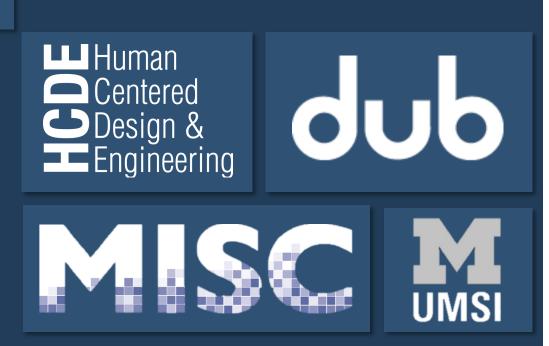
Sean A. Munson Stephanie Y. Lee Paul Resnick







Understand today tonight. ABC Evening News with Frank Reynolds

50% of adults watched one of three broadcasts in 1970.

by 2007, this had 10%

Prior 2007, Bennett & Iyengar 2008



JON STEWART



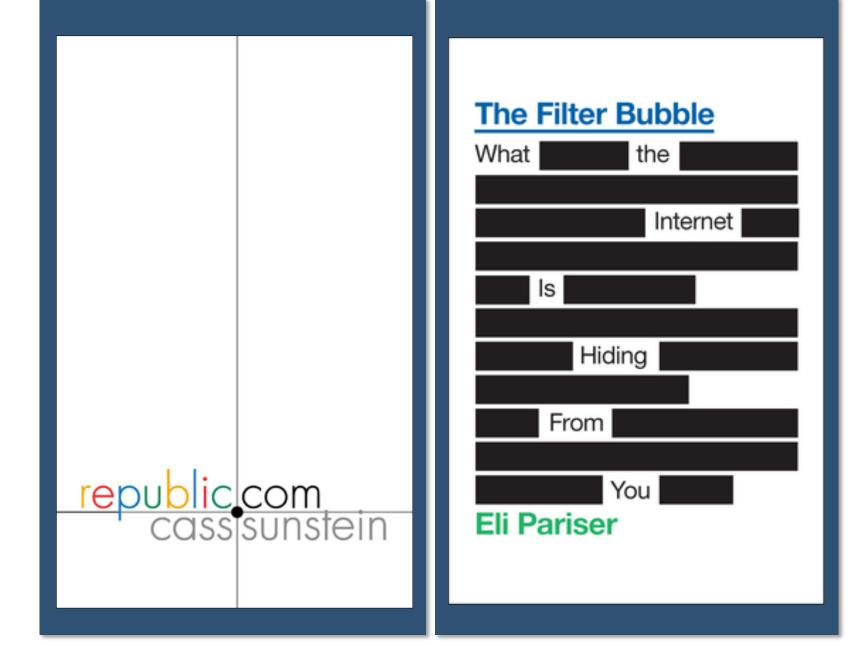
Understand today tonight. **Evening News** Frank Reynolds











Perils of choice

- People prefer to see **agreeable opinions**. (Selective Exposure)
- Technology makes it easier for people to **act on those preferences**, and, in some cases, provides content after assuming those preferences.

Perils of choice

- People prefer to see **agreeable opinions**. (Selective Exposure)
- Technology makes it easier for people to **act on those preferences**, and, in some cases, provides content after assuming those preferences.
- When people predominantly access agreeable opinions:
 - consensus.
 - understanding & empathy.
 - Iearning.

Mixed evidence, lots of hand-wringing

- People *say* they seek diversity (Stromer-Galley 2003)
- People seem to agree with the norm of diverse news exposure (Garrett & Resnick 2012)
- Ideological segregation segregation online is not as bad as some fear. (Gentzkow & Shapiro 2010)

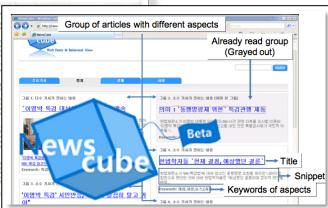
- People seek agreeable information but are indifferent to challenging information (Garrett 2009)
- Some people are challenge averse and some are diversity seeking (Munson & Resnick 2010)
- ... but is worse online than other media (Gentzkow & Shapiro 2010)

