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Libraries at University of Nebraska-Lincoln

3-22-2015

Redefining Value: Alternative Metrics and Research Outputs

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Rouhi, Sara; Gunn, William; Burks, Raychelle; and Deards, Kiyomi D., "Redefining Value: Alternative Metrics and Research Outputs" (2015). Library Conference Presentations and Speeches. 115. https://digitalcommons.unl.edu/library_talks/115

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REDEFINING VALUE: ALTERNATIVE METRICS AND RESEARCH OUTPUTS

ACS CINF Symposium March 22, 2015: Defining "Value" in Scholarly Communications: Evolving Ways of Evaluating Impact

http://unl.libguides.com/CINFAlt



Practical Applications for Altmetric Data: Funding Requests

Redefining value: Alternative metrics and research outputs ACS National Meeting, Denver 22 March 2015

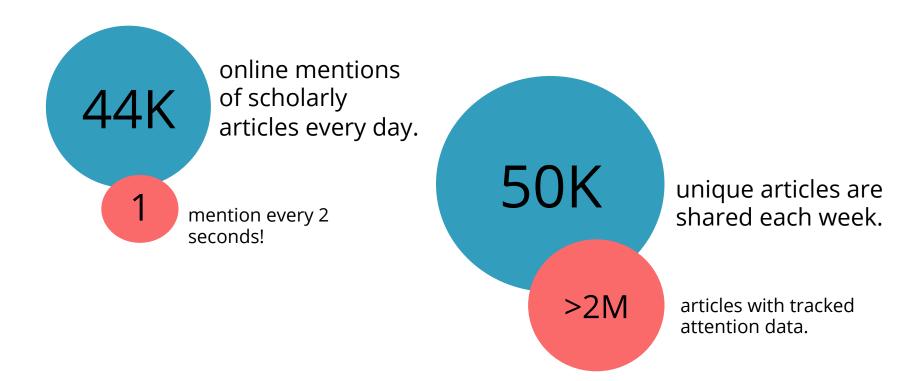
Sara Rouhi Product Specialist sara@altmetric.com

How do we measure engagement?

(Thanks, Donna)



An online world **stuck** in a print paradigm..





The big questions

- Why altmetrics? Why now?
- What does Altmetric.com do?
- Why should YOU care?
 - Spoiler alert: Because your researchers do!
 - Funding case study



Traditional metrics lag behind...

Article metrics for:



The evolution of cichlid fish egg-spots is linked with a cis-regulatory change

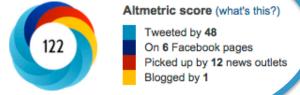
M. Emília Santos, Ingo Braasch, Nicolas Boileau, Britta S. Meyer, Loïc Sauteur, Astrid Böhne, Heinz-Georg Belting, Markus Affolter & Walter Salzburger

Nature Communications 5, Article number: 5149 (2014) | doi:10.1038/ncomms6149

Last updated: 14 October 2014 13:45:47 EDT

Total citations Data not available Data not available Data not available Data not available Scopus





his Altmetric score means that the article is:

- in the 99 percentage (Lambour 2018t) of the 38,911 tracked articles of a similar age in all journals
- in the 94 percentile (ranked 14th) of the 274 tracked articles of a similar age in Nature Communications



The cichlids egg-spots: How evolution creates new characteristics Daily News

The evolution of new traits with novel functions has normally posed a challenge to evolutionary biology. Studying the colour mar ..



Funders are noticing...

Grant funders looking for proof of "broader impacts" often defined as "an effect, change, or benefit to the economy, society, culture, public policies, health, the environment, etc."



Research Excellence Framework, http://www.ref.ac.uk/panels/assessmentcriteriaandleveldefinitions/

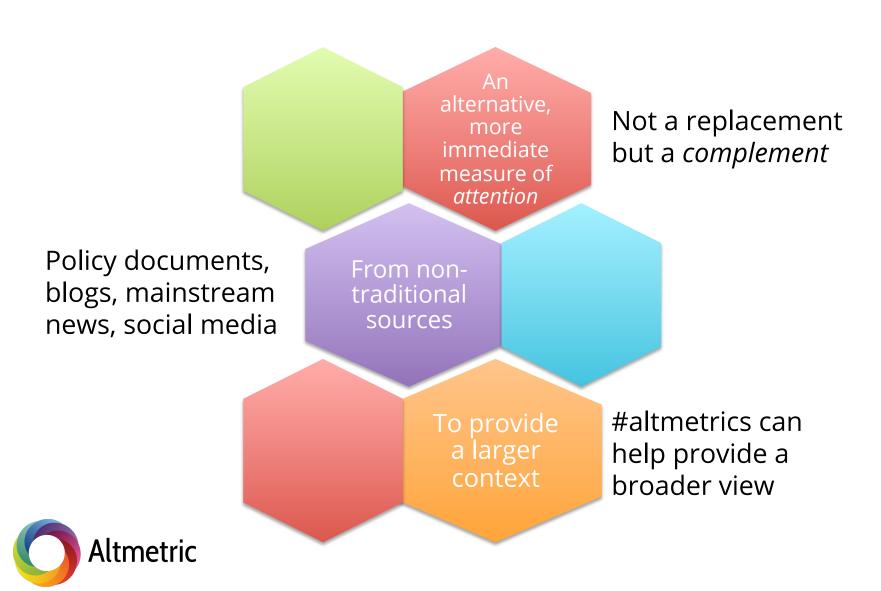


Broaden dissemination to enhance scientific and technological understanding, for example, by presenting results of research and education projects in formats useful to students, scientists and engineers, members of Congress, teachers, and the general public.

http://www.nsf.gov/pubs/2007/nsf07046/nsf07046.jsp



A definition...



Who are we?

Altmetric is a data science company that tracks attention to research outputs, delivering article output-level metrics via visually engaging, intuitive interfaces.

In other words, we help give *credit where credit is due*.



