

Analysis of Social Curation on Pinterest: Content, Diversity, and Gender

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The University of Minnesota

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Eric Gilbert, Saeideh Bakhshi

Popular



How to make Tinted Jars
33 repins 5 likes

Repinned by Nicole Holdorf
onto diy



Garden Bacon Monkey Bread - GOODness Gracious
563 repins 51 likes 2 comments

Pinned by Cris @ GOODness Gracious
onto From My Kitchen (and GOOD...

Linda Grubbs Beautiful
Cris @ GOODness Gracious @Linda Bruinenberg Grubbs it is soo good!

Add a comment...



tufted upholstery headboard diy
551 repins 79 likes

Pinned by rachel
onto home is where one starts fr...



coral-pink on cheeks/cheekbones eyes get darker towards outer edge/ on sides at angle, flows into bottom liner
11 repins 5 likes

Repinned by Angie
onto Make Me Up



DIY Christmas Gift - BBQ Rub
53 repins 4 likes

Pinned by The Fashion Camp
onto The Fashion Camp



"Peace is the result of retraining your mind to process life as it is, rather than as you think it should be."
-Wayne W. Dyer



Great recipe for sharing with the people you love because who doesn't enjoy homemade MACARONI AND CHEESE? Now there's a rhetorical question! Little Magnolia Kitchen

Search



Loren



CAP.Schwinn.FramePump_DL_sm all
4 repins 3 likes

Repin by chris streger
onto Packaging



Cupcake cake with owl cakepops- cute. Oh my, sooooo cute!
by sugartreebakeshoppe

Repin by Jennifer Axtman
onto Cupcakes!!!

You're never too old, too wacky, too wild, to pick up a book and read to a child.
-Dr. Seuss

Dr.Seuss
Repin by Jennifer Axtman
onto dr.Seuss



Day of the Dead Cake Pops photo by - sari blum
20 repins 7 likes 1 comment

Pinned by Amy Kirby Streger
onto Amy+Chris wedding
Erin Jade.
Add a comment...



Mixed illustration & painting inspiration | From up North
38 repins 9 likes

Pinned by chris streger
onto illustration



Tomato & Mozzarella Potato Salad with Lemon-Buttermilk Dressing
from The Kitchn

Repin by Katie Panciera
onto Vegetarian Recipe Ideas



Guilt-Free Single-Serving Funfetti Microwave Cake (gluten free)!

Repin by Katie Panciera



No-Bake Oreo Chocolate Cherry Tarts. Photography / Mowie Kay.

Repin by Katie Panciera
onto Sweets and Baking Recipe Id...



Kohlrabi Chips from Martha Stewart recipes

Repin by Jennifer Axtman
onto Eat Like a Caveman



“[Pinterest’s] goal is to connect everyone in the world through the ‘things’ they find interesting. We think that a favorite book, toy, or recipe can reveal a common link between two people.”

— Pinterest on Pinterest



Honest Toddler

@HonestToddler



So Pinterest helps adults organize photos of all the things they don't have. Sounds fun.

Reply Retweet Favorite More

1,117
RETWEETS

347
FAVORITES



9:30 AM - 24 Apr 13

Why study Pinterest?

- » Fastest social network to reach 10M users, growing 4000% in 2011 alone
- » Powerful driver for e-commerce
- » Social curation, not social networking
- » Demographics

What's Pinterest like?

WE ASKED: What attracts attention?

**WHAT
FACTORS
MIGHT BE
IMPORTANT?**

Prior work suggests:

Similarity of interests

Specialization

Gender

SPECIFIC DATA WE LOOKED AT...

[Pinterest](#)
pinterest.com/pin/53832158018158312/
 Save to Mendeley xuele Raz-kids: How to M... wawayaya 儿童教育... MANATEES - Physic... MANATEES - Habita... What Do Manatees ... Chinese Culture Other bookmarks

Pin it 4

Like Website

Send

Kids Menu
Jennifer Axtman

Unfollow Board

Jennifer Axtman · 25 weeks ago

Sprite and gummy bears... very cute and creative for the kids in the summer time!!

Loren Terveen · That's you!

Add a comment...

Repinned onto
Kids Menu

Repinned from
Gina Nichols

Other pins from blackrainbowss.tumblr.com

Also pinned to:

Foodie.
Heather Miller

251 pins

Drink it up
Dee Haddad

156 pins

recipes
sherry johnson

129 pins

Sweets
Haley Marth

1,269 pins

text

repinning

co-occurrence

From Friends *following*

Famous people
Ed Chi
30 pins
Follow

Sports
Sadat Shami
12 pins
Follow

Photography
Ed Chi
48 pins
Follow

classroom management
Cui Sun
10 pins
Follow

Oh Sugar Sugar
Elizabeth Lawley
43 pins
Follow

categories

Animals

Architecture

Art

Cars & Motorcycles

Celebrities

DIY & Crafts

Design

Education

Film, Music & Books

Food & Drink

Account Settings

Basic Info

Email Address

Password [Change your password...](#)

Language

Country

gender —

Gender Male Female Unspecified

Search Privacy No Keep search engines (ex: Google) from showing your Pinterest profile in search results

Personalization Yes Let Pinterest personalize your experience based on other sites you visit · [Learn more](#)

Search history Remove things you've recently searched for from search suggestions


Recent contacts Remove people you've sent pins to from recent contact suggestions

Yes Joins Pinterest from your other social networks
 Yes Invites you to a group board
 How often: When they happen Once a day at most
 Also get emails about:

- Yes Weekly inspiration from Pinterest
- Yes New features and updates
- Yes Stuff you might like

Social Networks

gender

 Connected <http://www.facebook.com/profile.php?id=647619433>

Log in with Facebook Yes Use your Facebook account to log in

Link to Timeline Yes Post your activity to Timeline

text

 Not connected

Log in with Twitter No Use your Twitter account to log in

Scroll to Top

SUMMARY OF DATA:

Text

Repinning

Followers/Following

Categories

Co-occurrence

Profile:Gender

**HOW WE GOT
THIS INFO:**

Pinterest API Documentation Briefly Reappears On New Developer Site



SARAH PEREZ ✓

Thursday, May 23rd, 2013

3 Comments



Remember how over a year ago, everyone was all **excited** about the forthcoming Pinterest API? CEO Ben Silbermann **even teased its release** in a March 2012 email to Pinterest users detailing a Terms of Service change. And **API documentation even once popped up on the site**, only later to lead to a 404? Well, don't get all excited again, but the API documentation has returned...um, sorta.*

This week, when Pinterest **announced support** for more pin types (product, recipe, and movie pins) as well as a new Pin It button that works in mobile apps, it also launched a developer site at **developers.pinterest.com**. The company says the site will be the home to some of the existing documentation and resources that had previously lived on the Pinterest Business site, as well as the new information on the pins and the mobile Pin It button.