- Why the public option matters (Paul Krugman NYTINes.com) Most apprents against the public option are based after an ostbeware missresementation of what that option would mass, or on remarkably (horough that he public option must be dropped to go the voides of endst Demonsters — the apprent application apprents — control Demonsters instituted has the public option must be dropped to go the voides of endst Demonsters — the application application appendix because it is, honce, a government program. And sooner or later Democratis have to take a stand against Respiration — against the presumption that if the government does it, is hout.
- (** come to this August wasn't a setback for us at all, says Globs (Hot Ar) If is come to this August wasn't a setback for us at all, says Globs (Hot Ar) In which Behwy Bot channels Baydad Bub. Despite a month of near-daily 'Oband's approval rating at new low' headlines and deteriorating numbers for Coll more leading the site cores previously to level with the mass participation of the low bub the set of the boot poetfor Coll more leading the site core and the site of the set of the set of the site of the set of the boot poetfor the sort of investele grassrost backash that stimut in August? I nearlies I's Globs (so to le for this boss, but providing come fodder for right) bogw with transparent gatages the tis can be helping much. All andher poet darking the borting. Types adds (the what the big dail all add) to come in fodder for right bogw with the sort of Lowns's been recycling the same role taiking points for months. Globs's answer: Weil, it's a big forum. The correct answer, via Jay Cost: They're out of mores, it's Hall May time.
- Kingston Claims Health System Worked "Very Well" For Bankrugt Cancer Survivor Without Insurance (Think Progress) At a moort town hall held by Rep. Jack Kingston (RAA), an eldorly gentleman named Jim Pakter stood up and told the corgressman hat he was meently taked for coinc career. ¹ did not ken immune: ¹ he said bcause "Brings did rule work out" after bestach is own bainers. ¹ Bring did care stranger did work of the first bestach is non bainers. ¹ Bring did care stranger did work of the first bestach is non bainers. ¹ Bring did care stranger did by different to the stranger did did by the stranger did did by the stranger did by the stranger did by the stranger did did by the stranger did did by the stranger did by the stranger did did by the stranger did by the stranger did did did by the stranger did by the str
- Gay, Marriage Rage (Mague) Gallacher Townholl com) was in Maior on takely that manage called for the latter howeverber. I went to Maine as president and founder of the National Organization for Manage, which helped local groups organize the signature drive in Maine, as we did to California for Proposition 8. Most of the people in Maine were entrusiated, but ore diagrams asked method. The signature drive in Maine, as we did to California for Proposition 8. Most of the people in Maine were entrusiated, but ore diagrams asked method. The signature drive and the signature drive the signature drive and the signature drive and a signature drive and the signature drive and the signature drive and the signature drive and the signature drive d
- conduct the details. They takeve only one side has the moral right to be head. **Perry manique of distribute books Gov**, Rick Perry railed opposition to federal stimulus spending, but he row is the manager of one of the biggest pots of federal gold in Texas: orine grants to board law enforcement agencies. And these grants have become an integral part of Penry's policial machine. Penry in the part has docided what law enforcement agencies nective about 325 million's year if Schward Dyne Mannala Juscia Assistance grants. Now, bacause of the American Rocovery and Neinvestiment the more work board. Start the section of the law of the more and the parts have been applied for the section of the section

Highlighting & ordering based on agreeability.

Didn't work. (Munson & Resnick 2010)

- Why the public conitor mattern (Paul Krugman WTImes.com) Most arguments againt the public colon are based other on disbertal missingensentation missingestanding of the concept, which pensits to a frastrating degree. Aside from the last the public option must be dropped to get the votes of centrist Democratis — whe and because it is, horrors, a government program. And scorer or later Democrats have to to government does it, it's bad.
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- Gay Marriage Rage (Mappie Gallagher Townhall.com) I was in Mano the dip that marriage gallified for the batch this November. I went which helped load groups expands the signature drive in Malen, as we die in Californ that and the second second second second second second second second tables and the second second second second second second second second conclust the dealers. They believe evid on side has the most light to be haved.
- Parry making use of atimulus boost (Houston Chronicle) Gov. Rek Parry ralled oppositor to federal strukus separing, but he now is the manulocal law enforcement approximation and the part of the manulocal law enforcement approximation and the separation and the second Act. Perry ethic have an additional Stromino In than dori. While Perry difficults is the cothe morely and how it is spert. The political approf has been great. About 58 million in Every time Perry doles out the federal Byreng miths, the sounds like the morely is his.
- Highlighting ordering ba agreeability Didn't work. (Munson & Res



Recommendations of different facets on a topic.