Where you might have seen us... Publishers

















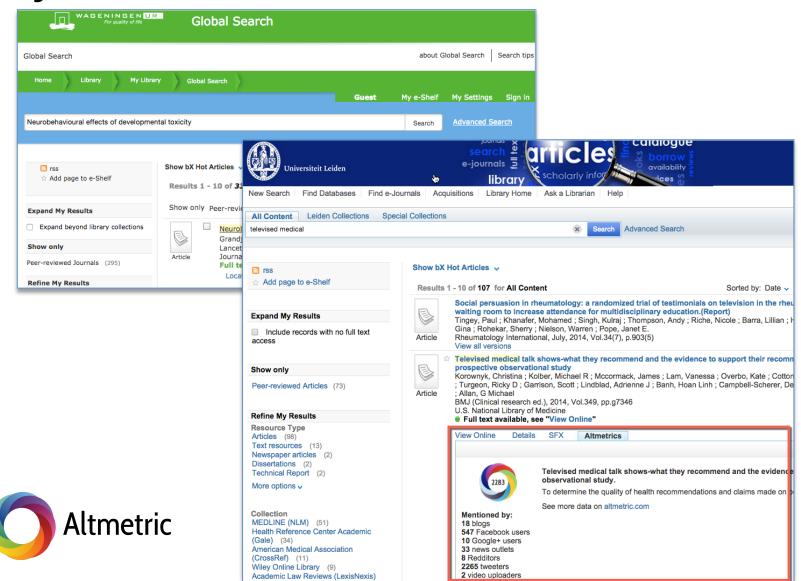








Where you might have seen us...Discovery systems



Where you might have seen us... Institutional repositories



Chalmers Publication Library

In experimental plant communities, relations resource complementarity between species is can drive this increasing biodiversity effect. biodiversity effects when plants had been se specific leaf area between plant species sele biodiversity and complementarity effects we increase in biodiversity effects: selection for coexistence and ecosystem functioning in na selection of crops in monoculture may comp

Sök Utökad sök Publikationslistor Senast tillagda Sök studentarbeten

Import Ny post Redigera post Lägg till fulltext Statistik

Om CPL OAI-PMH Support

Mitt CPL

Open Access Bibliometri Swepub

Chalmers bibliotek Chalmers



Propagating phonons coupled to an artificial atom

Martin V. Gustafsson (Institutionen för mikroteknologi och nanovetenskap,

Kvantkomponentfysik); Thomas Aref (Institutionen för mikroteknologi och nanovetenskap,

Kvantkomponentfysik); Anton Frisk Kockum (Institutionen för mikroteknologi och

nanovetenskap, Tillämpad kvantfysik) ; Maria Ekström (Institutionen för mikroteknologi och

 $nanovetenskap) \textbf{; } \textbf{G\"{o}ran Johansson} \text{ (Institutionen f\"{o}r mikroteknologi och nanovetenskap, } \\$

Tillämpad kvantfysik) ; **Per Delsing** (Institutionen för mikroteknologi och nanovetenskap, Kvantkomponentfysik)

Science (0036-8075). (2014)

[Artikel, refereegranskad vetenskaplig]

Quantum information can be stored in micromechanical resonators, encoded as quanta of vibration known as phonons. The vibrational motion is then restricted to the stationary eigenmodes of the resonator, which thus serves as local storage for phonons. In contrast, we couple propagating phonons to an artificial atom in the quantum regimend reproduce findings from quantum optics with sound taking over the role of light. Our results highlight the similarities between phonons and photons but also point to new opportunities arising from the unique features of quantum mechanical sound. The low propagation speed of phonons should enable new dynamic schemes for processing quantum information, and the short wavelength allows regimes of atomic physics to be explored that cannot be reached in photonic systems.

DELA SKAPA REFERENS SKRIV UT

Den här publikationen ingår i följande styrkeområden:

√ Nanovetenskap och nanoteknik



Läs direkt!

Länk till annan sajt (kan kräva inloggning)

Institutioner (Chalmers)

Institutionen för mikroteknologi och nanovetenskap, Kvantkomponentfysik

Institutionen för mikroteknologi och nanovetenskap, Tillämpad kvantfysik

Institutionen för mikroteknologi och nanovetenskap

Ämnesområden

Nanovetenskap och nanoteknik Supraledning

Mesoskopisk fysik Nanoteknik

Relaterade publikationer

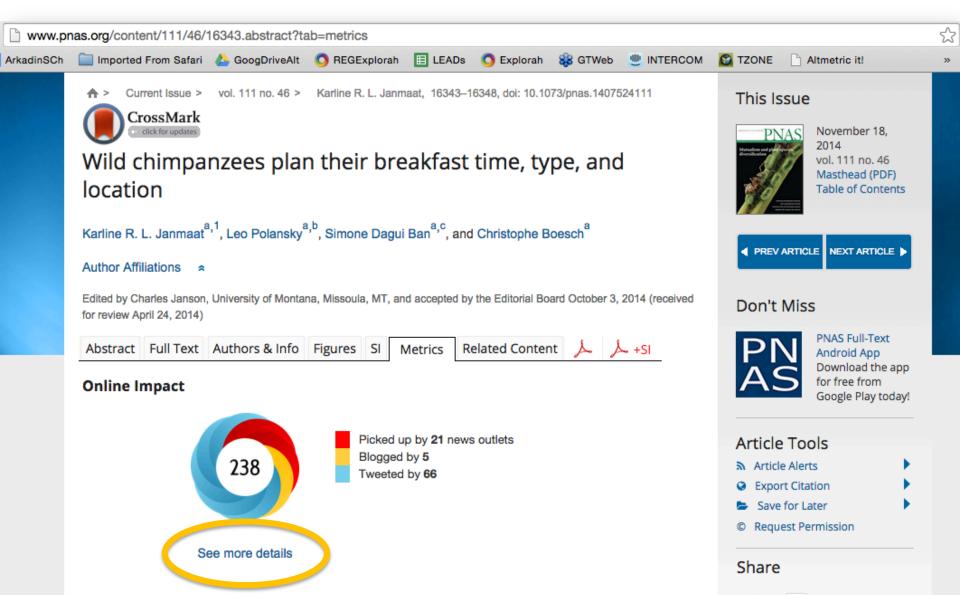
Denna publikation ingår i: Quantum optics with artificial atoms







It's not about numbers, it's about context!



VANCOUVERDESI.COM>>>



Article level metrics

Get email updates for this article

Return to article



Score in context

Puts article in the top 5% of all articles ranked by attention

show more...

Mentioned by





Readers on



Track this article

Wild chimpanzees plan their breakfast time, type, and location

Karline R. L. Janmaat, Leo Polansky, Simone Dagui Ban and Christophe Boesch



2014-10-29T06:32:14+00:00

Chimpanzees plan their breakfast time **NVO** News

Northern Voices Online

London, Oct 29 (IANS) Wild chimpanzees flexibly plan when and where they will have breakfast after weighing multiple factors, su ..