"Over time, as more tools become available to third parties, we will continue to post resources on this site," a Pinterest spokesperson says.

New tools like that long-awaited API, perhaps?

API?

SO WE WROTE CRAWLERS

THE REST OF THE TALK:

1. Pinterest vs. Twitter
2. Topics on Pinterest
3. Topical Diversity
4. Similarity of Interests
5. So what / what next?

1. PINTEREST VS. TWITTER

How does behavior on Pinterest compare to other social network sites? Do Pinterest and Twitter users systematically differ in what they talk about?

DATA

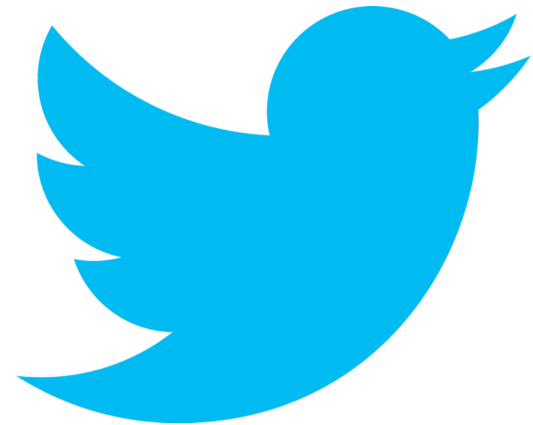
2.6K pinners who tweet

Text from 217K pins

Text from 737K tweets



VS



STATISTICAL technique

We apply an elastic net-based **penalized logistic regression** (PLR) implemented in R's glmnet package (Friedman, et al. 2010)

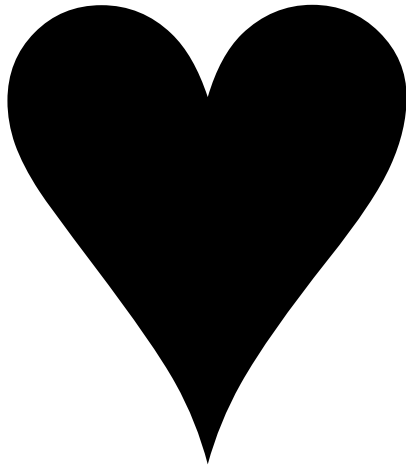
PLR handles **sparsity** and **collinearity** well, both common in natural language contexts

distinctively



diy $(\beta = 3.003)$

distinctively



$(\beta = 2.776)$

distinctively



•
recipe

($\beta = 2.776$)

distinctively



old ($\beta = 0.671$)

distinctively



new

($\beta = -0.96$)

distinctively



see ($\beta = -0.989$)

distinctively



now

($\beta = -0.717$)

distinctively



tonight

$(\beta = -2.403)$

Three verbs stand out on Pinterest.

distinctively



use ($\beta = 0.969$)

distinctively



want ($\beta = 0.173$)

distinctively



need ($\beta = 0.0916$)



A statistical content analysis shows that consumption-oriented words distinguish Pinterest from Twitter.

2. TOPICS ON PINTEREST

What is the structure of topics on Pinterest? What topics are most popular? How are topics related? Do men and women differ in the topics of their pins?

DATA

Users	46.4K
Female	30.0K
Male	2.2K
Unknown gender	14.2K
> 90% following sampled	42.4K
Pins	3.14M

DERIVING TOPICS...

Pin p_1

Boards
Categories

OP	Current	Repin ₁	Repin ₂	Repin ₃
Board ₁	Board ₂	Board ₃	Board ₄	Board ₅
C1:Food	C13:Holiday	C1:Food	C1:Food	C1:Food

