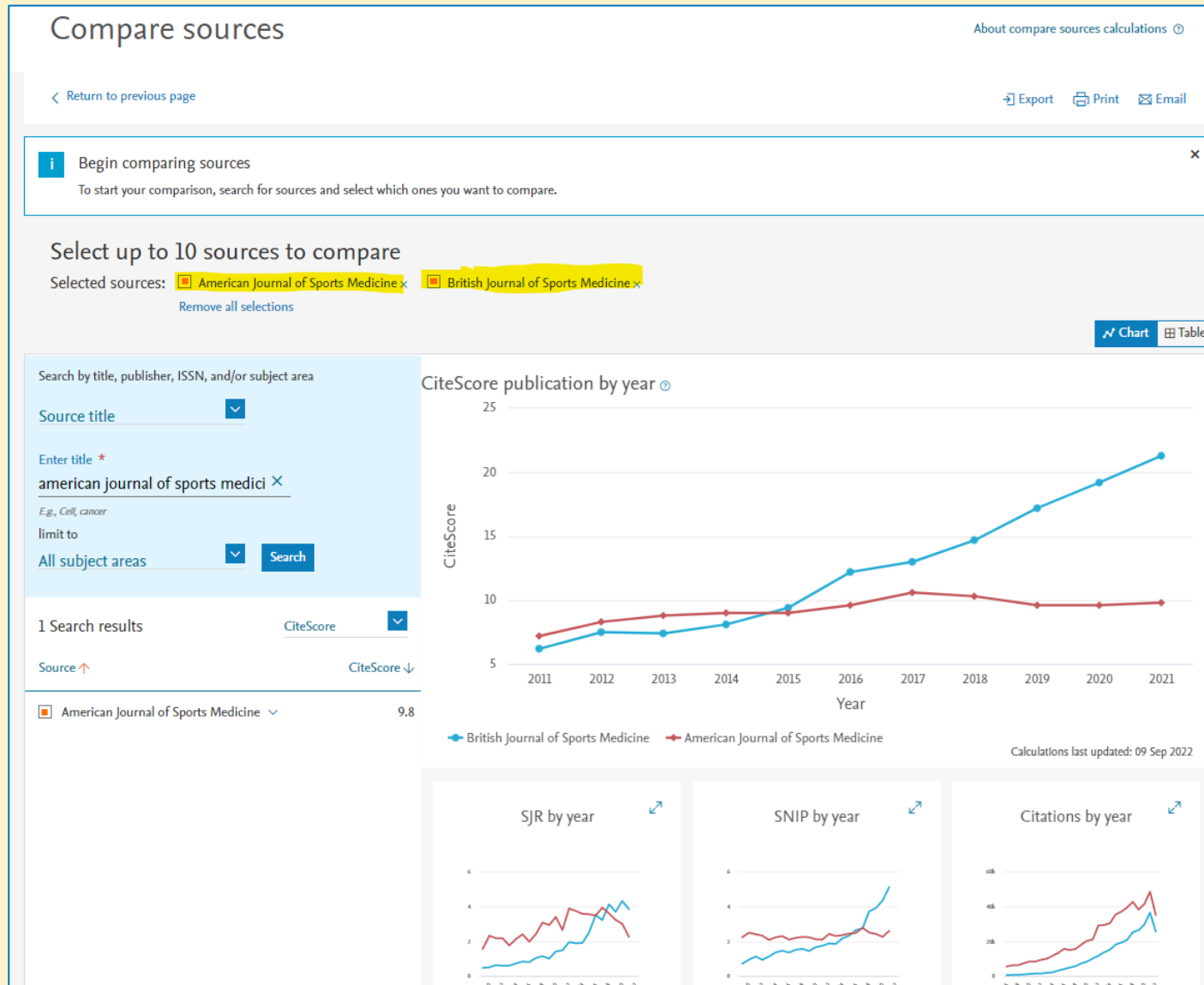
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Last updated on 05 September, 2022 • Updated monthly

CiteScore rank 2021

Compare Sources






SNIP (Scopus)

SNIP = **S**ource-**N**ormalised **I**mpact per **P**aper

- Ratio of a journal's citation count per paper and the citation **potential** in its subject field
 - SNIP measures contextual citation impact by **weighting** citations based on the total number of citations in a subject field
 - SNIP helps make a direct comparison of journals in different subject fields
- SNIP is a “normalised” score - adjusted for citation patterns within a discipline



SJR (Scopus)

SJR = SCImago Journal Rank

- Ranks journals within *Scopus* subject categories and uses *Scopus* citation data
 - Assigns higher value to citations from more prestigious journals
 - Based on citations within a **3-year period**
 - Developed by Spanish scientists from the Google Page Rank algorithm - “not all citations are equal”

SJR (Scopus) – Journal Rankings

Journal Rankings

Scimago

Enter Journal Title, ISSN or DOI

New: SCImago

Journal Ranks

EXPLORE

SJR

Scimago Journal & Country Rank

Enter Journal Title, ISSN or DOI

Home

Journal Rankings

Country Rankings

Viz Tools

Help

About Us

←

Ads by Google

Stop seeing this ad

Why this ad?