2014-10-29T05:05:02+00:00

Chimpanzees plan their breakfast time

Vancouver Verdesi

London, Oct 29 (IANS) Wild chimpanzees flexibly plan when and where they will have breakfast after weighing multiple factors, s ..

238

Score in context

Puts article in the top 5% of all articles ranked by attention

show more...

Mentioned by

21 news outlets
5 blogs
66 tweeters

Readers on



Track this article

 Get email updates when this article is shared

Wild chimpanzees plan their breakfast time, type, and location

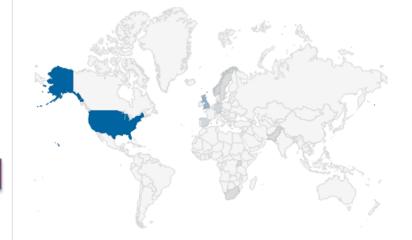
Karline R. L. Janmaat, Leo Polan, ne Dagui Ban and Christophe Boesch

News Blogs Twitter Score Demographics Help

Twitter attention

The data shown below were collected from the profiles of tweeters who shared this article. Click <u>here</u> to find out more about how the information was compiled.

Geographical breakdown



#	Country	As %
1	US	31%
2	GB	10%
3	ES	3%
3	DE	3%
3	NO	3%
6	PK	1%
6	SE	1%
6	ZA	1%
6	UG	1%
_	Unknown	42%

Tweeter demographics



Туре		Count	As %
Members of the public		47	71%
Scientists		16	24%
Practitioners (doctors, other healthcare	professionals)	2	3%
Science communicators (journalists, bl	oggers, editors)	1	1%





Demographics Tab

Demographic data is about providing **CONTEXT.**

Who is reading your work?

Where are they?

What **stage of their career** are they in?



Mendeley readership

The data shown below were compiled from readership statistics for 124 Mendeley readers of this article. Click <u>here</u> to see the article's page on the Mendeley website.

Geographical breakdown



#	Country	As %
1	GB	4%
1	US	4%
3	CA	2%
4	AU	1%
5	CH	<1%
5	DK	<1%
5	MX	<1%
_	Unknown	85%

Reader demographics

Readers by discipline	Count	As %
Medicine	36	29%
Social Sciences	35	28%
Psychology	12	9%
Biological Sciences	12	9%
Business Administration	7	5%
Other	22	17%
Other	22	17.70
Readers by professional status	Count	As %
Readers by professional status	Count	As %
Readers by professional status	Count 26	As %
Pn.D. Student Student (Master)	Count 26 21	As % 20% 16%
Readers by professional status Pn.D. Student Student (Master) Student (Bachelor)	Count 26 21 11	As % 20% 16% 8%

Why should you care?

Because your researchers do.



Meet Terrie Moffitt, PhD





ABOUT US ▼

GCB ACADEMY

CBB PHD

RESOURCES & CORES ▼

UNDERGRADS ▼

DIRECTORY -

GCB Faculty

Terrie Moffitt, PhD

Contact Information



Grey House, Suite 201 2020 W. Main Street, Box 104410 Durham, NC 27708 GCB Home / Directory / Faculty / Moffitt

Terrie Moffitt, PhD

Knut Schmidt Nielsen Professor Professor, Duke Psychology and Neuroscience Psychiatry & Behavioral Sciences

Terrie E. Moffitt researches the interplay between nature and nurture in the origins of problem behaviors. Her particular interest is in antisocial and criminal behaviors. She is Associate Director of the Dunedin Multidisciplinary Health and Development Study in New Zealand, which conducts a 32-year longitudinal study of a 1972 birth cohort of 1000 individuals and their families. She also directs the Environmental-Risk Longitudinal Twin Study ("E-risk"), which follows a 1994 birth cohort of 1116 British families with twins.

For her research, she has received the American Psychological Association's Early Career Contribution Award (1993) and Distinguished Career Award in Clinical Child Psychology (2006), and the Stockholm Prize for her work in criminology (2007). She is a fellow of the Academy of Medical Sciences (1999), the American Society of Criminology (2003), the British Academy (2004), and Academia Europaea (2005).

She has served on investigative panels for institutions such as the Nuffield Council on Bioethics (ethics of behavioral genetic research) and the US National Academy of Sciences (research into firearms and violence).

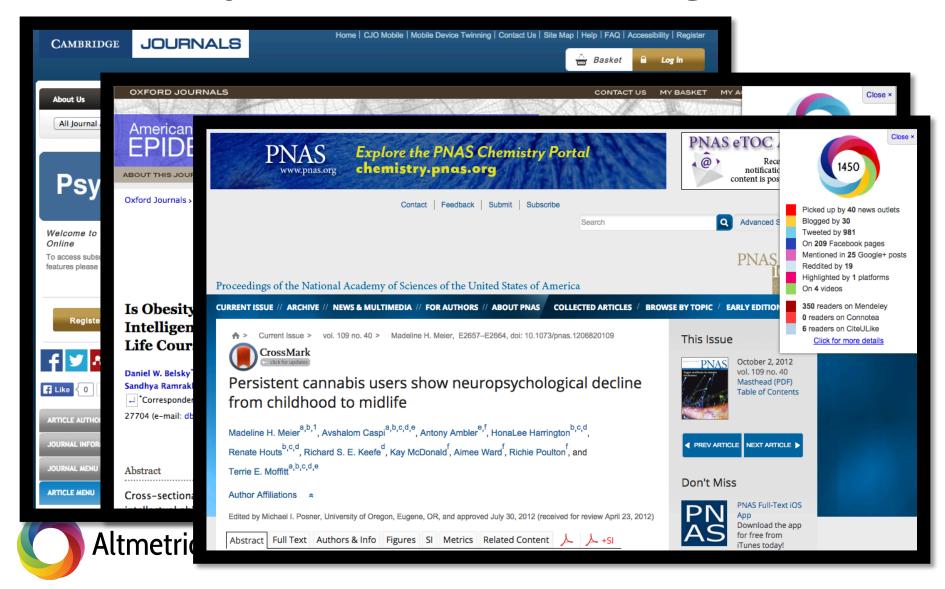
Meet the NSF Broader Impacts Statement

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding?

What may be the benefits of the proposed activity to society?



Article by article wasn't enough



Who *benefits* from Altmetric for Institution's data?