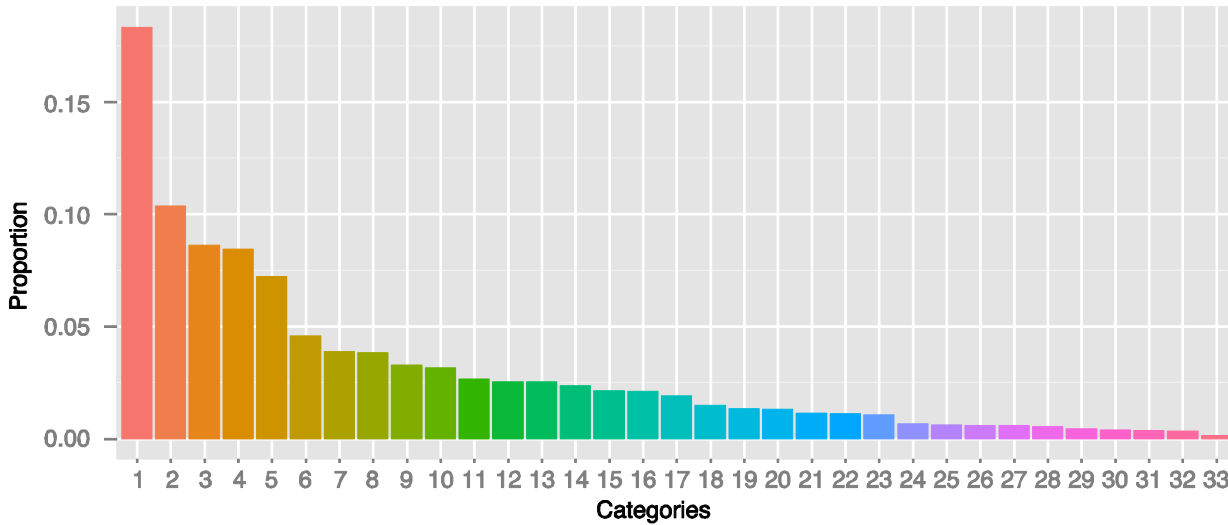
PINS & BOARDS

$$\vec{p}_1 = \langle 0.8, 0, \dots 0, 0.2, 0, \dots 0 \rangle$$

USERS

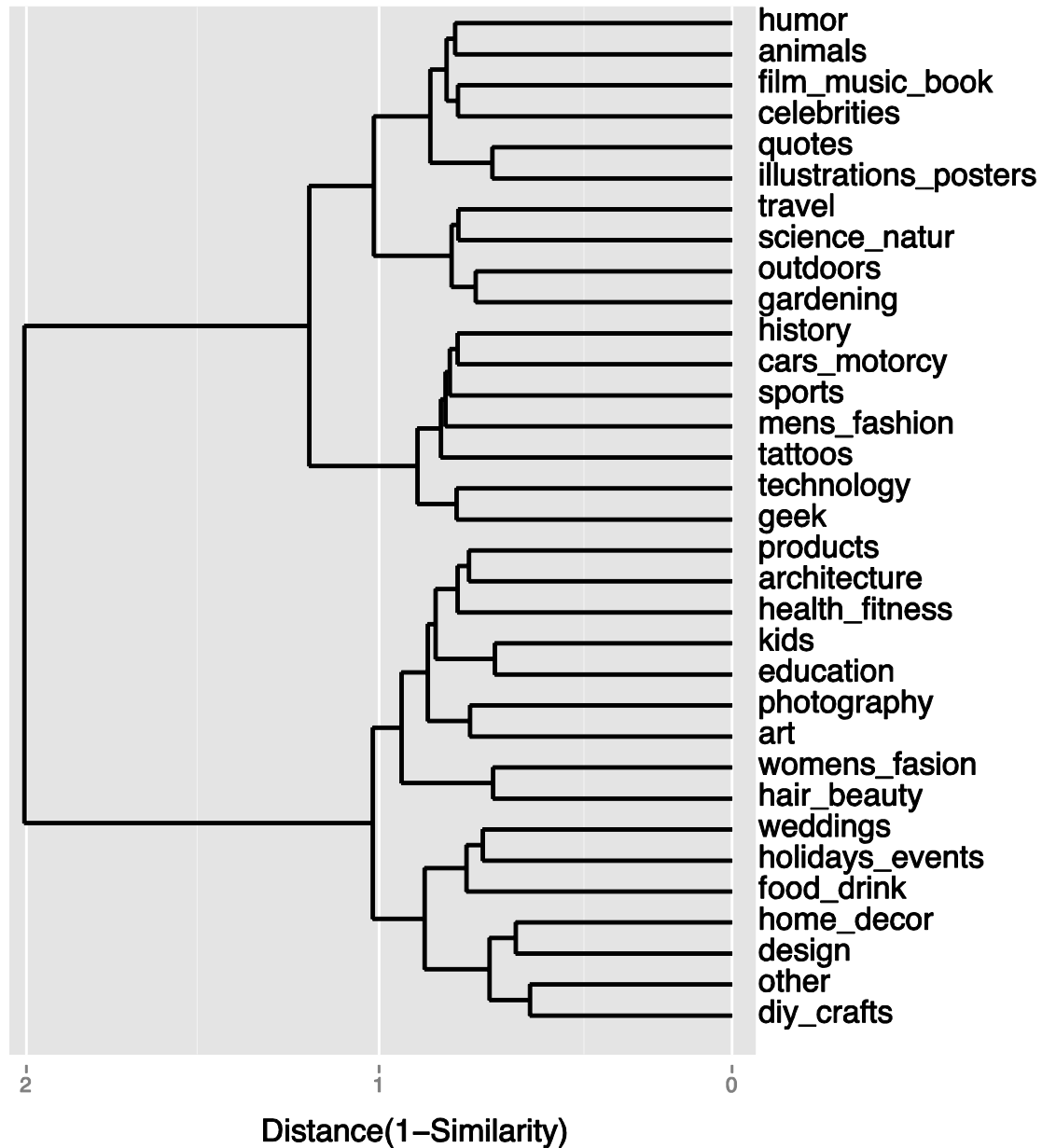
Aggregate and
normalize topic vectors
for all the user's pins

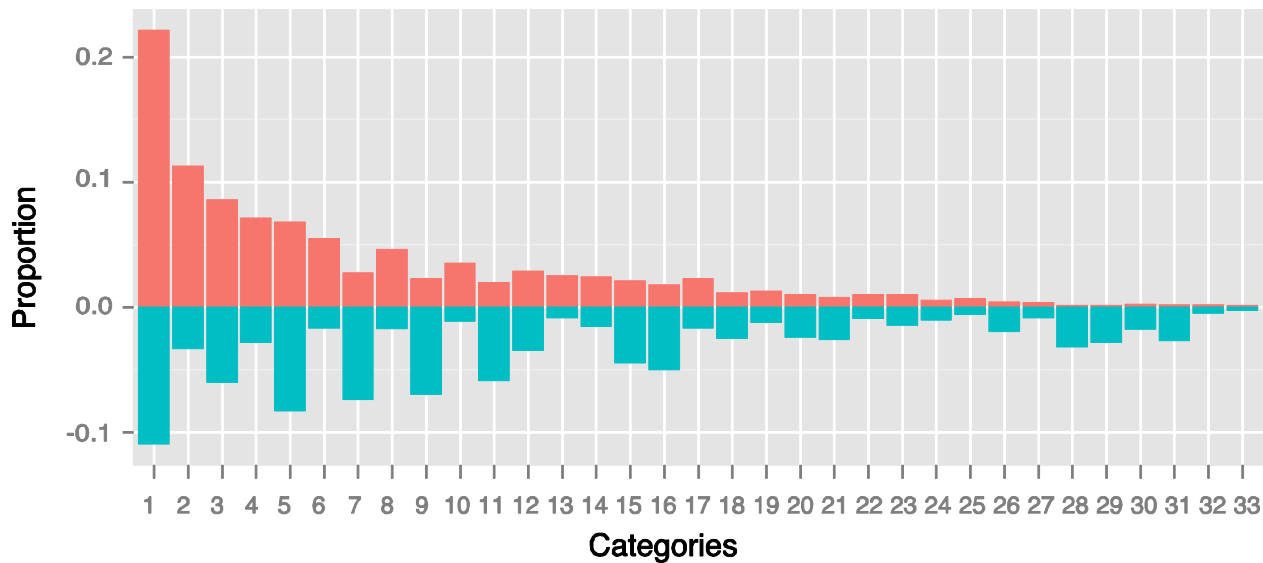
(Community-based defn)