Success in the lab. (Park et al. 2009)

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Recommendat of different fac on a topic. Success in the lat (Park et al. 2009)

Chris Francescani / Reuters:

Trayvon Martin's killer showed signs of injury: <u>neighbors</u> — (Reuters) - Neighbors of George Zimmerman say he had bandages on his nose and head the day after he shot dead Trayvon Martin, supporting statements by the neighborhood watch volunteer that he was beaten in a confrontation with the black Florida



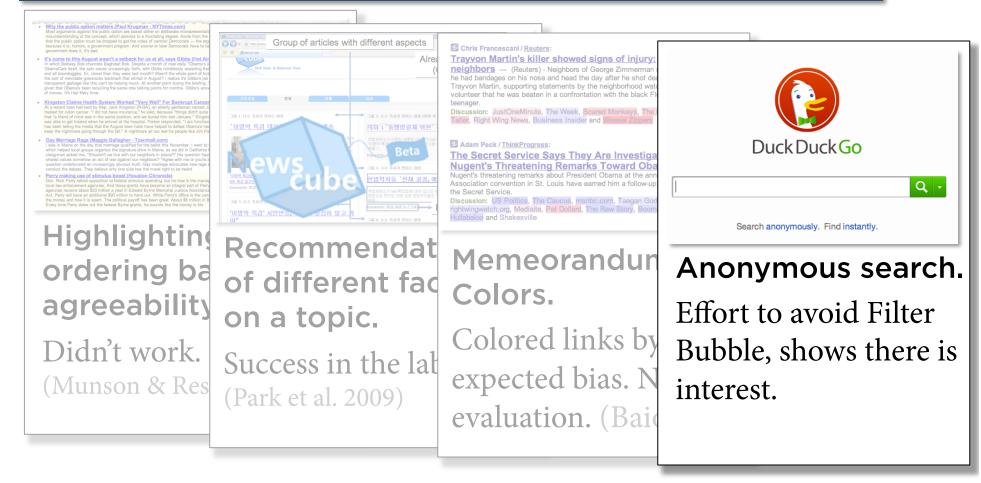
Discussion: JustOneMinute, The Week, Scared Monkeys, The Gateway Pundit, The PJ Tatler, Right Wing News, Business Insider and Weasel Zippers

Adam Peck / ThinkProgress:

The Secret Service Says They Are Investigating Ted Nugent's Threatening Remarks Toward Obama — Ted Nugent's threatening remarks about President Obama at the annual National Rifle Association convention in St. Louis have earned him a follow-up conversation with the Secret Service. Discussion: US Politics, The Caucus, msnbc.com, Taegan Goddard's ..., rightwingwatch.org, Mediaite, Pat Dollard, The Raw Story, Booman Tribune, Hullabaloo and Shakesville

Memeorandum Colors.

Colored links by expected bias. No evaluation. (Baio)



Research objectives

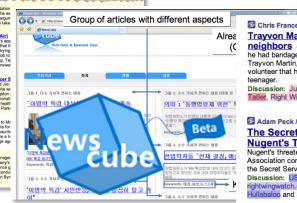
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See the norman going unsequences to the **See Warnings Result Magin Gallapher**. Townhall.com) was in Mario on the day that maninge qualified for the balatit this November. I went to Mu which helped local groups organize the signature drive in Makars, as we dd in California for clergyman saked mi. Shouldn't we live with our neighbors in pasc?¹ His quastion hants thand values controls and cit of an gradient or melphons?¹ Mayse with me or you'n a h control with the section of the control of the section of the control of the section of the

Parzer making use of stimulus based Liferation Chronicki) Gov. Ros-Neyr elegate deposition to feed estimate specific parts that the manager local law enforcement approces. And those grants have become an integral part of Party approcess incrime should be an integrated to the strategiest part of the strategiest approvement of the strategiest part of the strategiest part of the strategiest approximation of the strategiest part of the strategiest part of the strategiest the more grant base of the foreign strategiest parts and the strategiest part of the strategiest parts and the strategiest parts and the strategiest parts and the strategiest parts and strategiest parts and the strategiest parts and the strategiest parts and the strategiest parts and strategiest parts and the strategiest parts and the strategiest parts and the strategiest parts and strategiest parts and the strategiest parts a





Can we design interfaces that help people read more balanced news in an environment of choice?

Research objectives

Existing behavior

- To what extent do people read ideologically agreeable or disagreeable news?
- Can we predict this based on personality or demographic traits?