Librarians

- ★ I want to help researchers track the attention paid to their articles.
- ★ I want to add value to my institutional repository or discovery service.
- ★ I want to consider journal attention data in my library's acquisition decisions.

Researchers

- ★ I want to find indicators of impact for my CV and funding applications.
- ★ I want to make informed decisions on future publishing choices.

Communications / PR team

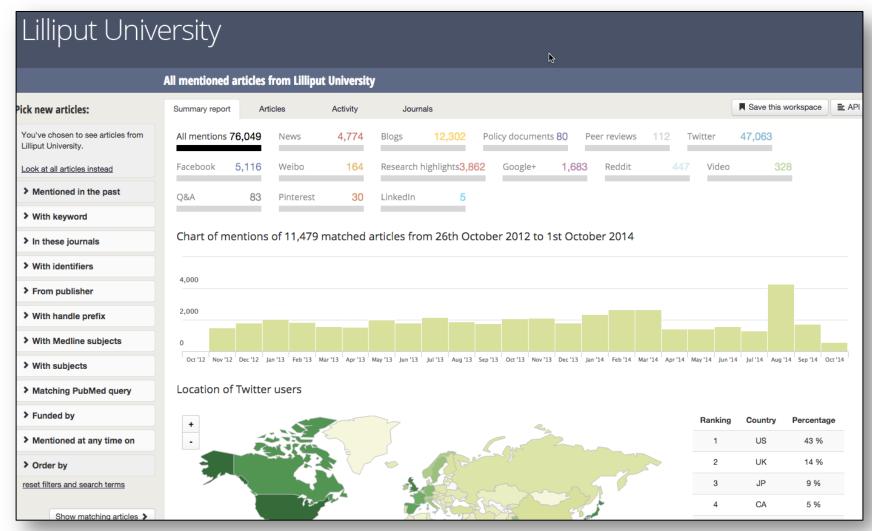
- ★ I want to share our institution's success stories.
- ★ I want to maximize the reach of our institution's research.

Research administrators

- ★ I want to monitor and report on uptake, usage, and impact of publications by department.
- ★ I want to comply with funder and governmental mandates.

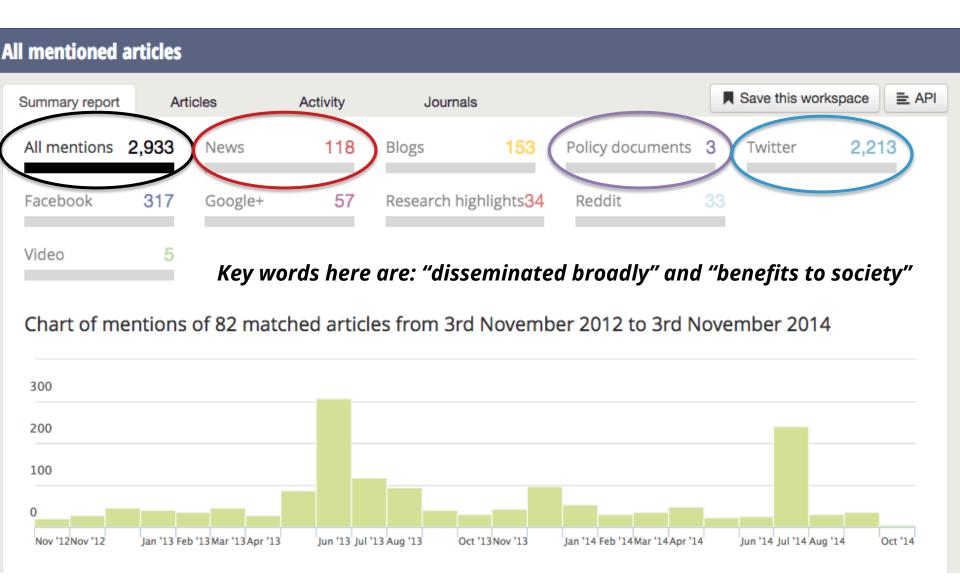


Your Institution's Impact at a glance...





Terrie's data in aggregate



15

Score in context

Puts article in the top 25% of all articles ranked by attention

show more...

Mentioned by

1 news outlet
2 policy sources
1 tweeter

Readers on

85 Mendeley 0 CiteULike

Track this article

 Get email updates when this article is shared

Prior Juvenile Diagnoses in Adults With Mental Disorder: Developmental Follow-Back of a Prospective-Longitudinal Cohort

News Policy documents Twitter Score Demographics

So far Altmetric has seen 3 policy documents that reference this article.



Lifetime Impacts

Publisher: Mental Health Foundation

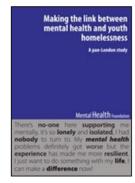
About this publisher: The Mental Health Foundation is the UK's leading mental health

Help

research, policy and service improvement charity.

Countries: UK

01-Jan-2005



Making The Link Between Mental Health And Youth Homelessness

Publisher: Mental Health Foundation

About this publisher: The Mental Health Foundation is the UK's leading mental health

research, policy and service improvement charity.

Countries: UK

01-Jul-2006

Key words here are: "benefits to society"



Our health and wellbeing today

Publisher: UK Government (GOV.UK)

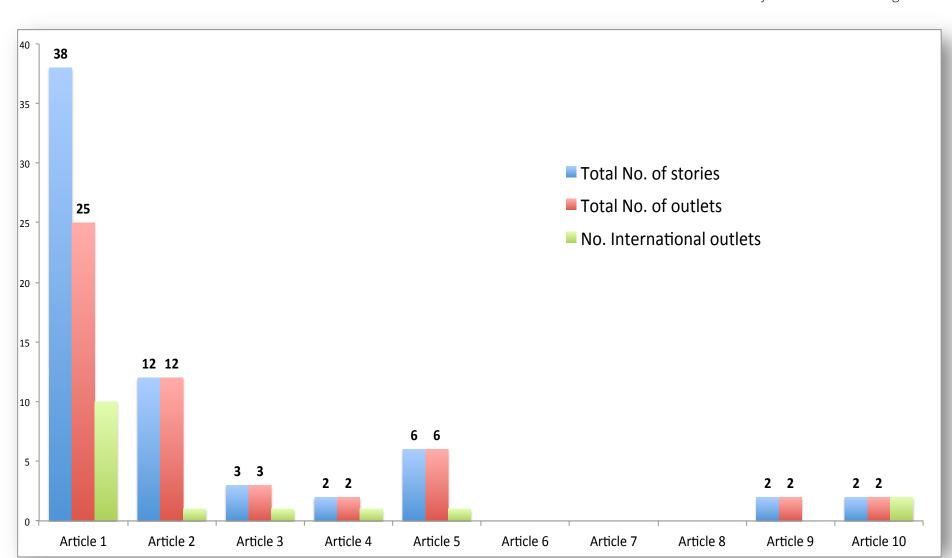
About this publisher: GOV.UK is a central website that covers all UK government departments, as well as many other agencies and public bodies. All policy papers and research publications by the UK government are listed on GOV.UK.