TOPIC POPULARITY

TOPIC RELATION- SHIPS





- gender** female male
- Categories**
- 1 food_drink
 - 2 diy_crafts
 - 3 home_decor
 - 4 womens_fashion
 - 5 other
 - 6 weddings
 - 7 design
 - 8 hair_beauty
 - 9 art
 - 10 kids
 - 11 photography
 - 12 humor
 - 13 holidays_event
 - 14 education
 - 15 travel
 - 16 film_music_books
 - 17 health_fitness
 - 18 products
 - 19 animals
 - 20 celebrities
 - 21 architecture
 - 22 gardening
 - 23 illustrations_poster
 - 24 outdoors
 - 25 quotes
 - 26 geek
 - 27 science_nature
 - 28 mens_fashion
 - 29 cars_motorcycles
 - 30 sports
 - 31 technology
 - 32 history
 - 33 tattoos

MALE / FEMALE CONTENT

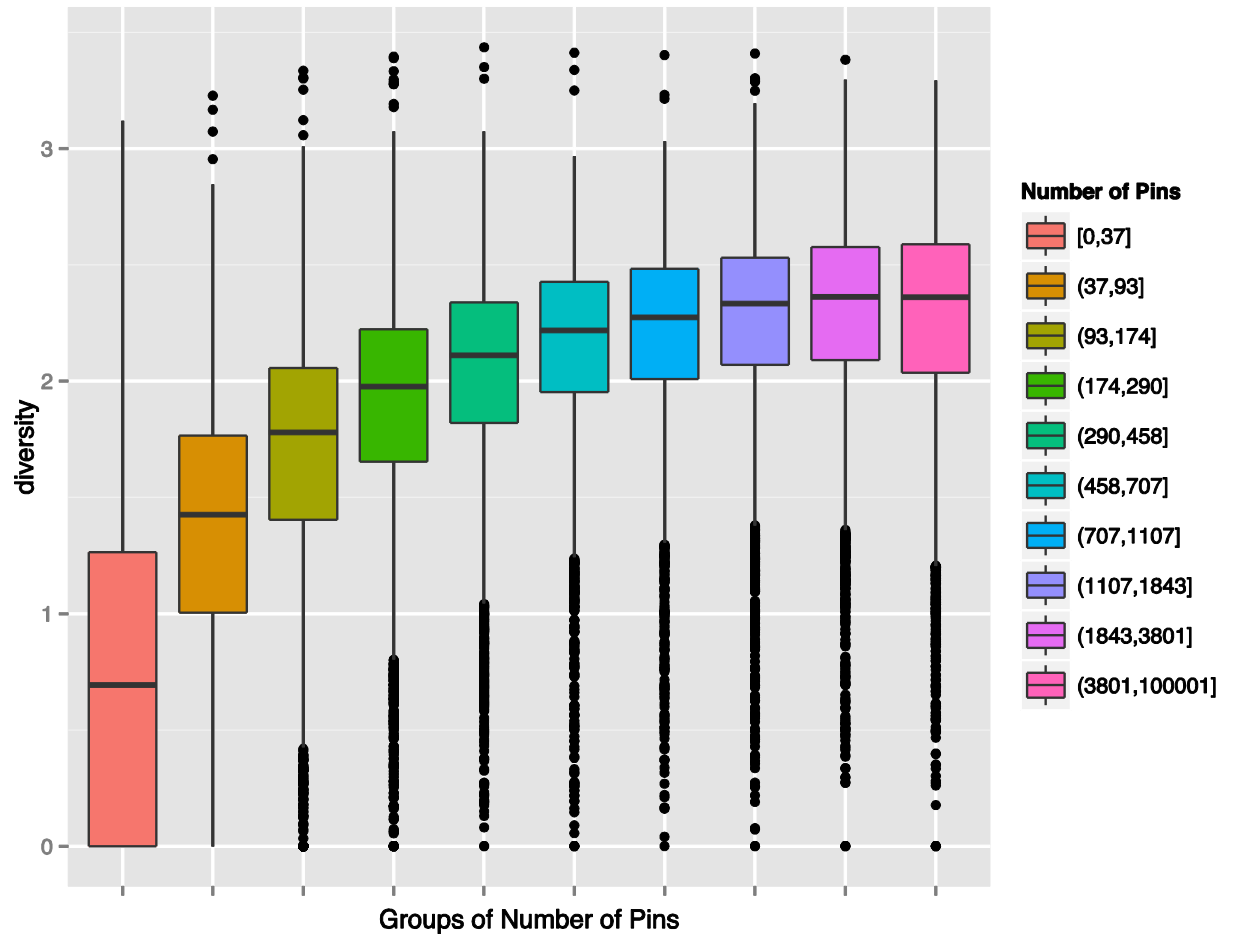
To what extent do users specialize in particular topics?
Do women and men differ in their degree of specialization?
What factors, e.g. degree of specialization, attract more followers?

3. TOPICAL DIVERSITY

(Prior work disagrees re: effect of diversity)