Arts and Humanities

History

All regions / countries

All types

2021

☐ Only Open Access Journals

☐ Only SciELO Journals

☐ Only WoS Journals

Display journals with at least 0

Citable Docs. (3years)

Apply

Download data

1 - 50 of 1492

	Title	Type	↓ SJR	H index	Total Docs. (2021)	Total Docs. (3years)	Total Refs. (2021)	Total Cites (3years)	Citable Docs. (3years)	Cites / Doc. (2years)	Ref. / Doc. (2021)	
1	Public Opinion Quarterly	journal	2.389 Q1	108	19	129	1078	609	128	3.80	56.74	🇬🇧
2	Journal of Economic History	journal	2.306 Q1	63	34	96	2254	261	93	1.97	66.29	🇬🇧
3	Social Forces	journal	2.135 Q1	137	40	183	3012	812	181	4.36	75.30	🇬🇧



2. Web of Science metrics

- **Journal Impact Factor (JIF or IF)**
- **Journal ranking**

Based on **Web of Science Core Collection**
data from Clarivate Analytics

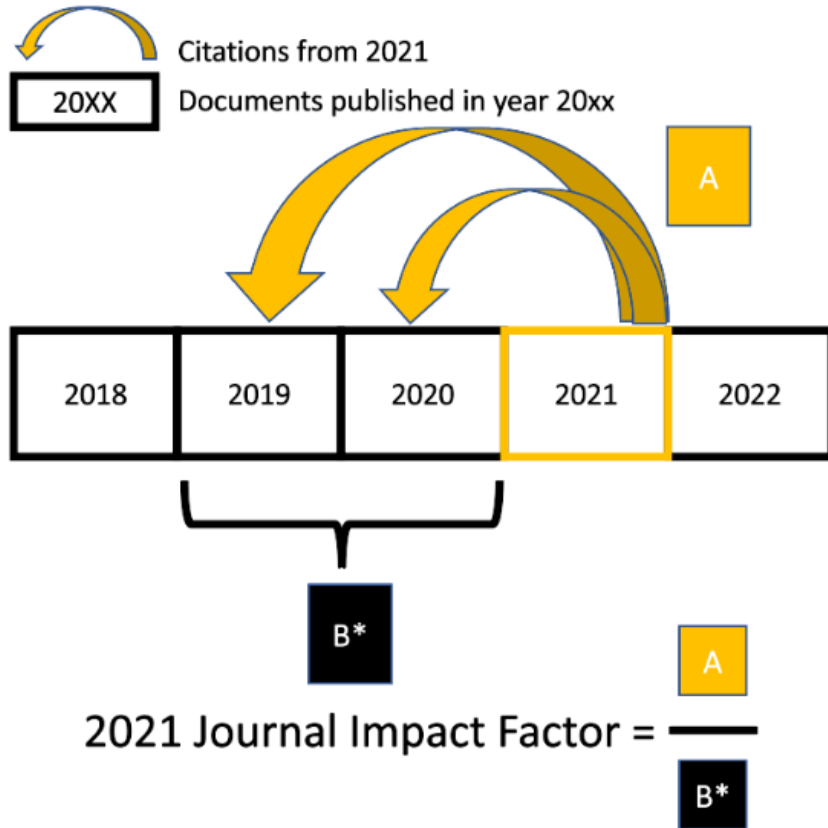


About *Web of Science Core Collection*

- Published by Clarivate Analytics (formerly by Thomson Reuters)
- Former names include *ISI* and *Science Citation Index*
- Indexes >21,000 journals (Web of Science All Databases > 37,000 journals)
 - in 250+ disciplines
 - Millions of records
 - Millions of conference proceedings
- 1900 – present
- Natural and social sciences, plus some arts and humanities
- Source of citation data for the Journal Impact Factor
- Find the latest WoS journal metrics by clicking the journal title

What is the Impact Factor?

So, for example, JIF 2021 takes all the citations made by documents in 2021 to publications published in 2019 and 2020.



* Only citable items (articles, reviews, proceedings) are included

Calculations for Journal Impact Factor 2021

Note: While all citations from documents indexed in the Web of Science Core Collection count in the numerator, the denominator includes only "citable items" which are documents classified as articles, reviews and conference proceedings.

Impact Factor = the average number of times articles published in the preceding **two** years (2019 + 2020) have been cited in the **current** "JCR year" (currently 2021)

E.g.: a 2021 Impact Factor of **1.0** means that, *on average*, the articles published in that journal in 2019 and 2020 were cited at least **once** in 2021

Journals can be ranked by Impact Factor

- within a Web of Science subject category of journals
- by quartile (i.e. top 25% = **Q1**; 25% - 50% = **Q2**, 50% - 75% = **Q3**, bottom 25% = **Q4**)

Journal Impact Factor

Clarivate

Web of Science™

Search

Search > Results for cell (Publication Titles) > Results for nature (Publication Titles) > Results for current anthropology (Publication Titles)

6,540 results from Web of Science Core Collection for:

current anthropology (Publication Titles)

Copy query link

Publications You may also like...

Refine results

Search within results...

Filter by Marked List

Quick Filters

Highly Cited Papers 5

Review Article 356

Early Access 25

Open Access 431

Enriched Cited References 21

Citation Topics Meso

8.93 Archaeology 1,642

6.146 Anthropology 787

1.189 Genome Studies 166

1.7 Neuroscanning 143

6.73 Social Psychology 121

See all >

Citation Topics Micro

8.93.8 Holocene 673

6.146.734 Anthropology 650

8.93.362 Archaeology 601

0/6,540

Add To Marked List

Export

1

The Impact of Contact and Colonization on Indigenous Disconnect"

Challis, S; Sinclair-Thomson, B; (-); Wright, J

Dec 1 2022 | CURRENT ANTHROPOLOGY 63

The archaeological record undergoes a dramatic shift in appearance form of economy, politics, or identity. Rock art in southern Africa test herders, African farmers, and, later, European settlers. New subject m

View full text

2

"If God Is with Us, Who Can Be against Us?" Christianity, Cosmopolitics, and Living with Difference in Sarawak, Malaysian Borneo

Chua, L

Dec 2022 (Early Access) | CURRENT ANTHROPOLOGY

This article puts the analytic of "indigenous cosmopolitics" (as used by Mario Blaser and Marisol de la Cadena) in dialogue with the anthropology Christianity through an ethnography of a dam construction and resettlement project in Sarawak, Malaysian Borneo. Drawing on long-term field the area, I explore how both God and Christian ethnotheology became imbricated with a group of indige