Countries: UK

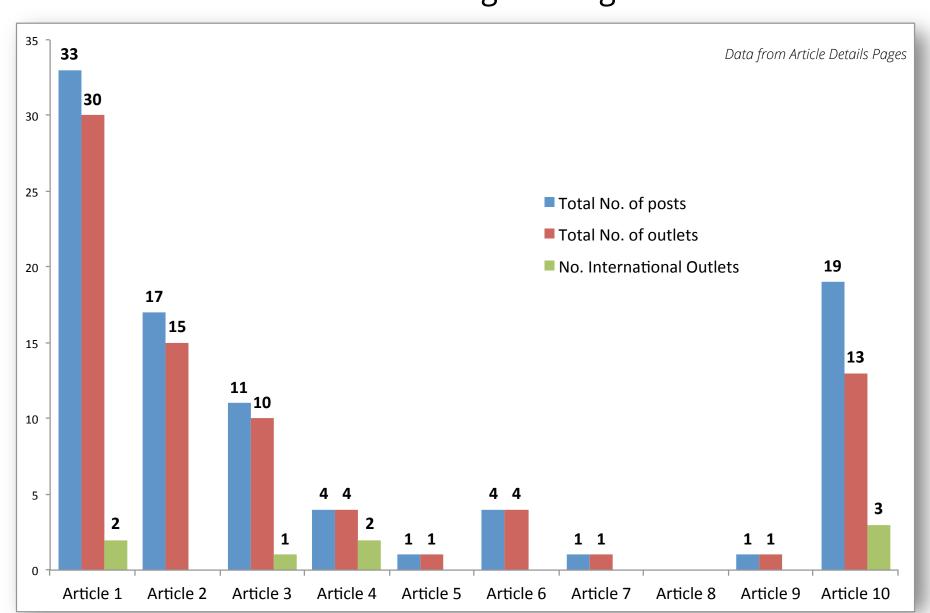
30-Nov-2010

Disseminated broadly: International News coverage = 60%

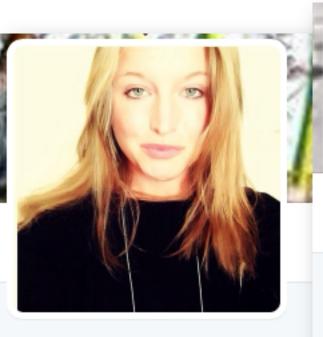
Data from Article Details Pages



Disseminated broadly: International Blog coverage = 40%



"Benefits to society": New communities, new conversations



Julie K. Johnson

@JulieKJohnson

Health, Dog & Rational Thinking
Enthusiast. PhD Candidate, Health
Policy. Humanist & Positivist. Fluent
sarcasm. linkedin.com/in/juliekjohns...



Geraldine McGinty

@DrGMcGinty

Physician leader, radiologist, advocate for quality imaging. Content is meant for informational purposes only and not as medical advice.



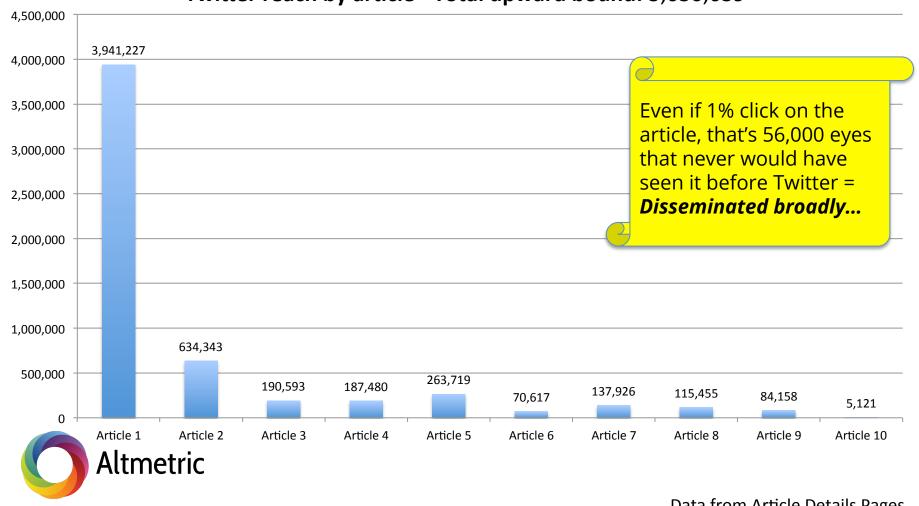
Dr. Bill Paul @billpaulmd

Director, Metro Public Health Dept

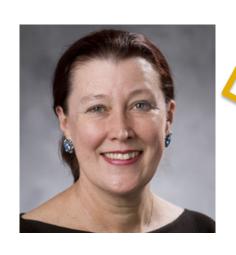
Nashville TN

Many many more eyeballs – Terrie's T10





Altmetric data saved time; met funder requirements



I save a tremendous amount time for my lab and me having to demonstrate "evidence of impact" to various funders.



Altmetric data made funder reporting easier



NIH Program Manager: "[This Altmetric data is] fantastic information for [our] budget report."



Before Altmetric data, Terrie didn't know...

- How broadly her work was disseminated
 - News vs policy vs blogosphere
- The difference in interest by media source
 - Methodology papers via Twitter
- That all this data could be aggregated in one place to save her time



In short...

- Online paradigm is changing how researchers communicate
 - Who they communicate with
- Outputs are trackable, traceable, and reportable
- Facilitating new kinds of story telling
- Give credit where credit is due

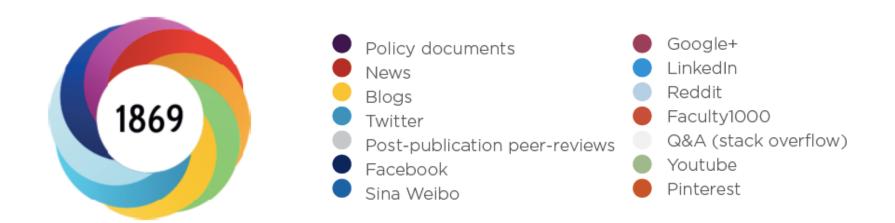




Questions? Thanks!