Changing behavior

- Can we design interfaces that help people read more balanced news in an environment of choice?
- Are there personality or demographic traits that predict persuadability?

Study Design

Measuring Behavior • Changing Behavior

Study Design

Measuring Behavior • Changing Behavior

Apparatus

- Chrome extension recording visits to all sites matching a whitelist of news sites (*n*=10,570), including up to 30 days of pre-installation history.
- Subset (*n*=7,618) of sites classified according to political lean.

Classifying visits

Classified at top-level domain by:

- Averaging lean from several sources, including:
 - Memeorandum Colors (link-similarity based; Baio)
 - Left and right audience share (Gentzkow & Shapiro 2010)
 - Votes from classified Digg users and links from blogs (Munson et al. 2009)
- Classifying some columnists separately (e.g., David Brooks on New York Times)
- Manual corrections during testing (the Ann Coulter effect)

Sites & classification at balancestudy.org/whitelist-classifiable.html

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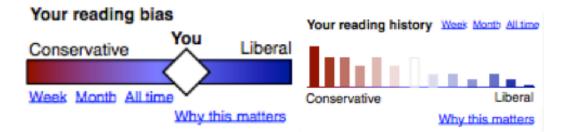
Sites & classification at balancestudy.org/whitelist-classifiable.html

Study Design

Measuring Behavior • Changing Behavior

Our widget

Personal informatics approach: designed to reveal users' actual lean in reading behavior



Our widget

Personal informatio users' actual lean in

Your	reading	j bias
Cons	ervative	Y
		<
Week	Month /	All time
		7

When do people consider diverse views?

- When their **curiosity** has been piqued. (e.g., Newscube)
- When they have been reminded of **norms of fairness and balance**.
- When they are **less confident** in their own knowledge.

Our widget Personal information users' actual lean in

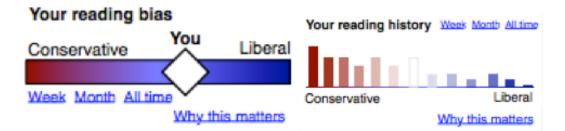
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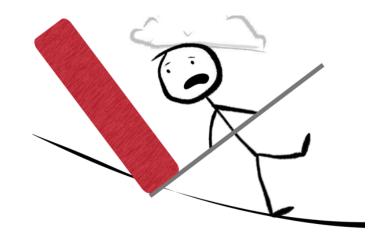
Our widget

Personal informatics approach: designed to reveal users' actual lean in reading behavior