Show more

3

Living Machines Go Wild Policing the Imaginative Horizons of Synthetic Biology

Kirksey, E

Oct 2021 | CURRENT ANTHROPOLOGY 62, pp.5287-5297

CLOSE JOURNAL INFORMATION

CURRENT ANTHROPOLOGY

Publisher name: UNIV CHICAGO PRESS

Journal Impact Factor™

2021 3.226

Five Year 3.693

JCR Category

Category Rank

ANTHROPOLOGY in SSCI edition

10/93

Source: Journal Citation Reports 2021. Learn more

Journal Citation Indicator™ New

2021 1.95

2020 2.45

JCI Category

Category Rank

ANTHROPOLOGY in SSCI edition

9/135

The Journal Citation Indicator is a measure of the average Category Normalized Citation Impact (CNCI) of citable items (articles and reviews) published by a journal over a recent three year period. It is used to help you evaluate journals based on other metrics besides the Journal Impact Factor (JIF). Learn more

CLOSE JOURNAL INFORMATION

CURRENT ANTHROPOLOGY

Publisher name: UNIV CHICAGO PRESS

Journal Impact Factor™

2021 3.226

Five Year 3.693

JCR Category

Category Rank

Category Quartile

ANTHROPOLOGY in SSCI edition

10/93

Q1

Source: Journal Citation Reports 2021. Learn more

Journal Citation Indicator™ New

2021 1.95

2020 2.45

JCI Category

Category Rank

Category Quartile

ANTHROPOLOGY in SSCI edition

9/135


Q1

The Journal Citation Indicator is a measure of the average Category Normalized Citation Impact (CNCI) of citable items (articles and reviews) published by a journal over a recent three year period. It is used to help you evaluate journals based on other metrics besides the Journal Impact Factor (JIF). Learn more



3. Google Scholar Metrics

- “Scholar Metrics currently cover articles **published between 2017 and 2021**, both inclusive. The metrics are based on citations from all articles that were indexed in Google Scholar in **June 2022**. This also includes citations from articles that are not themselves covered by Scholar Metrics.”
- The website lists 100 top journals in several languages ordered by 5 year *h*-index and H5-median
- You can search for specific publications in all languages by words in their titles.
- You can browse for metrics for selected journals by choosing a subject category, and sub category. For example: [Health & Medical Sciences](#), Social Sciences, Business, Economics & Management, [Engineering & Computer Science](#).



3. Google Scholar Metrics

- **h-index of a publication**

- The h-index of a publication is the largest number h such that at least h articles in that publication were cited at least h times each.
 - For example, a publication with five articles cited by, respectively, 17, 9, 6, 3, and 2, has the h-index of **3** (at least 3 articles in the publication were cited at least 3 times each)

- ***h5-index***

- the h -index of only those of a journal's articles that were published in the last **five** complete calendar years

- ***h5-median***

- based on H5-index, but instead measures the median (or middle) value of citations for *the* h number of citations. A journal with an H5-index of 60 and H5-median of 75 means that, of the 60 articles with 60 or more citations, the median of those citation values is 75.

- Ranked lists of journals based on the ***h5-index***

- [Top 100 journals](#) (in English and 11 other languages e.g., Chinese, German, Russian, Japanese, Polish, Ukrainian etc.)
- Discipline categories and sub-categories for English-language journals

Source of information: <https://scholar.google.co.nz/intl/en/scholar/metrics.html#metrics>

Google Scholar Metrics information



The image is a screenshot of the Google Scholar Metrics page. At the top, the Google Scholar logo is displayed. Below it is a navigation bar with links for About, Search, Profiles, Inclusion, Metrics (which is highlighted), Publishers, and Libraries. A 'Search Scholar' button is located on the right side of the navigation bar. On the left side of the main content area, there is a sidebar with links for Overview, Metrics (which is highlighted with a hand cursor), Coverage, and Inclusion. The main content area is titled 'Google Scholar Metrics' and contains a section 'Available Metrics'. This section explains the h-index, h-core, h-median, h5-index, h5-core, and h5-median. The h-index is defined as the largest number h such that at least h articles in that publication were cited at least h times each. The h-core is a set of top cited h articles from the publication. The h-median is the median of the citation counts in its h-core. The h5-index, h5-core, and h5-median are defined for the last five complete calendar years. The page also mentions that the h5-index and h5-median are displayed for each included publication, along with an entire h5-core of its articles, along with their citation counts, so that you can see which articles contribute to the h5-index. And there's more! Click on the citation count for any article in the h5-core to see who cited it.

Google Scholar

About Search Profiles Inclusion **Metrics** Publishers Libraries

Search Scholar

Overview

Metrics

Coverage

Inclusion

Google Scholar Metrics

Available Metrics

The **h-index** of a publication is the largest number h such that at least h articles in that publication were cited at least h times each. For example, a publication with five articles cited by, respectively, 17, 9, 6, 3, and 2, has the h-index of 3.

The **h-core** of a publication is a set of top cited h articles from the publication. These are the articles that the h-index is based on. For example, the publication above has the h-core with three articles, those cited by 17, 9, and 6.

The **h-median** of a publication is the median of the citation counts in its h-core. For example, the h-median of the publication above is 9. The h-median is a measure of the distribution of citations to the articles in the h-core.

Finally, the **h5-index**, **h5-core**, and **h5-median** of a publication are, respectively, the h-index, h-core, and h-median of only those of its articles that were published in the last five complete calendar years.

We display the h5-index and the h5-median for each included publication. We also display an entire h5-core of its articles, along with their citation counts, so that you can see which articles contribute to the h5-index. And there's more! Click on the citation count for any article in the h5-core to see who cited it.