Sara Rouhi Product Specialist sara@altmetric.com

Wait, what's that donut?



Volume	Sources	Authors
The score for an article rises as more people mention it.	Each category of mention contributes a different base amount to the final score.	How often the author of each mention talks about scholarly articles influences the contribution of the mention.





Measuring Science

William Gunn

Head of Academic Outreach, Mendeley

http://orcid.org/0000-0002-3555-2054



- 1.A (very) brief history of metrics
- 2. Metrics at Mendeley & Elsevier
- 3.NISO ALMI Initiative: metrics standards

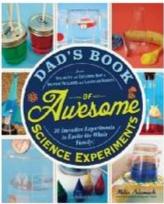


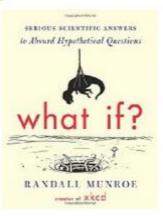
We have always used noncitation metrics

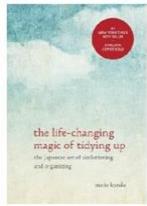


Recommendations for You in Books

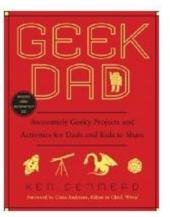












Featured Books

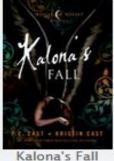




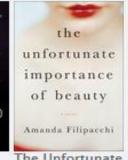


Between Lost

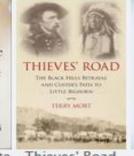
and Found







Beauty





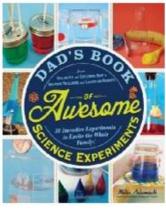
The Unfortunate Thieves' Road Importance of

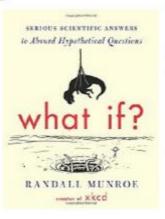
Red Queen

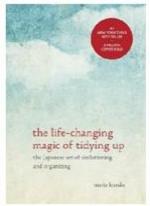


Recommendations for You in Books

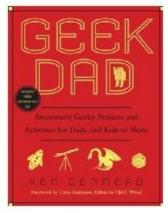












Amazon

Featured Books





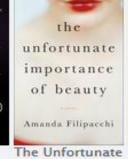


Between Lost

and Found











Traverse
Area
District
Library

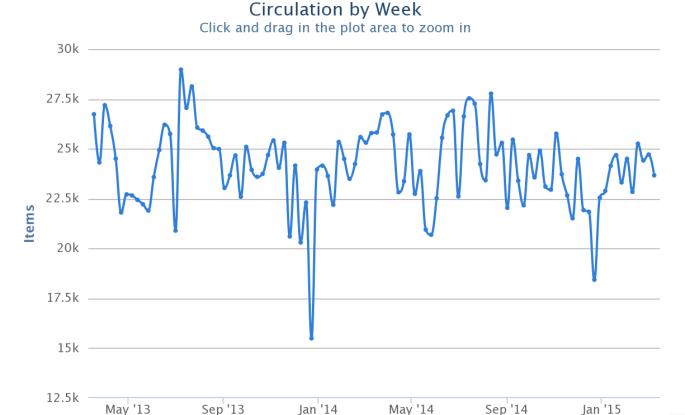


SO far this year, 86,056 books, 52,817 children's books, 69,370 movies, 28,347 albums, 3,937 magazines, 10,508 audiobooks and 575 puppets circulated.

14,607 public computing sessions by **3,668** users, totaling hours.

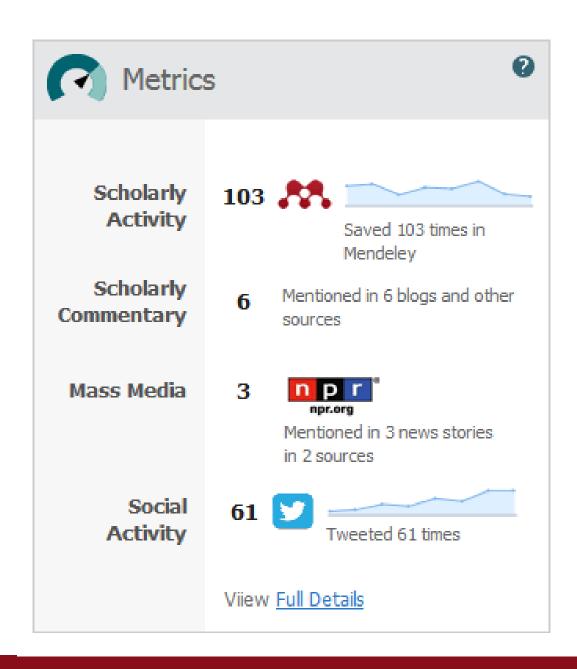
33,355 wireless sessions by 8,398 unique devices.

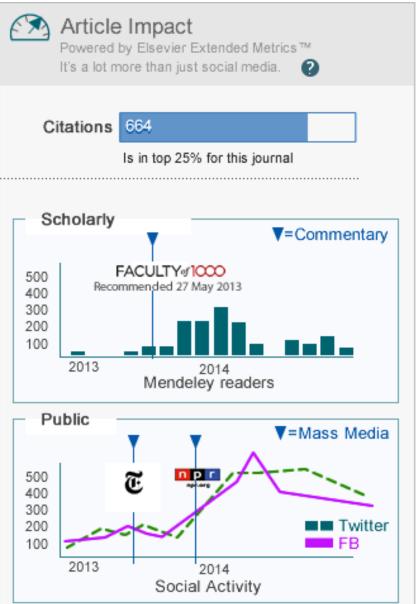
1,018 new user accounts created. 15,635 questions answered





