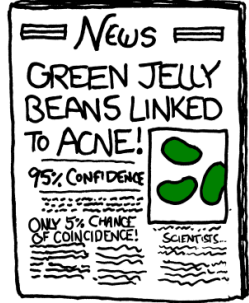
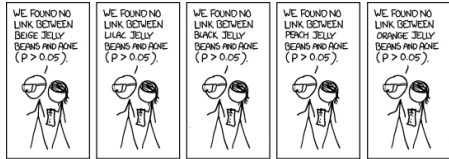
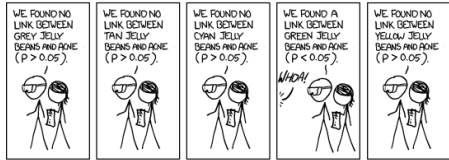
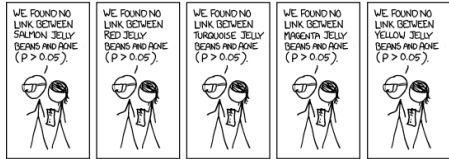
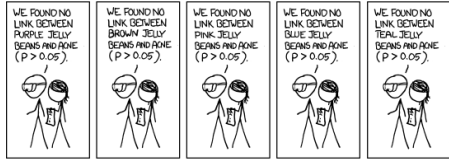
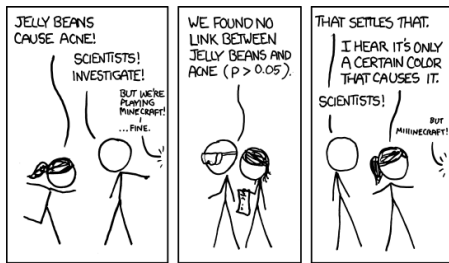


# **Knowledge Mobilization? Evidence from Altmetric**

Abel Brodeur, Nikolai Cook, Anthony Heyes, Taylor Wright

- Incentives and efficiency around external mobilization of academic research (with application to health/public health)



WE FOUND NO  
LINK BETWEEN  
SALMON JELLY  
BEANS AND ACNE  
( $P > 0.05$ ).



WE FOUND NO  
LINK BETWEEN  
RED JELLY  
BEANS AND ACNE  
( $P > 0.05$ ).



WE FOUND NO  
LINK BETWEEN  
TURQUOISE JELLY  
BEANS AND ACNE  
( $P > 0.05$ ).



WE FOUND NO  
LINK BETWEEN  
MAGENTA JELLY  
BEANS AND ACNE  
( $P > 0.05$ ).



WE FOUND NO  
LINK BETWEEN  
YELLOW JELLY  
BEANS AND ACNE  
( $P > 0.05$ ).



WE FOUND NO  
LINK BETWEEN  
GREY JELLY  
BEANS AND ACNE  
( $P > 0.05$ ).



WE FOUND NO  
LINK BETWEEN  
TAN JELLY  
BEANS AND ACNE  
( $P > 0.05$ ).



WE FOUND NO  
LINK BETWEEN  
CYAN JELLY  
BEANS AND ACNE  
( $P > 0.05$ ).



WE FOUND A  
LINK BETWEEN  
GREEN JELLY  
BEANS AND ACNE  
( $P < 0.05$ ).



WE FOUND NO  
LINK BETWEEN  
MAUVE JELLY  
BEANS AND ACNE  
( $P > 0.05$ ).



== NEWS ==

GREEN JELLY  
BEANS LINKED  
TO ACNE!

95% CONFIDENCE

ONLY 5% CHANCE  
OF COINCIDENCE!



SCIENTISTS...

- Note, there is nothing “wrong” with the “GREEN” study. It is just that its implication can’t be understood if reader does not see the other experiments.
- Oster (AER:J 2020): Evidence from dietary and health supplements of dynamic process where early spurious findings on health can be self-reinforcing. Dynamic selection: Take-up of behavior mostly among people who also adopt other (unobserved) positive health behaviors biasing subsequent in favour of intervention observational studies.

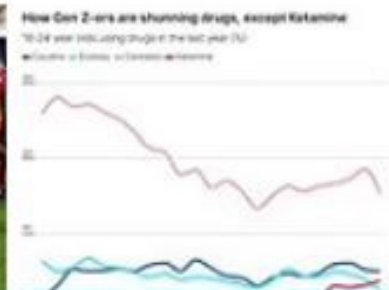


ve.