Google · Privacy & Terms

Subject categories

Google Scholar

Top publications

Categories ▾ English ▾

- Business, Economics & Management
- Chemical & Material Sciences
- Engineering & Computer Science
- Health & Medical Sciences
- Humanities, Literature & Arts
- Life Sciences & Earth Sciences
- Physics & Mathematics
- Social Sciences**

	h5-index	h5-median
6. Advanced Materials	312	418
7. Nature Communications	307	428
8. Cell	300	505
9. International Conference on Learning Representations	286	533
10. Neural Information Processing Systems	278	436
11. JAMA	267	425
12. Chemical Reviews	265	444
13. Proceedings of the National Academy of Sciences	256	364
14. Angewandte Chemie	245	332
15. Chemical Society Reviews	244	386
16. Journal of the American Chemical Society	242	344

Language options

Google Scholar

Top publications

Categories ▾

English ▾

	Publication		
1.	Nature	15-i	
2.	The New England Journal of Medicine	4	
3.	Science	4	
4.	IEEE/CVF Conference on Computer Vision and Pattern Recognition	4	
5.	The Lancet	3	
6.	Advanced Materials	3	
7.	Nature Communications	3	
8.	Cell	3	
9.	International Conference on Learning Representations	286	533
10.	Neural Information Processing Systems	278	436
11.	JAMA	267	425
12.	Chemical Reviews	265	444
13.	Proceedings of the National Academy of Sciences	256	364
14.	Angewandte Chemie	245	332
15.	Chemical Society Reviews	244	386
16.	Journal of the American Chemical Society	242	344
17.	IEEE/CVF International Conference on Computer Vision	239	415

Categories & sub-categories

Google Scholar

Top publications

Categories > Social Sciences > Subcategories ▾

Subcategories

Academic & Psychological Testing	Educational Psychology & Counseling	Library & Information Science	Median
African Studies & History	Educational Technology	Middle Eastern & Islamic Studies	
Anthropology	Environmental & Occupational Medicine	Military Studies	75
Archaeology	Environmental Law & Policy	Paleontology	76
Architecture	Epistemology & Scientific History	Political Science	35
Asian Studies & History	Ethics	Public Health	33
Bioethics	European Law	Public Policy & Administration	37
Canadian Studies & History	Family Studies	Science & Engineering Education	43
Chinese Studies & History	Feminism & Women's Studies	Sex & Sexuality	36
Cognitive Science	Forensic Science	Social Sciences (general)	26
Criminology, Criminal Law & Policing	Geography & Cartography	Social Work	35
Development Economics	Health Policy & Medical Law	Sociology	35
Diplomacy & International Relations	Higher Education	Special Education	35
Early Childhood Education	History	Sustainable Development	06
Economic History	Human Migration	Teaching & Teacher Education	26
Education	Human Resources & Organizations	Technology Law	1
Educational Administration	International Law	Urban Studies & Planning	34
	Law		14

15. Journal of Vocational Behavior 78 117

16. Cities 78 105

17. Annals of Tourism Research 77 111

18. Child Abuse & Neglect 75 112

19. Academic Medicine 75 111

20.

Dates and citation counts are estimated and are determined automatically by a computer program.

Google Scholar -> Metrics

Google Scholar			
Top publications			
Categories > Social Sciences > Early Childhood Education ▾			
	Publication	h5-index	h5-median
1.	Early Childhood Research Quarterly	49	68
2.	Early Childhood Education Journal	39	47
3.	Reading and Writing	37	49
4.	Early Childhood Development and Care	33	42
5.	Early Education and Development	32	52
6.	Reading Research Quarterly	31	48
7.	The Reading Teacher	31	40
8.	European Early Childhood Education Research Journal	30	37
9.	Scientific Studies of Reading	29	40



View the articles (and # of citation received) to calculate *h*-index over past 5 years

← Early Childhood Research Quarterly			
h5-index:49 h5-median:71 #1 Early Childhood Education			
Title / Author	Cited by	Year	
The effects of language-and literacy-focused professional development on early educators and children: A best-evidence meta-analysis J Markussen-Brown, CB Juhl, SB Piasta, D Bleses, A Højen, LM Justice Early Childhood Research Quarterly 38, 97-115	186	2017	
Improving teacher-child interactions: A randomized controlled trial of Making the Most of Classroom Interactions and My Teaching Partner professional development models DM Early, KL Maxwell, BD Ponder, Y Pan Early Childhood Research Quarterly 38, 57-70	171	2017	
Using tablets and apps to enhance emergent literacy skills in young children MM Neumann Early Childhood Research Quarterly 42, 239-246	157	2018	
Effects of the Tennessee Prekindergarten Program on children's achievement and behavior through third grade MW Lipsey, DC Farran, K Durkin Early Childhood Research Quarterly 45, 155-176	143	2018	
Linguistic environment of preschool classrooms: What dimensions support children's language		32	



Google Scholar Metrics exclude:

- Court opinions, patents, books, and dissertations;
- Publications with fewer than 100 articles published between 2017 and 2021;
- Publications that received no citations to articles published between 2017 and 2021.



(b) Article-Level Metrics

- 1. Citation counts**
- 2. Emerging metrics / Altmetrics**



1. Citation counts (i.e. Cited By or Times Cited)

Counting the citations an article receives is a well established *article-level metric*

- Demonstrates reception, analysis, and possible application of research
- Citation counts for individual publications form the basis for journal metrics, like CiteScore and Journal Impact Factor
- **Sources:** Article records in e.g. *Scopus, Web of Science, Medline, Academic Search Complete, ProQuest Central, Google Scholar...*



Limitations of citation counts

- Varied reasons for citing
- Citation patterns differ between disciplines
- Self-citation may skew the numbers
- Limited to publications indexed by the search
 - e.g. Scopus is almost twice as large as Web of Science Core Collection
- Recently-published articles need time to accumulate citations
- Retractions get a lot of citations


Citation count examples

Web of Science™

SearchMarked ListHistoryAlerts

Sign InRegister


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**Scopus**

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☐ 2015☐ 1997

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☐ Articles☐ Review Articles

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(TITLE-ABS-KEY ("risk analysis") AND TITLE-ABS-KEY (genetics) AND TITLE-ABS-KEY (ethic*))