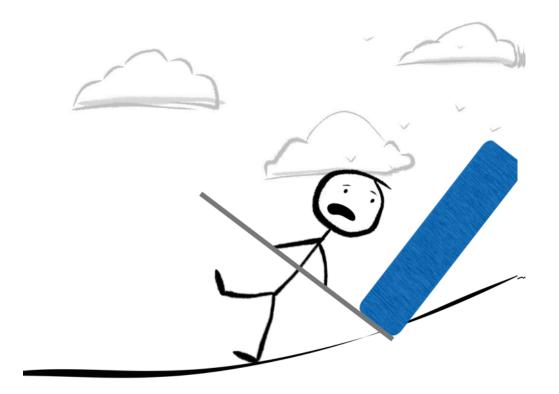


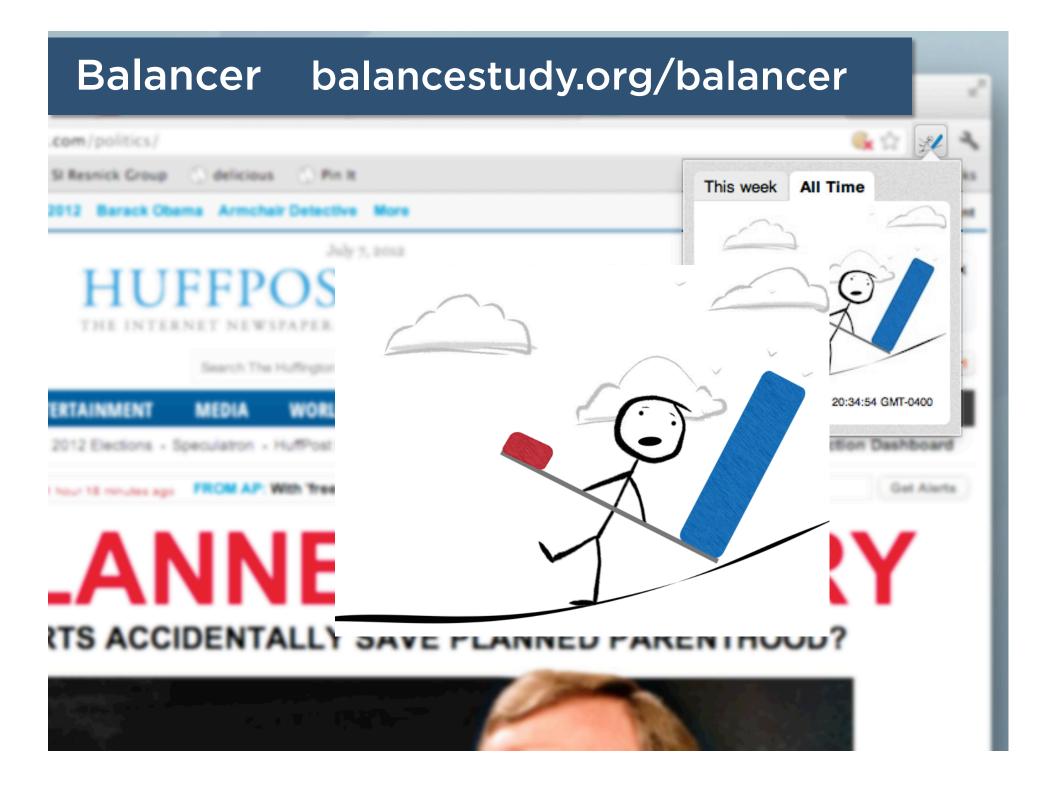
Normative message, added to encourage a user to

be balanced.



Balancer balancestudy.org/balancer





Subject accesses website & reviews materials

Balancer FAQ The Research Project



Reveal the balance of your newsreading.

Balance

Install Chrome extension now Balancer analyses your web browsing to show you the political slant of your reading history. If you get way out of balance, we may even give you reading suggestions.

	Sec. 24 1
	This week All Time
ITICS	
CH GREEN G	Updated: Sat Jul 07 2012 20:34:54 GMT-0400 (EDT)

How it works

Balancer classifies pages based on their address: does this source tend to get linked to by mostly liberals or conservatives? Is it regularly visited by liberals, conservatives, or a mix? This is imperfect, but in aggregate, it's pretty good.

Sean Munson & Paul Resnick · School of Information, University of Michigan · Department of Human Centered Design & Engineering, University of Washington · supported by National Science Foundation award #IIS-0916099

You should know

This is a research project. Balancer transmits a portion of your browsing history — sites matching a list of known news sites — to us. We do not ask for any personally identifiable information and cannot link your history back to you, only to your extension.

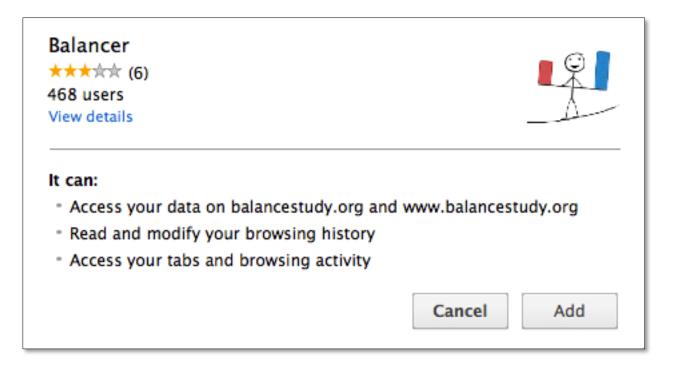
After you install the extension, you'll be asked to complete a brief (4 minute) survey. This helps us with our research.

You may stop participation at any time by uninstalling the extension.

If you have questions, you can email us at balanceteam@umich.edu.

1 Subject accesses website & reviews materials

2 Subject installs browser extension



- Subject accesses website & reviews materials
- 2 Subject installs browser extension
- 3 Subject prompted to complete survey (political lean, Big 5 personality, demographics)

	Wel	come to BALANCE!						
E E	Before	you get started, we've love for you to c	complete this short sur	vey to help with	our research.			
I	f you h	ave already taken this survey on anoth	ner computer, please g	lick here.				
	— Fina 1. 2. 3.	Ily, please tell us a bit about your de Sex: Male Female Prefer not to answer Age: years Are you registered to vote in the U Yes, I am. No, I am not.						
	« Pi	revious						Submit
	Have	e frequent mood swings	1	0 2	3	4	0 5	

- Subject accesses website & reviews materials
- 2 Subject installs browser extension
- 3 Subject prompted to complete survey (political lean, Big 5 personality, demographics)
- Randomized to treatment or control.
 Up to 30 days of prior history captured.