MEASURE DIVERSITY USING ENTROPY

GROUP USERS BY #PINS



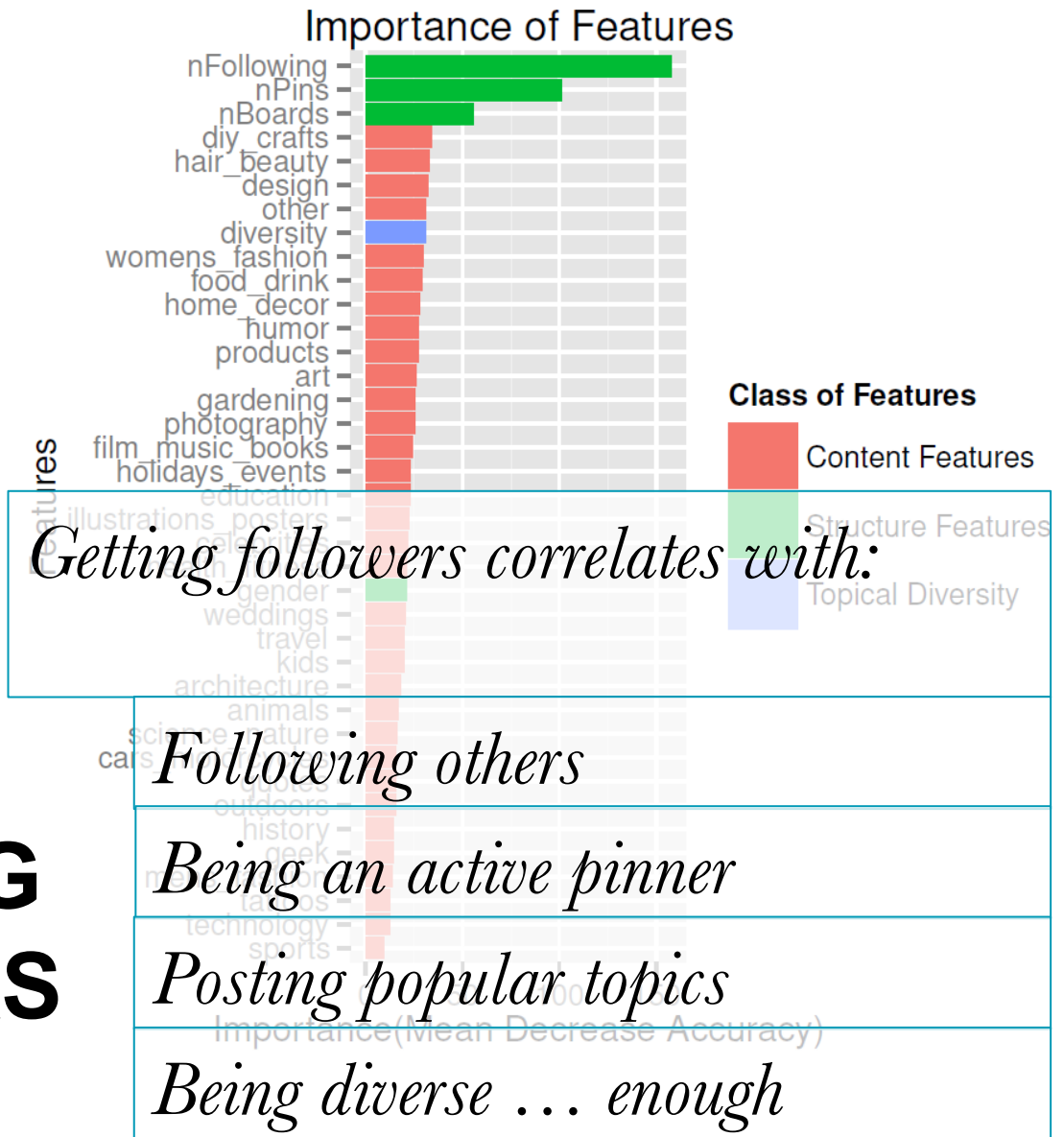
More pinning → more diversity

MALE / FEMALE DIVERSITY

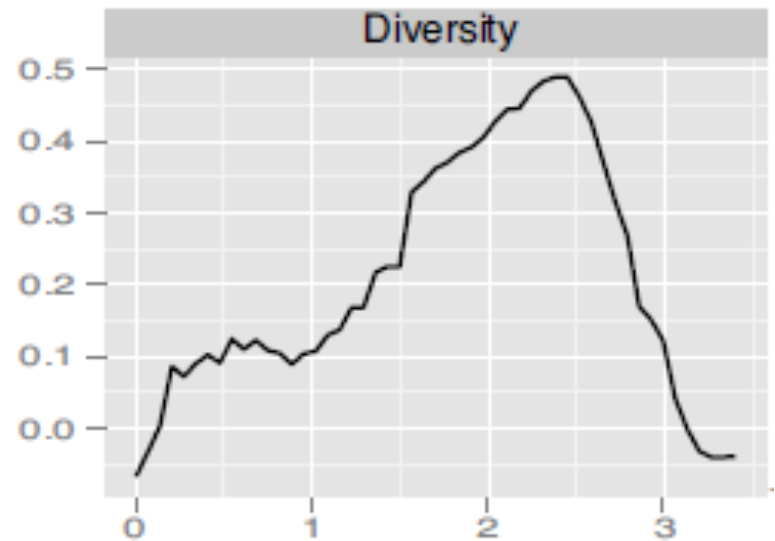
# of pins	Group Avg	Male	Female
0 - 37	0.77	0.73	0.78
37 - 93	1.35	1.27	1.39
93 - 174	1.69	1.51	1.71
174 - 290	1.89	1.74	1.97
290 - 458	2.04	1.85	2.06
458 - 707	2.15	1.95	2.24
707 - 1107	2.20	2.02	2.21
1107 - 1843	2.25	2.12	2.26
1843 - 3801	2.28	2.20	2.31
3801 -	2.26	2.24	2.27

Women pin more diverse content than men

PREDICTING FOLLOWERS



DIVERSE ENOUGH?



4. SIMILARITY OF INTERESTS

Are users more similar to users whom they follow than to random users? Are users more likely to repin from users who are similar to them than from random users?

**USED COSINE SIMILARITY TO
MEASURE SIMILARITY
DID SOME SIMPLIFICATIONS FOR
COMPUTATIONAL FEASIBILITY**

RESULTS

Users repinned from similar users

Users tended to follow similar users

5. SO WHAT? / WHAT NEXT?

**WHAT NEXT?
GENDER
DIFFERENCES**

More study needed
For example, why
aren't men all that
interested in
“stereotypically male”
topics?

HOME / TECHNOLOGY : INNOVATION, THE INTERNET, GADGETS, AND MORE.

Cupcakes, Boots, and Shirtless Jake Gyllenhaal

If you like any of those things, you should be on Pinterest.

By Farhad Manjoo | Posted Tuesday, Dec. 6, 2011, at 5:52 PM

96 f Share 231 f Like 738 Tweet myS [print] [email] [rss] [share]



Pinterest feels like the least cynical place on the Web

At *Slate's* annual retreat last summer, Holly Allen, one of the magazine's Web designers, buttonholed me and exclaimed, "Have you heard of Pinterest? You've got to write about it!" I hadn't heard about it, and rather than explain what it is—because while Pinterest is many things, easy to explain isn't one of them—she rushed to get her iPad to show me the site.

Since then, I've noticed paeans to Pinterest everywhere I go. Several readers have exhorted me to write about it, calling it their favorite new thing on the Web. I've spotted Pinterest stickers on laptops at the offices of both Facebook and Google. And every day, my Facebook and Twitter feeds brim with links to Pinterest. This mania got me thinking that I really should write about why Pinterest is so wonderful, and how it's the hottest new social site since Tumblr. There's only one problem: I just don't get it.

OK, I understand the very basics: Pinterest is a graphical social bookmarking site, a way

MORE SLATE STORIES



Woman Falls 17 Stories to Her Death; AP Implies She Deserved It



The Economic Advantages of Having an Archival



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4 Hormones Making Us Fat? Learn how to control 4 hormones all skinny people have in balance. RealDose.com

Tumblr. There's only one problem: I just don't get it.