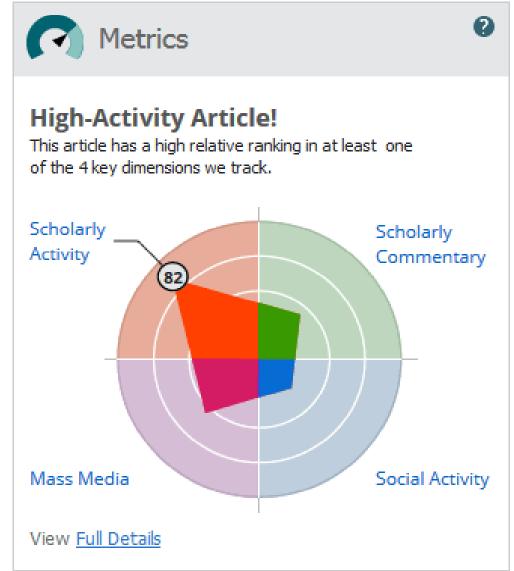












New metrics matter



https://www.mendeley.com/groups/586171/altmetrics/

- Li X, Thelwall M, Giustini D (2012) Validating online reference managers for scholarly impact measurement. Scientometrics 91: 461–471.
- Xuan Liang, et al. (2014) Building Buzz: (Scientists) Communicating Science in New Media Environments *Journalism & Mass Communication Quarterly December 2014 91: 772-791* http://dx.doi.org/10.1177/1077699014550092
- Li X, Thelwall M (2012) F1000, Mendeley and traditional bibliometric indicators. In: Proceedings of the 17th International Conference on Science and Technology Indicators. Montréal, Canada. pp. 451–551.







Scholarly

Biology articles of similar age

All articles in this journal

75th percentile

Based on Mendeley readers

50th percentile

Based on scholarly commentary

Public

All biology Articles

All articles of similar age

95th percentile

Based on tweets received

65th percenti le

Based on mass media

Viiew Full Details



Benchmarking Highlights

Measures of activity relative to specific research domains

Biology articles of similar age

75th percentile

Based on Mendeley readers

All biology Articles

95th percentile

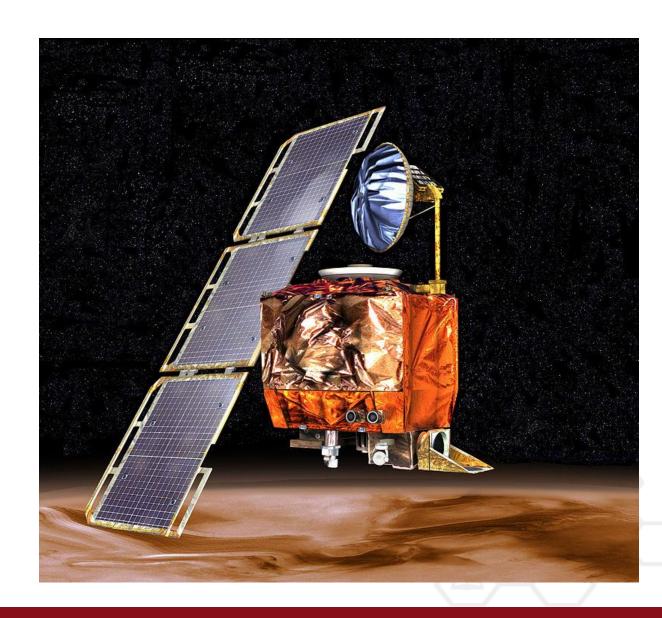
Based on tweets received

Viiew Full Details

Issues and challenges



- Trust
 - -Is the data reliable?
- Quality
 - -Is the data complete, accurate, available?
- Standards
 - Consistency in collecting and reporting the data



NISO ALMI Initiative



2013 - 2014 Phase I

3 meetings, 30 one-on-one interviews

1 White Paper

2014-2015 Phase II

Working Groups:

Definitions

Sources

Identifiers

Quality



Creepy or cool – how far is too far?

- We've saved your shopping cart for you!
- Your flight to Philadelphia is reduced until midnight!
- William, would you like to date mature Dutch singles?
- Your friend wrote this paper, maybe you should read it?
- Most people read a couple of pages and don't come back to this article
- Why don't you download this dataset instead of making some new figures?



There aren't metrics and altmetrics; there are only metrics

MENDELEY

www.mendeley.com

william.gunn@mendeley.com
@mrgunn

OUTREACH & ENGAGEMENT (O&E)

...is defined as meaningful and mutually beneficial collaborations with partners in education, business, and public and social service. It is:

- That aspect of research that makes what we discover useful beyond the academic community.
- That aspect of teaching that enables learning beyond the campus walls.
- That aspect of service that directly benefits the public.

Ohio State University Office of Outreach and Engagement http://outreach.osu.edu/about-us/faq.html



O & E









In the late 1990s, Michigan State University (MSU) found "a major barrier to faculty involvement in outreach and engagement activities" was...

P & T

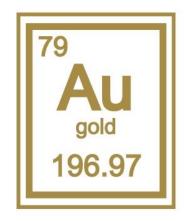
• MSU revised made changes to P&T "...to better align faculty roles and rewards with institutional value of outreach and engagement and to facilitate faculty reporting outreach and engagement."

O & E + P & T

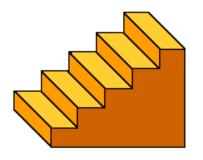


- Research-Intensive Universities (RIU)
- Primarily Undergraduate Institutions (PUI)
- Hybrid

Institution type



Institutional values



Career level

O & E IMPACT

- Current institutional measures
- Your data
- Altmetrics
 - Media mentions
 - Media interviews
 - Social media mentions (#impact)
 - Downloads, likes, shares