**Left royally hanging! Awkward**



**My fair Zara! Princess Anne's**



**Gen Z's new party drug of choice:**



**Woman, 78, dead and man arrested**

## Drinking just ONE soda per day raises risk of going bald in men by up to 60%, study suggests

- One sugary drink each day can significantly increase a man's risk of hair loss



### ? About this Attention Score

In the top 5% of all research outputs scored by Altmetric

MORE...

#### Mentioned by

- 86 news outlets
- 4 blogs
- 188 X users
- 2 Facebook pages

### SUMMARY

News

Blogs

X

Facebook

Reddit

Dimensions citations

<b>Title</b>	The Association between Sugar-Sweetened Beverages and Male Pattern Hair Loss in Young Men
<b>Published in</b>	Nutrients, January 2023
<b>DOI</b>	10.3390/nu15010214 <a href="#">↗</a>
<b>Pubmed ID</b>	36615870 <a href="#">↗</a>
<b>Authors</b>	Xiaojin Shi, Hsiaohan Tuan, Xiaona Na, Haibing Yang, Yucheng Yang, Yulin Zhang, Menglu Xi, Yuefeng... <a href="#">[show]</a>

[↗ View on publisher site](#)

[✉ Alert me about new mentions](#)

X Demographics

Mendeley readers

Attention Score in Context



This research output has an **Altmetric Attention Score** of **800**. This is our high-level measure of the quality and quantity of online attention that it has received. This Attention Score, as well as the ranking and number of research outputs shown below, was calculated when the research output was last mentioned on **30 May 2024**.

#### ALL RESEARCH OUTPUTS

< **#24,511**

of 26,058,621 outputs

#### OUTPUTS FROM NUTRIENTS

**#53**

of 22,268 outputs

#### OUTPUTS OF SIMILAR AGE

**#690**

of 484,177 outputs

#### OUTPUTS OF SIMILAR AGE

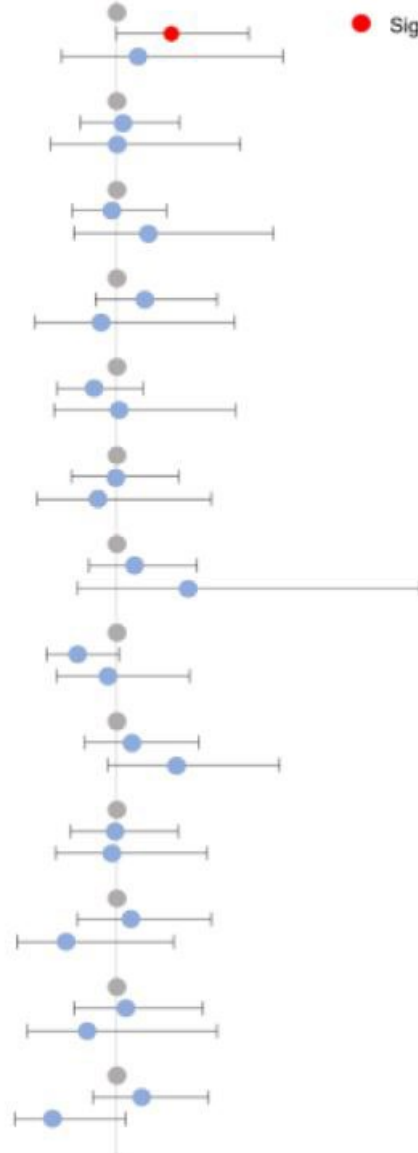
**#1** >

of 1,081 outputs

Activate Windows  
Go to Settings to activate Windows

### Model 4

- Reference
- Non-significant
- Significant



- How general is this? How pronounced is the link between statistical significance and the mobilization of knowledge the ‘real world’?

# What do we do?

- Study the universe of papers published in the 3 leading health/public health journals (BMJ, The Lancet, NEJM) 2018 – 22.
- Almost all statistical; standard format abstracts.
- Collect  $p$ -values from each abstract (sometimes confidence interval) and record various article characteristics - gives 10,404
- Link that to the Altmetric Score (and its components) for article.