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	Document title	Authors	Year	Source	Cited by
<input type="checkbox"/> 1	Nutrient-gene interactions in benefit-risk analysis <i>Open Access</i>	Hesketh, J., Wybranska, I., Dommels, Y., (...), Pico, C., Keijer, J.	2006	British Journal of Nutrition 95(6), pp. 1232-1236	25
	View abstract ▾Article linkView at Publisher				
<input type="checkbox"/> 2	Farmer knowledge and a priori risk analysis: Pre-release evaluation of genetically modified Roundup Ready wheat across the Canadian prairies	Mauro, I.J., McLachlan, S.M., van Acker, R.C.	2009	Environmental Science and Pollution Research 16(6), pp. 689-701	18
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Search terms	Source	Papers	Cites	Cites/y...	h	g	hI,no...	hI,ann...	hA	acc...	Search date	Cache date	Las...
✓ "SB Duffull" from 2010 to 2022	Google Sc...	181	3341	278.42	28	52	14	1.17	10	9	29/04/2022	29/04/2022	0
metaplasticity OR "meta-plasti...	Google Sc...	1000	43440	1401.29	111	182	61	1.97	29	159	22/11/2021	22/11/2021	0

Google Scholar search

Authors: "SB Duffull" Years: 2010 - 2022 Search

Publication name: ISSN: Search Direct

Title words: Clear All

Keywords: Revert

Maximum number of results: 1000 Include: ☒ CITATION records ☒ Patents New

	Cites	Per year	Rank	Authors	Title	Year	Publication	Publisher	Typ
✓ h	362	51.71	1	MS Salahudeen, SB Duf...	Anticholinergic burden quantified by anticholinergic...	2015	BMC ...	bmcgeriatr.biome...	HTI
✓ h	205	25.63	2	..., R Braund, J Tordoff, ...	A systematic review and meta-analysis of pharmacist...	2014	British journal of clinical ...	Wiley Online Library	
✓ h	154	14.00	4	..., CV Coulter, TCA Doy...	Red blood cell survival in long-term dialysis patients	2011	American journal of ...	Elsevier	HTI
✓ h	119	9.92	7	CS Zin, LM Nissen, JP O...	A randomized, controlled trial of oxycodone versus p...	2010	The Journal of ...	Elsevier	
✓ h	110	11.00	6	..., JB Schollum, CV Cou...	Assessment of markers of glycaemic control in diabe...	2012	...	Wiley Online Library	
✓ h	108	9.82	3	SB Duffull, DFB Wright...	Interpreting population pharmacokinetic-pharmaco...	2011	British journal of clinical ...	Wiley Online Library	
✓ h	93	13.29	9	..., A Grant, R Taylor, N ...	Prediction of fat-free mass in children	2015	Clinical ...	Springer	HTI
✓ h	86	7.17	11	..., BK Lopansri, JB Wein...	Increased asymmetric dimethylarginine in severe fal...	2010	PLoS ...	journals.plos.org	HTI
✓ h	80	7.27	10	..., HR Winter, SB Duffull	Understanding the time course of pharmacological e...	2011	British journal of clinical ...	Wiley Online Library	
✓ h	78	6.50	14	..., CR Balit, D Macleod, ...	Amisulpride overdose is frequently associated with Q...	2010	Journal of clinical ...	journals.lww.com	HTI
✓ h	72	18.00	8	S Sanhajariya, SB Dufful...	Pharmacokinetics of snake venom	2018	Toxins	mdpi.com	
✓ h	66	5.50	12	..., PJ Shaw, J Trotman, L...	Population pharmacokinetics of melphalan in patien...	2010	British journal of ...	Wiley Online Library	
✓ h	58	5.27	19	..., CM McSherry, GK Is...	Methanol and ethylene glycol acute poisonings-pre...	2011	Clinical ...	Taylor & Francis	
✓ h	57	9.50	13	AL Chiew, GK Isbister, S...	Evidence for the changing regimens of acetylcysteine	2016	British journal of clinical ...	Wiley Online Library	
✓ h	52	5.78	18	DFB Wright, SB Duffull	A Bayesian dose-individualization method for warfarin	2013	Clinical pharmacokinetics	Springer	HTI
✓ h	46	5.11	22	..., E Tjitra, E Kenangale...	A randomized pilot study of L-arginine infusion in se...	2013	PloS one	journals.plos.org	HTI
✓ h	44	44.00	5	R Peña-Silva, SB Duffull...	Pharmacokinetic considerations on the repurposing ...	2021	British Journal of ...	ncbi.nlm.nih.gov	HTI
✓ h	43	7.17	17	..., PJ Cox, K Clarke, RL ...	The population pharmacokinetics of D-β-hydroxybu...	2016	The AAPS journal	Springer	HTI
✓ h	43	4.78	28	SB Duffull, GK Isbister	Predicting the requirement for N-acetylcysteine in p...	2013	Clinical Toxicology	Taylor & Francis	
✓ h	42	4.67	23	..., J Korell, IG Tucker, S...	An approach for identifiability of population pharma...	2013	CPT: pharmacometrics & ...	Wiley Online Library	
✓ h	41	6.83	21	DFB Wright, SB Duffull, ...	Predicting allopurinol response in patients with gout	2016	British journal of ...	Wiley Online Library	
✓ h	37	4.63	30	MS Salahudeen, SB Duf...	Impact of anticholinergic discontinuation on cogniti...	2014	Drugs & aging	Springer	HTI
✓ h	35	4.38	31	A Gulati, GK Isbister, SB ...	Scale reduction of a systems coagulation model with...	2014	CPT: pharmacometrics & ...	Wiley Online Library	
✓ h	35	3.89	32	..., TR Merriman, ML Ba...	The population pharmacokinetics of allopurinol and ...	2013	European journal of ...	Springer	HTI
✓ h	32	2.91	36	DFB Wright, SB Duffull	Development of a bayesian forecasting method for ...	2011	Pharmaceutical research	Springer	HTI
✓ h	31	3.44	33	A Gulati, GK Isbister, SB ...	Effect of Australian elapid venoms on blood coagula...	2013	Toxicon	Elsevier	HTI
✓ h	30	10.00	20	DFB Wright, MG Anakin...	Clinical decision-making: An essential skill for 21st c...	2019	Research in Social and Ad...	Elsevier	HTI
✓ h	28	7.00	25	SB Duffull, DFB Wright, ...	A philosophical framework for pharmacy in the 21st ...	2018	Research in Social and ...	Elsevier	HTI
✓	28	4.00	35	..., R Braund, SB Duffull	Quantification of the forgiveness of drugs to imperfe...	2015	CPT: pharmacometrics ...	Wiley Online Library	
✓	28	2.80	48	..., MH Thompson, JA E...	Adaptive Bayesian compound designs for dose findi...	2012	Journal of Statistical ...	Elsevier	HTI