OK, I understand the very basics: Pinterest is a graphical social bookmarking site, a way to show off cool images you find online. Its motto should be, "If you see something, Pin something." When you find a picture on the Web that you like—Diane Von Furstenberg boots, blue velvet cupcakes, Amy Adams—click the Pin It button to send the image to your Pinterest page. People on Pinterest can follow your Pins, and you can follow theirs. This may sound similar to any number of other services online—Pinterest shares some features with Twitter, Facebook, Delicious, StumbleUpon, and Tumblr—but the site's novel design encourages more ferocious bookmarking and consumption of those bookmarks. Pinterest displays your friends' pictures in a striking, forever-scrolling table, a virtual pinboard of really pretty pictures. If you're into pictures—especially of fashion, home décor, food, and animals—you should stop reading and sign up right now.

Advertisement



I suspect that my problem with Pinterest is that I'm just not that into pictures of fashion, home décor, food, and animals.

Most of Pinterest's users are women, and the pictures that greet you when you visit for the first time show off stereotypically feminine pursuits.

Indeed, many of the site's users jokingly refer to Pinterest as an outlet for nonsexual porn for women—food porn, furniture porn, fashion porn. (The site's terms bar nudity, which is interpreted narrowly enough to permit lots and lots of shirtless photos of Jake Gyllenhaal.)



141,730
TOTAL VIEWS

1.7X
SOCIAL LIFT



STATS



57 Reasons Why Guys Are Scared Of Pinterest

Why is Pinterest such a hit with the ladies? The following images — pulled from various Pinterest boards curated by the female sex — may help explain why.

posted on April 25, 2012 at 5:10pm EDT



Whitney Jefferson
BuzzFeed Staff



121



1.



GIZMODO

Pinterest Is Tumblr for Ladiez

Quick! Name the most perplexing social site you can think of. If you are a dude, it is probably Pinterest.

Pinterest's gender trouble

As a host of male-centered "pinning" sites arrive, can the female-centric phenomenon continue its success?

BY MARY ELIZABETH WILLIAMS

.... a brand identity that the company has both coyly cultivated and gently refuted. In its mission statement, Pinterest says its *raison d'être* is “to connect everyone in the world through the ‘things’ they find interesting.” But when you’re enticing “people all over the world” to “Redecorate your home!,” “Plan a wedding!,” “Find your style!” and “Save your recipes!,” you might as well announce, “Guys, it’s like when she takes you towel shopping at Bed Bath and Beyond.”

A Social Network of One's Own

AMANDA MARCOTTE MARCH 2, 2012

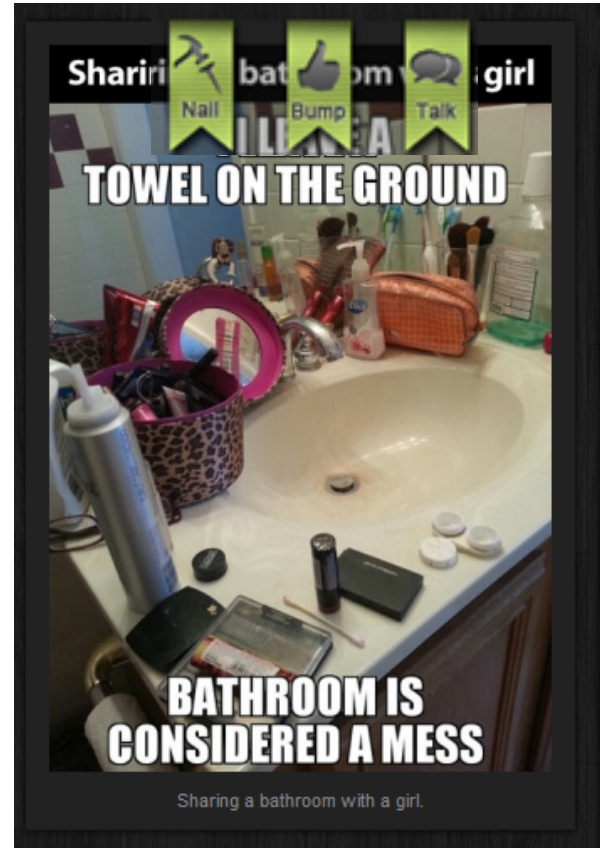
Pinterest is quickly becoming the safest place for women to socialize on the Internet.

[Tech guru Deanna Zandt pointed out](#) to me that Pinterest first attracted housewives and crafters, and while it's becoming more diverse and feminist all the time, its image as a "women's site" stuck. She credits the label as a factor in keeping the space safe, saying, "There's also a glaring lack of misogynist content, which signals to other women exploring the space that it's cool for them to be there."

Even the site design subtly signals that men who bring a lot of baggage about sex and gender should stay away. "The banner is curly and pink-ish, and I think that just reads as 'girly' to a lot of people," said Jill Filipovic of [Feministe](#). "Hence men not using it as heavily."

The pink and girly exterior of Pinterest works as a jerk force field, keeping the most piggish men away, leaving pinners to indulge their interests in peace.

M ANTERESTING



OR IS IT JUST...?

Popular



How to make Tinted Jars
33 repins 5 likes

Repinned by Nicole Holdorf

onto diy



Garden Bacon Monkey Bread - GOODness Gracious
563 repins 51 likes 2 comments

Pinned by Cris @ GOODness Gracious

onto From My Kitchen (and GOOD...

Linda Grubbs Beautiful

Cris @ GOODness Gracious @Linda Bruinenberg Grubbs it is soo good!

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tufted upholstery headboard diy
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Pinned by rachel

onto home is where one starts fr...



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11 repins 5 likes

Repinned by Angie

onto Make Me Up



DIY Christmas Gift - BBQ Rub
53 repins 4 likes

Pinned by The Fashion Camp

onto The Fashion Camp



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-Wayne W. Dyer



Great recipe for sharing with the people you love because who doesn't enjoy homemade MACARONI AND CHEESE? Now there's a rhetorical question! Little Magnolia Kitchen

WHAT NEXT? PERCEPTIONS OF PINTEREST

Pinterest vs. other sites

Who uses Pinterest?

You v. other pinners

Initial impressions

Friend import /
social influence

**WHAT NEXT?
MORE DETAILED
TOPICAL
ANALYSIS**

Not just “DIY & Crafts”:

“Woodworking”

“Scrapbooking”

“DIY Jewelry”

etc.

Right amt. of diversity
Emphasize
categories, esp. finer-
grained categories

**SO WHAT?
BETTER
PERSONALIZATION**

‘ME-TERESTING’
Not
‘MAN-TERESTING’

Men & women differ in the type and diversity of content they pin

Pinning diverse content means more followers... up to a point

SUMMARY Interest similarity is a powerful driver of repinning (and following)

References

Eric Gilbert, Saeideh Bakhshi, Shuo Chang, and Loren Terveen. 2013. "I need to try this"?: a statistical overview of pinterest. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '13).