- Subject accesses website & reviews materials
- 2 Subject installs browser extension
- 3 Subject prompted to complete survey (political lean, Big 5 personality, demographics)
- A Randomized to treatment or control.
 Up to 30 days of prior history captured.
- 5 Control:28-day waiting period

Treatment: Immediate & ongoing feedback

Field Deployment: Subjects

- Recruited by word of mouth (email, social network sites), Google extension directory, & the media
- 15 September 18 November 2012
- 1,145 installs with transmitted data
- 990 subjects completed the survey

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736 men, 181 women (80% male)
mean age: 36.7 years (stdev: 13.8)
political lean: 2.89 (stdev: 1.37)
(1 = strongly liberal; 7 = strongly conservative)
partisanship: 2.93 (stdev: 1.48)
(1 = strongly Democrat; 7 = strongly Republican)
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Measuring Behavior • Changing Behavior



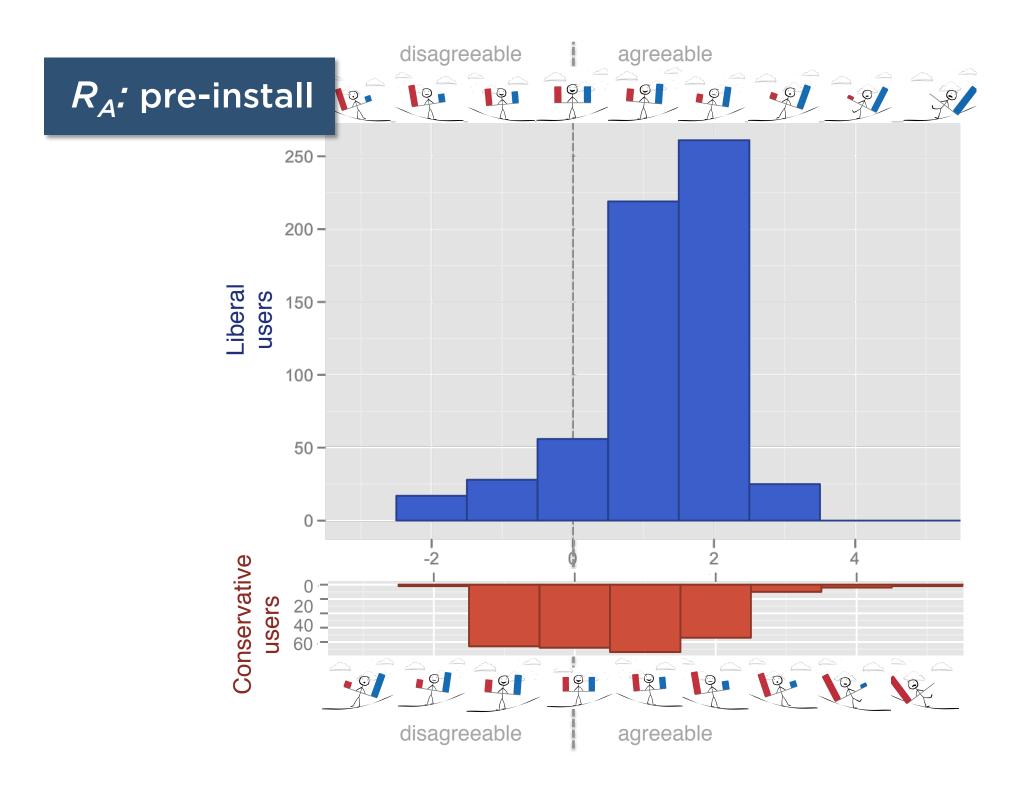
Measuring Behavior • Changing Behavior

S: A user's Balance score

S = Average left-right score of all news page visits. Normalized to [1,11] (because we had 11 pictures)

R_A : Agreeable news-reading measure

$$R_A = \begin{cases} S-6 & \text{if } u \text{ is liberal} \\ 6-S & \text{if } u \text{ is conservative} \end{cases}$$