Citation metrics

Publication years: 2010-2022
 Citation years: 12 (2010-2022)
 Papers: 181
 Citations: 3341
 Cites/year: 278.42
 Cites/paper: 18.46
 Authors/paper: 3.57
 h-index: 28
 g-index: 52
 hI,norm: 14
 hI,annual: 1.17
 hA-index: 10
 Papers with ACC >= 1,2,5,10,20: 114,74,27,9,3

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2. Emerging metrics/Altmetrics

- Report online attention received in non-scholarly venues, e.g.
 - Mentions on Twitter and blog posts
 - Shares on Facebook or Google+
 - Inclusion in news reports and government policy documents
- Demonstrate “user engagement” with a publication
 - Views, PDF downloads, Shares
 - Saves to reference management software e.g. Mendeley, CiteULike

2. Emerging metrics - Altmetric



The colors of the Altmetric donut each represent a different source of attention:

- | | |
|-------------------------------|-----------------------------|
| Policy documents | Google+ |
| News | LinkedIn |
| Blogs | Reddit |
| Twitter | Research highlight platform |
| Post-publication peer-reviews | Q&A (Stack Overflow) |
| Facebook | Youtube |
| Sina Weibo | Pinterest |
| Syllabi | Patents |
| Wikipedia | |





COVID-19

[Public health information \(CDC\)](#) | [Research information \(NIH\)](#) | [SARS-CoV-2 data \(NCBI\)](#) | [Prevention and treatment information \(HHS\)](#) | [Español](#)



National Library of Medicine
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vitamin c skin

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Review

> [Nutrients](#). 2017 Aug 12;9(8):866. doi: 10.3390/nu9080866.

The Roles of Vitamin C in Skin Health

Juliet M Pullar¹, Anitra C Carr², Margreet C M Visser³

FULL TEXT LINKS

FULL TEXT
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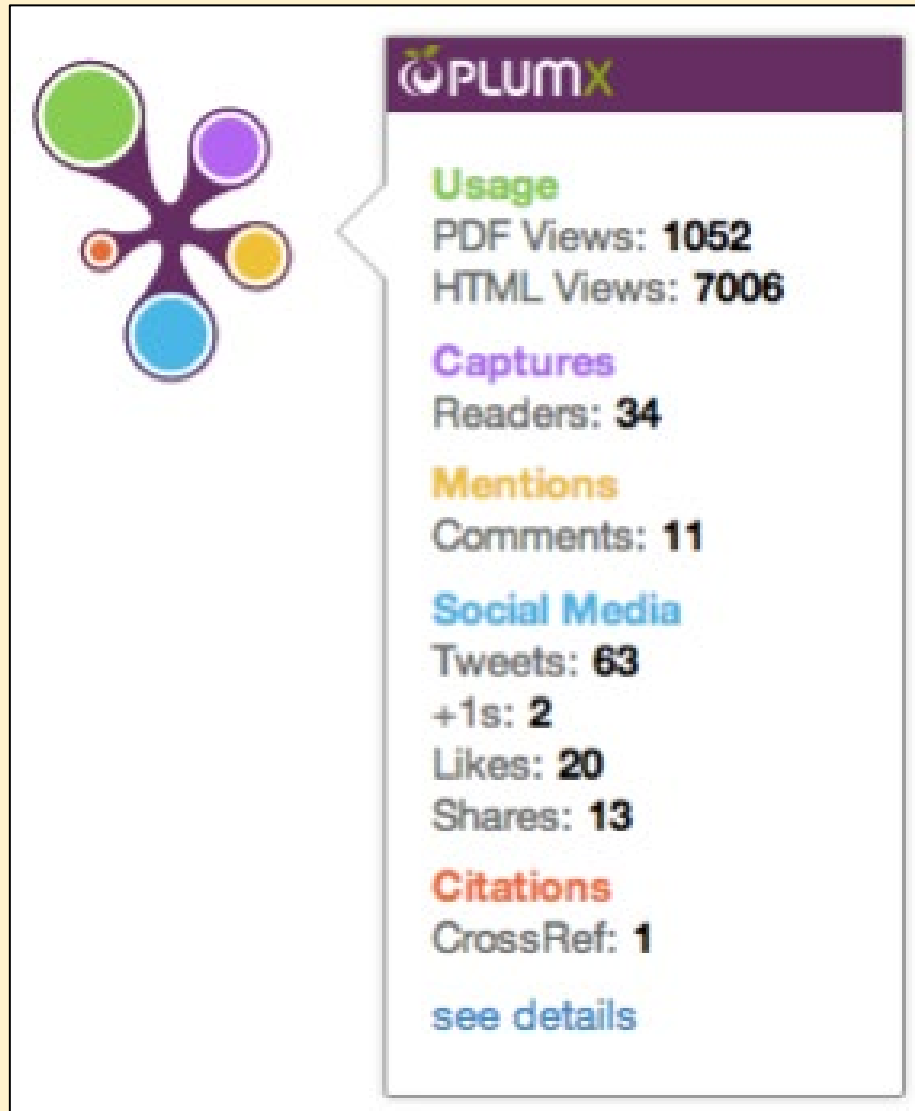


NEXT RESULT
2 of 2,185



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2. Emerging metrics - PLUMX



- **Usage** - clicks, downloads, views, etc.
- **Captures** - bookmarks, favourites, readers, etc.
- **Mentions** - blog posts, comments, news media, etc.
- **Social media** - shares, likes, tweets, etc.
- **Citations** - citation indexes, policy citations, clinical citations, etc.