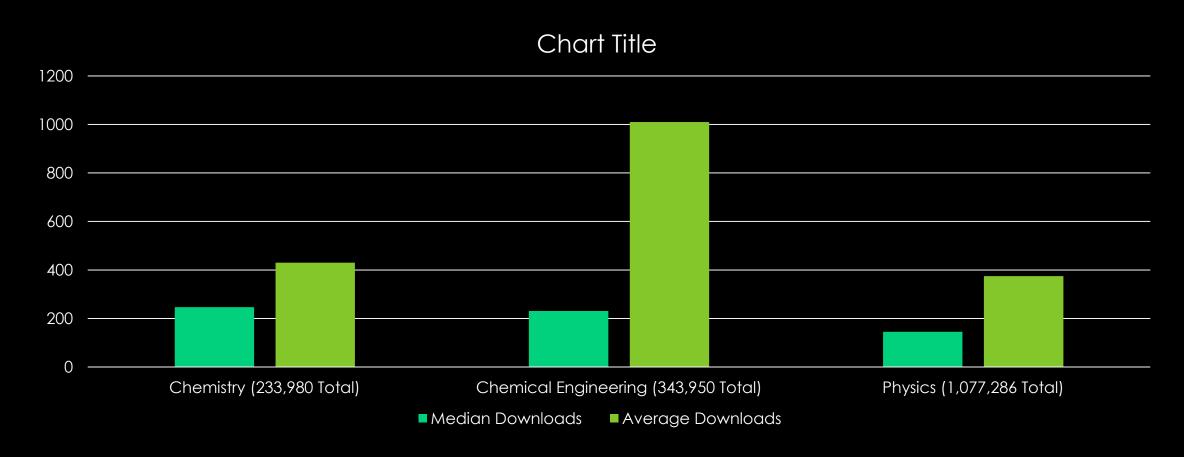




Kiyomi D. Deards, University of Nebraska-Lincoln kdeards2@unl.edu, @KiyomiD



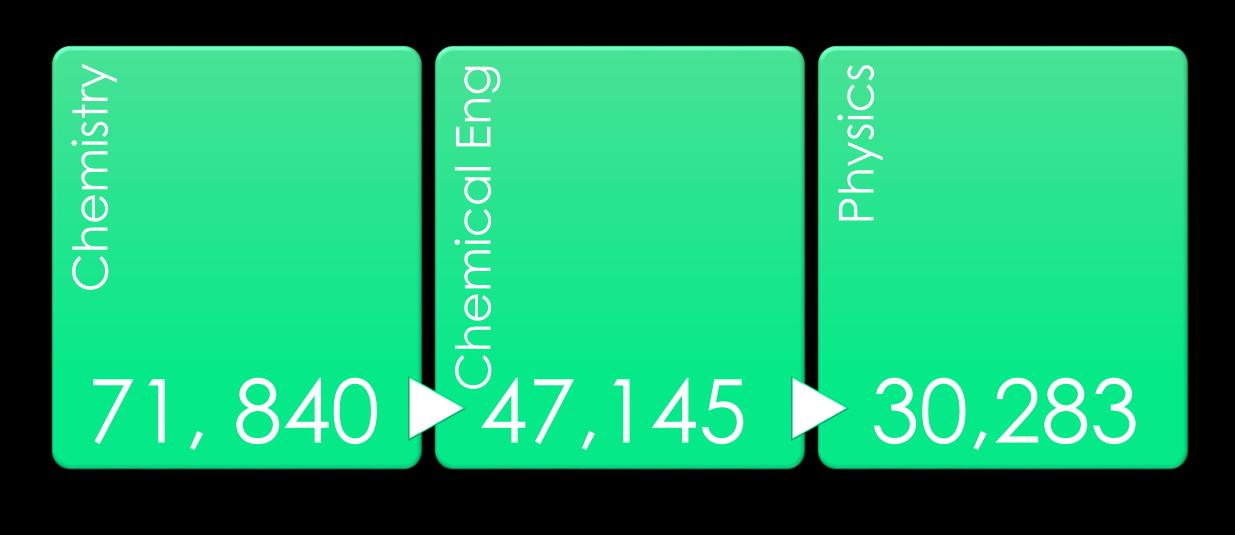
WHAT IS A SIGNIFICANT NUMBER OF DOWNLOADS FROM AN IR?



Speaker Notes Slide:

The previous chart and those to follow use numbers from the University of Nebraska-Lincoln Digital Commons from papers uploaded, and their download statistics, between 2005 and February 2015. While each institution is unique, as the third largest institutional repository in the world download statistics from this repository can show general disciplinary trends.

TOP DOWNLOADED PAPER



Speaker Notes Slide:

- Primase structure and function http://digitalcommons.unl.edu/chemfacpub/2
- Haemophilic Factors Produced by Transgenic Livestock: Abundance that can enable alternative therapies worldwide http://digitalcommons.unl.edu/chemeng_biotechnology/13
- Diffractive Dijet Production at √s= 630 and 1800 GeV at the Fermilab Tevatron http://digitalcommons.unl.edu/physicsbloom/69

TOP 10%

	Total # of Papers	# of Downloads / Paper in the Top 10%	
Chemistry	543	936+	
Chemical Engineering	341	2,100+	
Physics	2,872	2,872+	

SCHOLARLY OR HOW TO?

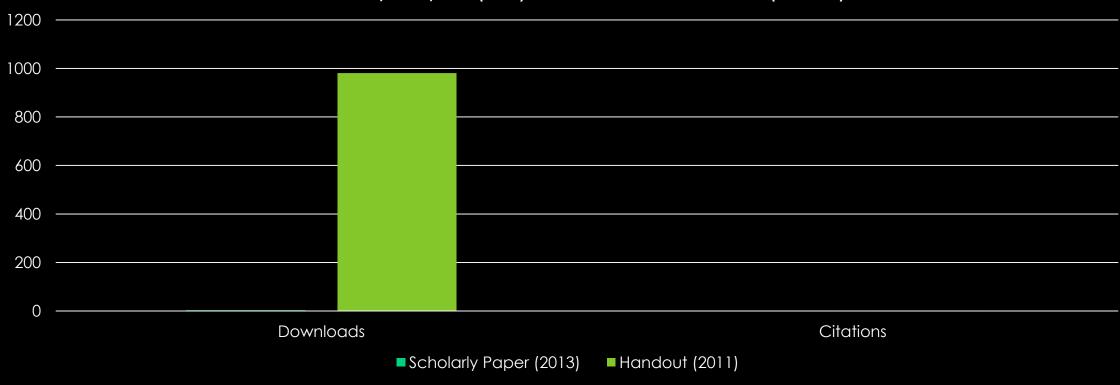


10 Easy Steps to

Understanding...

DOWNLOADS OR CITATIONS?

Scholarly Paper (1,1) v. How to Handout (981,1)



Speaker Notes:

Note how small the graphs for the number of citations and downloads for the scholarly article are when compared to the downloads for the "how to" handout.

This graph compares the 2013 scholarly paper:

Why, How, and Where We're Going Next: A Multi-Institution Look at Data Management Service by Kiyomi D. Deards

http://www.clir.org/pubs/reports/pub160

with the ACRL 2011 handout:

Staying Genuine And Creating Connections: Networking And Involvement For Introverts http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1064&context=library_talks
This paper is the 6th most popular in its category

LIBRARY PUBLICATIONS

	Total Publications	Average # of Downloads	# of Downloads / Paper in the Top 10%
Conference Publications & Speeches	104	328	687+
Full Text Downloads of Faculty Publications	307	1,160	2678+

OTHER CITATIONS & IMPACTS

A Brand

An Expert A Speaker

An Instructor