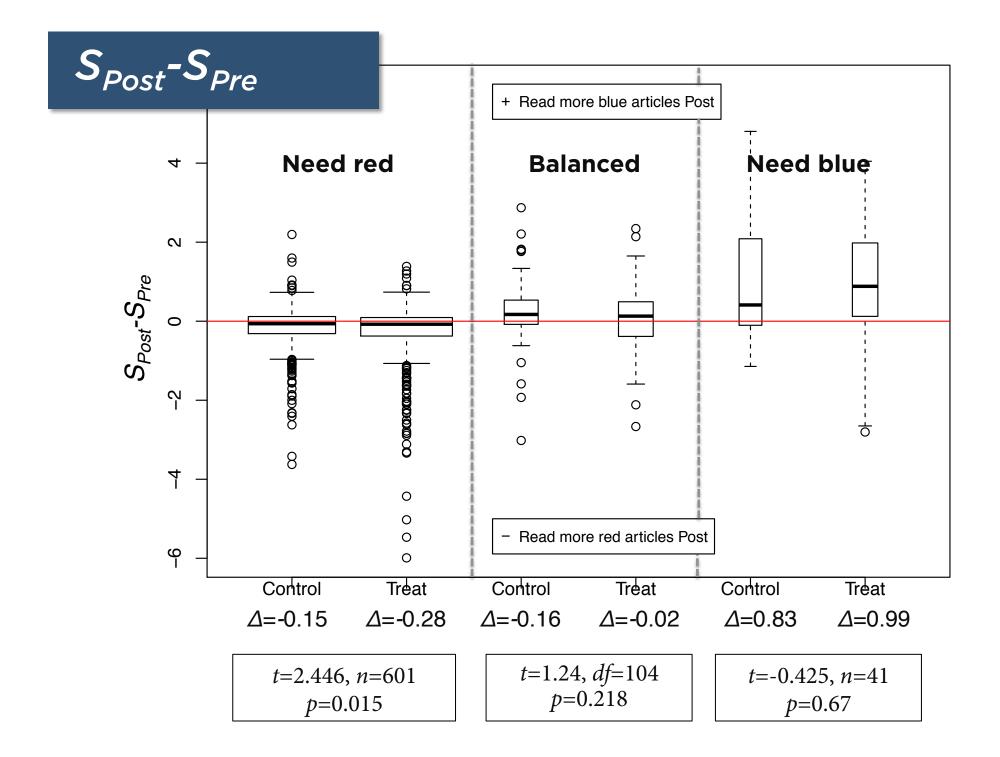
Individual differences as predictors of R_A ?

Predictor	Coefficient	Std Err	р
Intercept	1.567	0.335	< 0.0001
Ideology (1-7)	-0.335	0.025	< 0.0001
Age (years)	0.002	0.002	ns
Female	0.040	0.085	ns
Extraversion	-0.058	0.036	ns
Agreeableness	0.009	0.047	ns
Conscientiousness	-0.035	0.042	ns
Intellect	0.032	0.064	ns
Neuroticism	0.077	0.049	0.0597

OLS model for R_A , prior to installation, F=26.09 on 8 and 74 degrees of freedom, p<0.0001, adjusted $R^2=0.21$.



Measuring Behavior • Changing Behavior



S_{Post}-S_{Pre}

For median liberal-reading user (187 visits per 28 days), the difference in change between control and treatment is equivalent to:

- 4 new monthly visits to a right-leaning site or
- 20 new monthly visits to a neutral site

Individual differences as predictors of S_{Post} - S_{Pre} ?

No.

Age, gender, ideological extremity, and Big 5 not predictors.

Not enough power and likely selection limit ability to evaluate effects of left-right ideology.

First study to use personal informatics to increase the diversity of news reading in the wild.

Persistent reminder of norm.

Persistent feedback.

Recommendations.

Goal setting.

Personalized recommendations.

Sharing or reputation elements.



- First study to use personal informatics to increase the diversity of news reading in the wild.
- Age, gender, and Big Five were not good predictors of bias in news reading or persuadability.
- Large design space of interventions to explore and test. Lots of work to do.

Sean A. Munson Stephanie Y. Lee Paul Resnick

Collaborators

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design: use: build: university of washington

MISC Michigan Interactive & Social Computing UNIVERSITY of WASHINGTON

JNIVERSITY OF MICHIGAN