Shuo Chang, Vikas Kumar, Eric Gilbert, and Loren G. Terveen. 2014. Specialization, homophily, and gender in a social curation site: findings from pinterest. In *Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing* (CSCW '14).

THANKS! QUESTIONS?

**ASIDE: GENDER DIFFERENCES
CONSIDERED (NOT) HARMFUL?
WHEN, WHERE, WHY?**

“Imagine a world in which every single human being can freely share in the sum of all knowledge. That’s our commitment.”

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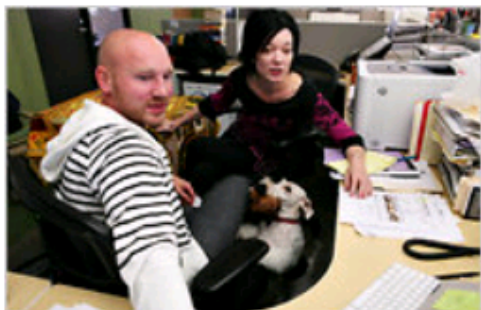
Personal Tech

Define Gender Gap? Look Up Wikipedia's Contributor List

By NOAM COHEN

Published: January 30, 2011

In 10 short years, [Wikipedia](#) has accomplished some remarkable goals. More than 3.5 million articles in English? Done. More than 250 languages? Sure.

 Enlarge This Image


Jim Wilson/The New York Times

Sue Gardner, executive director of the Wikimedia Foundation, with an assistant, James Owen.

Related

Times Topic: [Wikipedia](#)

But another number has proved to be an intractable obstacle for the online encyclopedia: surveys suggest that less than 15 percent of its hundreds of thousands of contributors are women.

About a year ago, the Wikimedia Foundation, the organization that runs Wikipedia, collaborated on [a study](#) of Wikipedia's contributor base and discovered that it was barely 13 percent women; the average age of a contributor was in the mid-20s, according to the study by a joint center of the [United Nations](#) University and Maastricht University.

 RECOMMEND

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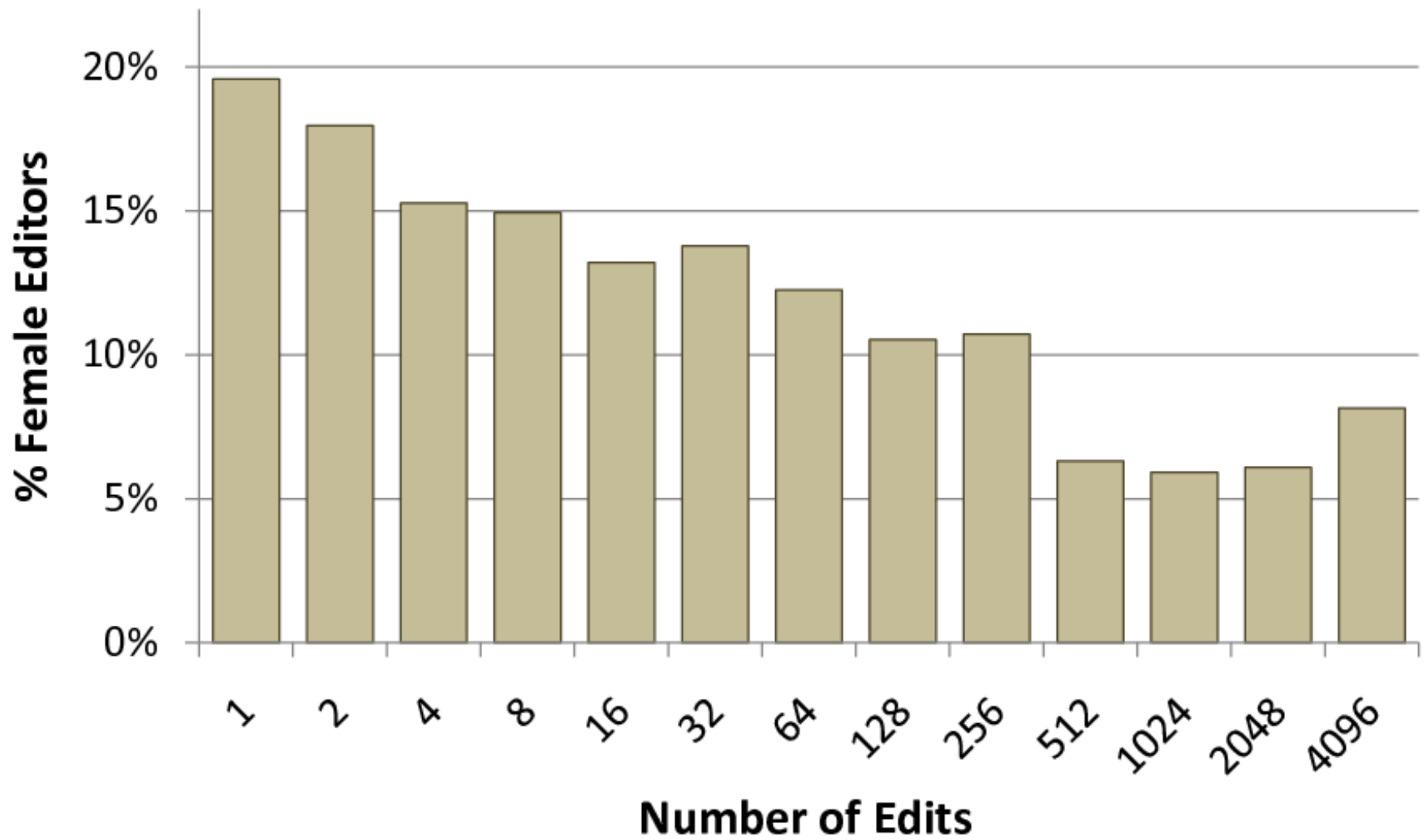