# Your influence. Tracked. Explained. Visualized.

Altmetric's interface tracks online engagement to reveal how and where your research is making a difference.

[Request a demo](#)

- Altmetric is a widely-used measure of research attention or influence.
- Algorithm combines citations in newspapers, social media, policy documents, blogs, Wikipedia etc.'
- Various weights applied (e.g. citation in New York Times worth more than in a local paper; social media followership, etc..)
- Efforts to reduce manipulation/distortion.



33

### Temperature and decisions: Evidence from 207,000 court cases

Heyes, A. & Saberian, S., 2019, In: American Economic Journal: Applied Economics. 11, 2, p. 238-265 28 p.  
Research output: Contribution to journal > Article > peer-review

Open Access

- Temperature
- Immigration
- Climate
- Risk Appetite
- Economic Journals

38

Citations (Scopus)



283

### The economic evaluation of the benefits and costs of carbon capture and storage

Heyes, A. & Urban, B., 2019, In: International Journal of Risk Assessment and Management. 22, 3-4, p. 324-341 18 p.  
Research output: Contribution to journal > Article > peer-review

Open Access

- Carbon Capture And Storage
- Carbon
- Economic Evaluation
- Costs And Benefits
- Economics

4

Citations (Scopus)



## 2018

### Air quality and error quantity: Pollution and performance in a high-skilled, quality-focused occupation

Archsmith, J., Heyes, A. & Saberian, S., 1 Oct 2018, In: Journal of the Association of Environmental and Resource Economists. 5, 4, p. 827-863 37 p.  
Research output: Contribution to journal > Article > peer-review

- Acute Effects
- Air Quality
- Air Quality
- Air Pollution
- Space And Time

68

Citations (Scopus)



216

Asiva  
Scopus



**? About this Attention Score**

In the top 5% of all research outputs scored by Altmetric

**MORE...**

**Mentioned by**

- 13 news outlets
- 7 blogs
- 5 policy sources
- 58 X users

**SUMMARY**

News

Blogs

Policy documents

X

Dimensions citations

You are seeing a free-to-access but limited selection of the activity Altmetric has collected about this research output. **Click here to find out more.**

**Title** Air Quality and Error Quantity: Pollution and Performance in a High-Skilled, Quality-Focused Occupation

**Published in** Journal of the Association of Environmental and Resource Economists, October 2018

**DOI** 10.1086/698728 [↗](#)

**Authors** James Archsmith, Anthony Heyes, Soodeh Saberian

[↗ View on publisher site](#)

[✉ Alert me about new mentions](#)

[X Demographics](#)

Mendeley readers

Attention Score in Context

The data shown below were collected from the profiles of **58** X users who shared this research output. [Click here to find out more about how the information was compiled.](#)