PlumX uses the *Plum Print* to **visualize** altmetric data.

PlumX deliberately **does not aggregate their altmetric data sources into a single score.**

Mousing over the *Plum Print* symbol reveals a pop-up box with more information on where the metrics for the article you're viewing came from.



Psychosocial and cultural determinants of dietary intake in community-dwelling older adults: A Determinants of Diet and Physical Activity systematic literature review

Citation Data: Nutrition, ISSN: 0899-9007, Vol: 85, Page: 111131

Publication Year: 2021

7 Citations | 62 Captures | 2 Social Media

Metric Options: ☒ Counts ☐ 1 Year ☐ 3 Year ?

Home

> Overview

Highlights

> Twitter

Metrics Details

CITATIONS	7
Citation Indexes	7
Scopus ↗	7
CrossRef	5
PubMed Central ↗	2
CAPTURES	62
Readers	62
Mendeley ↗	62
SOCIAL MEDIA	2
Tweets	2
Twitter	2

Most Recent Tweet

2. Emerging metrics - PLUMX

See all tweets >

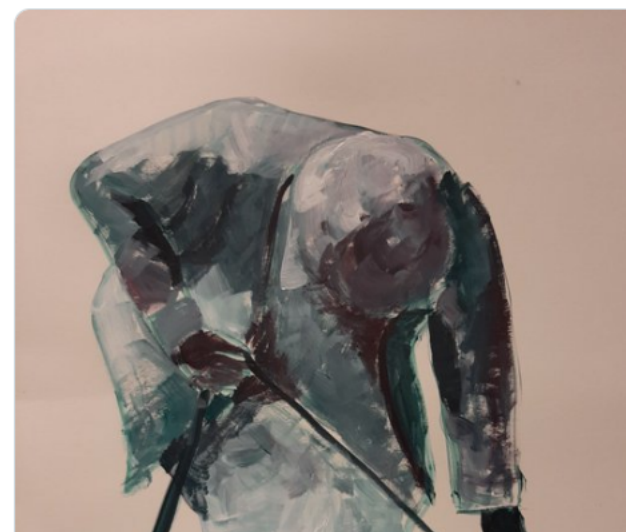


Annet Roodenburg
@RoodenburgA · Follow



Interesting review of 39 studies on psychosocial and cultural determinants of dietary intake in community-dwelling older adults show importance of living situation, educational level, and income. Unfortunately no #openaccess #determinants #diet #elderly

[sciencedirect.com/science/article...](https://www.sciencedirect.com/science/article/pii/S0899900720304160)



Review Description

Knowledge of factors determining dietary intake is important to develop targeted strategies to prevent malnutrition and age-related diseases. The aim of the present systematic review was to analyze the state of the art regarding the role of social status, cultural aspects, and psychological distress on dietary intake in community-dwelling older adults. A systematic search was performed per the Preferred Reporting Items for Systematic Reviews and Meta-Analyses procedure. Titles, abstracts, and full texts were screened for predefined inclusion and exclusion criteria. Thirty-nine studies were included. Seven different groups of psychosocial and cultural determinants were associated with dietary intake. Structure and living situation (e.g., loneliness, marital status) were associated with dietary intake. [Show more](#) ▼

Bibliographic Details

DOI: [10.1016/j.nut.2020.111131](https://doi.org/10.1016/j.nut.2020.111131) ↗
PMID: [33545539](https://pubmed.ncbi.nlm.nih.gov/33545539/) ↗
URL ID:
<http://www.sciencedirect.com/science/article/pii/S0899900720304160> ↗;
<http://dx.doi.org/10.1016/j.nut.2020.111131> ↗;
<http://www.scopus.com/inward/record.url?partnerID=HzOxMe3b&scp=85100275203&origin=inward> ↗;
<http://www.ncbi.nlm.nih.gov/pubmed/33545539> ↗;
<https://linkinghub.elsevier.com/retrieve/pii/S0899900720304160> ↗;
<https://dx.doi.org/10.1016/j.nut.2020.111131> ↗ [Show more](#) ▼

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Does social class predict diet quality? 1

Citation Data: The American Journal of Clinical Nutrition, ISSN: 0002-9165, Vol: 87, Issue: 5, Page: 1107-1117

Publication Year: 2008

1,490	208	1,648	30	64
Citations	Usage	Captures	Mentions	Social Media

Home

> Overview

Highlights

- > Policy Citations
- > Clinical Citations
- > News Mentions
- > Wikipedia References
- > Blog Mentions
- > Twitter

Metrics Details

CITATIONS 1,490

Citation Indexes	1,448
Scopus	1,448
CrossRef	1,365
Policy Citations	41
Policy Citation	41
Clinical Citations	1
PubMed Guidelines	1

USAGE 208

Abstract Views	149
*EBSCO	149
<small>Historical data only</small>	
Link-outs	59
*EBSCO	59
<small>Historical data only</small>	

CAPTURES 1,648

Readers	1,635
Mendeley	1,635
Exports-Saves	13
*EBSCO	13
<small>Historical data only</small>	

MENTIONS 30

News Mentions	25
News	25
References	3
Wikipedia	3
Blog Mentions	2
Blog	2

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Absolutely poor nutrition we have already seen before.



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Does social class predict diet quality?

ABSTRACT. A large body of epidemiologic data show that diet quality follows a socioeconomy...

9:58 PM · Oct 16, 2022



1



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Reduce your risk of COVID-19 variants and future pandemics

July 5, 2021 | the paper perspective >

Erik Peper, PhD and Richard Harvey, PhD The number of hospitalizations and deaths from COVID-19 are decreasing as more people are being vaccinated. At the same time, herd immunity will depend on how vaccinated and unvaccinated people interact with one another. Close-proximity especially indoor interactions increases the likelihood of transmission of coronavirus for unvaccinated individuals. Durin

Article Description

A large body of epidemiologic data show that diet quality follows a socioeconomic gradient. Whereas higher-quality diets are associated with greater affluence, energy-dense diets that are nutrient-poor are preferentially consumed by persons of lower socioeconomic status (SES) and of more limited economic means. As this review demonstrates, whole grains, lean meats, fish, low-fat dairy products, and fresh vegetables and fruit are more likely to be consumed by groups of higher SES. In contrast, the consumption of refined grains and added fats has been associated with lower SES. Although micronutrient intake and, hence, diet quality are affected by SES, little evidence indicates that SES affects energy intakes or the macronutrient composition of the diet.