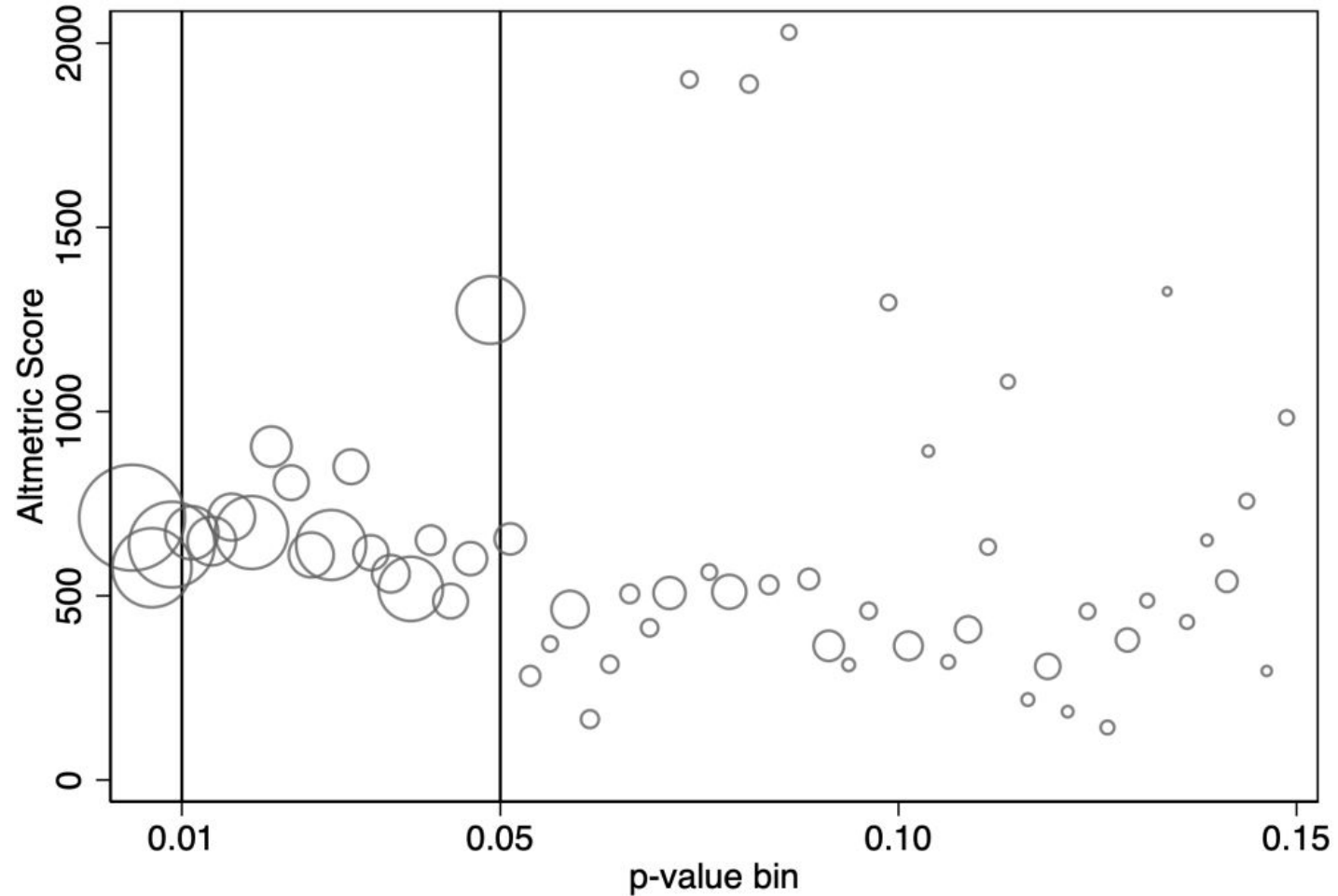


**Activate Windows**  
Go to Settings to activate Windows.

# Link $p$ -value to Altmetric Score

1. Simple FE specification regressing Altmetric indicator variables for significance interval in which  $p$ -value falls
2. Caliper method
3. RDD-inspired method

# Eyeball Method



Bins of width 0.0025. Markers weighted by number of test statistics they represent.

# Indicator variables

	Altmetric		
	(1)	(2)	(3)
p < 0.01	259.00*** (47.46)		301.27*** (54.44)
p < 0.05		264.41*** (50.67)	109.50* (59.38)
Year FE	Y	Y	Y
Journal FE	Y	Y	Y
Obs.	10,404	10,404	10,404
Avg. Alt.	857	857	857
Sci. Eff.	0.30		0.35
Sci. Eff.		0.31	0.13
p-Window	[All]	[All]	[All]



# Caliper Method

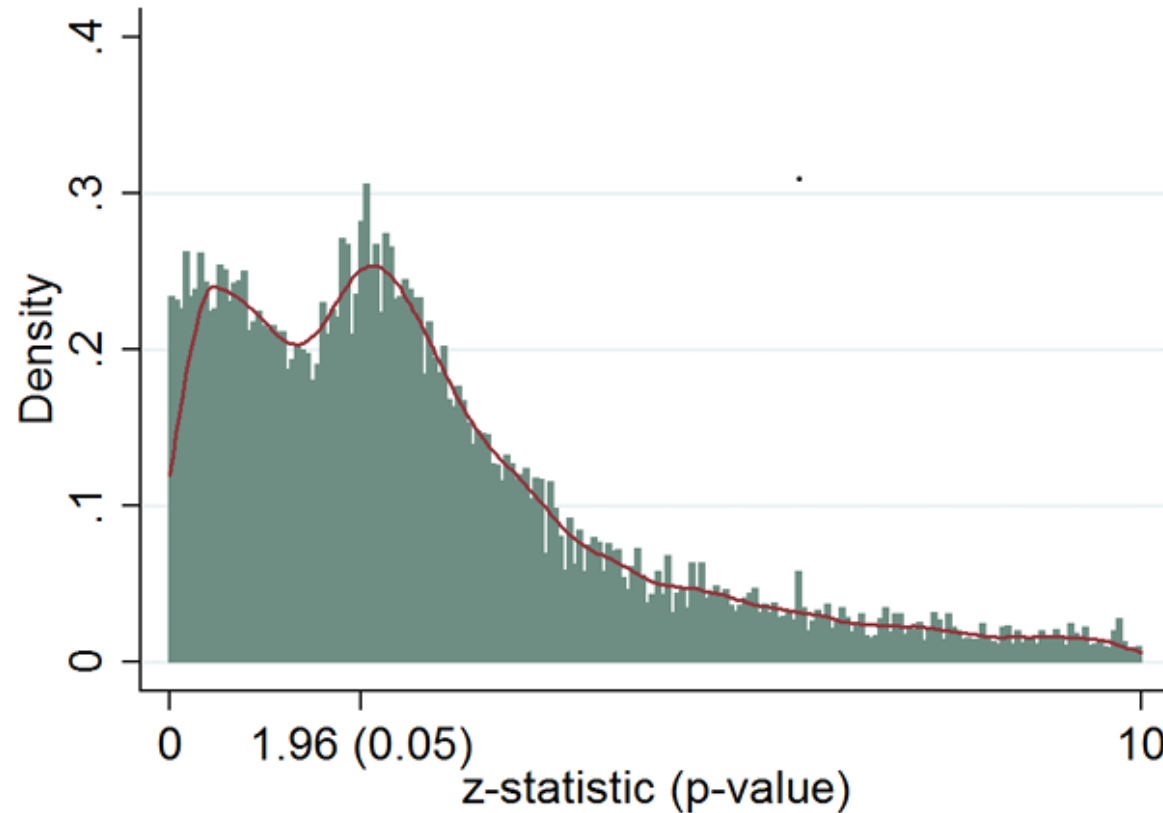
	Caliper 5%			Caliper 1%		
	(1)	(2)	(3)	(4)	(5)	(6)
p < 0.05	180.75** (83.08)	277.54*** (92.84)	304.52** (129.29)			
p < 0.01				233.68*** (52.81)	227.88*** (59.18)	253.26*** (68.29)
Year FE	Y	Y	Y	Y	Y	Y
Journal FE	Y	Y	Y	Y	Y	Y
Obs.	1,228	755	407	7,724	7,419	7,044
Avg. Alt.	708	722	861	930	944	957
Scl. Eff.	0.26	0.38	0.35			
Scl. Eff.				0.25	0.24	0.26
Prop. Sig.	0.80	0.80	0.73	0.85	0.88	0.93
p-window	$[\tau \pm .03]$	$[\tau \pm .02]$	$[\tau \pm .01]$	$[\tau \pm .03]$	$[\tau \pm .02]$	$[\tau \pm .01]$

# RDD-inspired

	Discontinuity at the 5% Threshold					
	(1)	(2)	(3)	(4)	(5)	(6)
RD_Estimate	648.07*** (215.84)	696.46*** (232.07)	718.93*** (250.46)	663.22*** (228.78)	722.24*** (244.90)	743.88*** (256.59)
Obs.	10,404	1,228	407	10,404	1,228	407
Avg. Alt.	857	708	861	857	708	861
Scl. Eff.	0.76	0.98	0.84	0.77	1.02	0.86
RD Cutoff	0.05	0.05	0.05	0.05	0.05	0.05
Polynomial Degree	1	1	1	2	2	2
p-Window	All	±0.03	±0.02	All	±0.03	±0.02

- Preferred estimate: moving  $p$  from just above 0.05 to just below has big causal effect on attention paid to a result – perhaps increases by 50%? 100%?
- Particularly driven by “News” component.
- Problematic incentives for academic publishing now well accepted (and reforms in hand), we extend this to incentives around external promotion of science.

# From Brodeur et al “Star Wars: The Empirics Strike Back” (AEJ:AE 2016)



# Our data