Show more >

Bibliographic Details

DOI: 10.1093/ajcn/87.5.1107 >

PMID: 18469226 >

URL ID:

<http://www.sciencedirect.com/science/article/pii/S0002916523235984> ><http://dx.doi.org/10.1093/ajcn/87.5.1107> ><http://www.scopus.com/inward/record.url><partnerID=HzOxMe3b&scp=43549114550&origin=inward> ><http://www.ncbi.nlm.nih.gov/pubmed/18469226> ><https://linkinghub.elsevier.com/retrieve/pii/S0002916523235984> ><https://dx.doi.org/10.1093/ajcn/87.5.1107> >

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8

?




Discussion: Altmetrics

Why would you use Altmetrics?

- Self-promotion
- Faster than academic citations
- Viral?
- Wider coverage – audience & formats
- Expand research/er profile
- Free?
- Scholarly communication method
- Build prestige for a journal
- Predictor of future citations

Why should you be cautious?

- Self-promotion?
- Not recognised by academia
- Tweeting – from whom, what and why?
- Have they read it??
- Topic of interest v. value?
- Quantity over quality – too fast?
- Peer-reviewed sources or not?
- Fraudulent claims & gaming
- Popular ≠ best
- Free tools but often associated with major academic publishers and sometimes only work with a limited range of products.




Altmetrics: more info

The following article is where the previous list of pros and cons came from:

Thelwall, M. (2020). The Pros and Cons of the Use of Altmetrics in Research Assessment. *Scholarly Assessment Reports*, 2(1): 2. DOI: <https://doi.org/10.29024/sar.10>

Retrieved from: <https://wlv.openrepository.com/handle/2436/623132>



(c) Author Metrics

- Author metrics can offer insight to the **productivity** and **citation impact** of a scholar.
- Metrics are often based on citations to their work, and may be required as part of job application, tenure, or grant application processes.

e.g. ***h-index***

- Useful when looking for a supervisor/mentor/boss



h-index

- *h*-index = number of papers (*h*) with a citation number $\geq h$.
- Example: If an author has an *h*-Index of 9, it means that out of the total number of published documents by that author, 9 of those documents have been cited 9 times.



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Analyze author output

[About analyze author tool](#)[Back to author details page](#)[Export](#) [Print](#) [Email](#)**Duffull, Stephen B.**

University of Otago, Dunedin, New Zealand

Author ID:7004683353

Analyze documents published between: 1990 to 2023

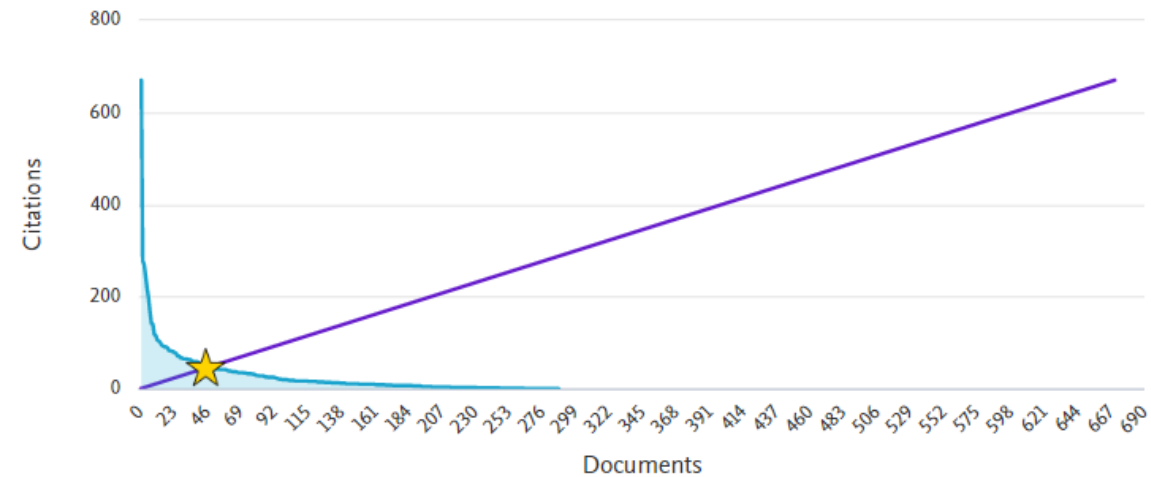
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Documents ↓ Citations ↓ Title ↓

1	670	Quantification of lea...
2	278	What is the best size ...
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4	245	Impaired nitric oxide...
5	219	Angiotensin-2 is ass...
6	198	Dosing in obesity: A ...
7	168	A suggested approac...
8	142	A systematic review ...
9	140	Clinical pharmacoki...

This author's h -index

46

The h -index is based upon the number of documents and number of citations.



Some Key Terms

Journal Metrics

- CiteScore
- Impact Factor / Journal Impact Factor (JIF)
- SNIP
- SJR ranking
- Journal quartile
- Journal ranking lists

Article Metrics

- Citation Analysis
- Alternative Metrics (Altmetrics)

Author Metrics

- *h-index*
- ...



Engaging with Metrics

Metrics matter

- Use wisely
- Learn their strengths and weaknesses
- Log evidence to support **your** metrics

Key resources:

- [Research Publishing & Impact Guide](#)
- [Research Metrics Guidebook](#) [produced by Elsevier]

Consult your [Subject Librarian](#) for further advice

Evaluation of the workshop

We'll send you the link by email tomorrow

Thank you!