MOST POPULAR - BUSINESS

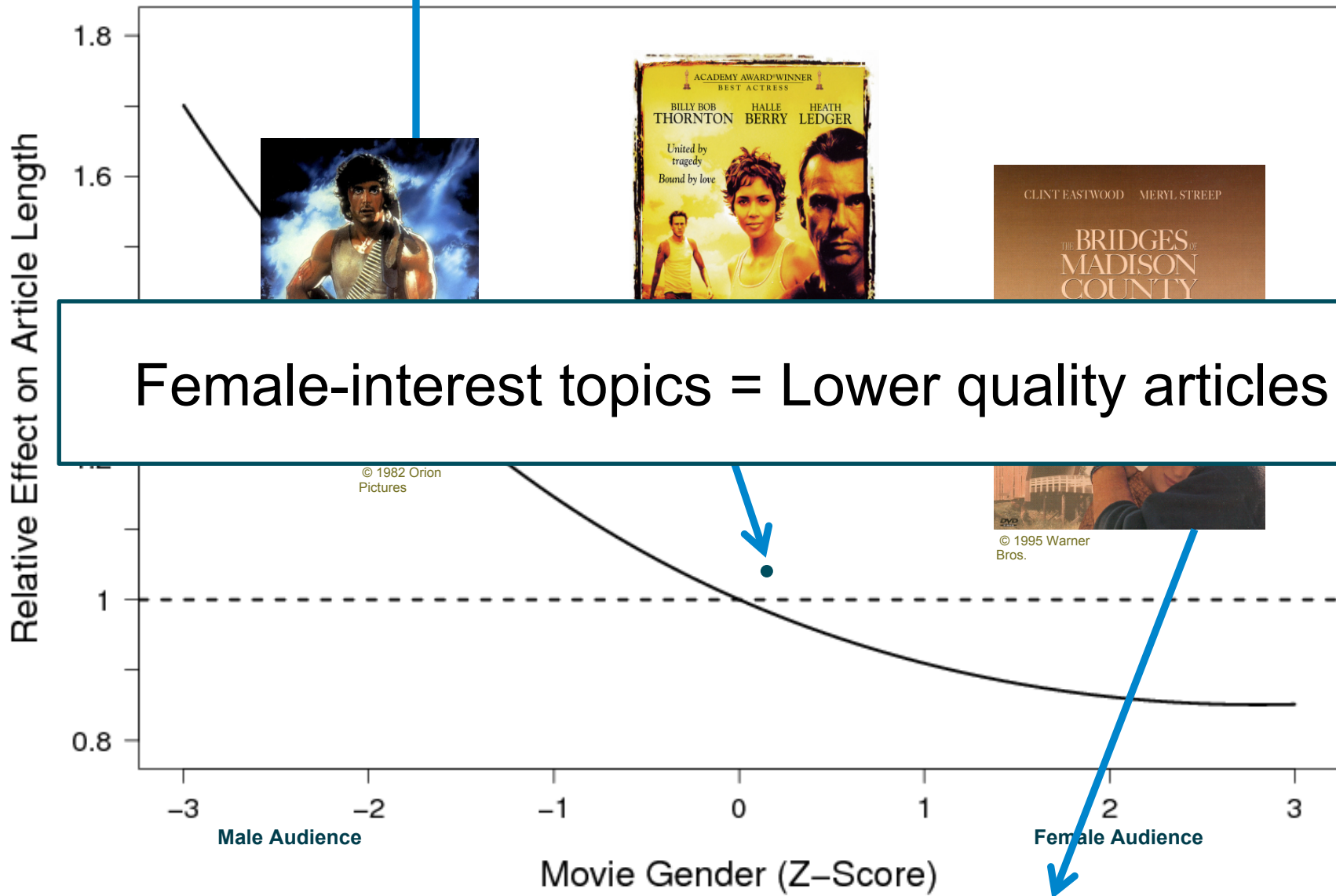
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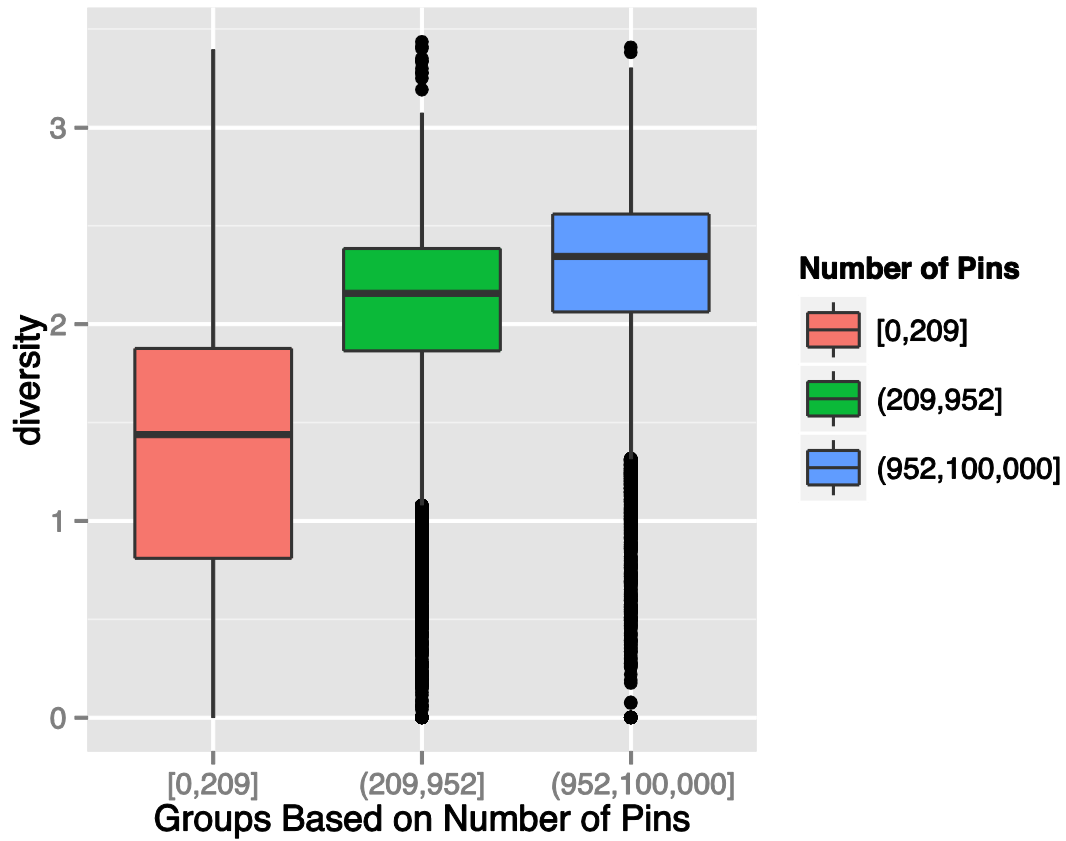
Gender Gap vs. Edit Count

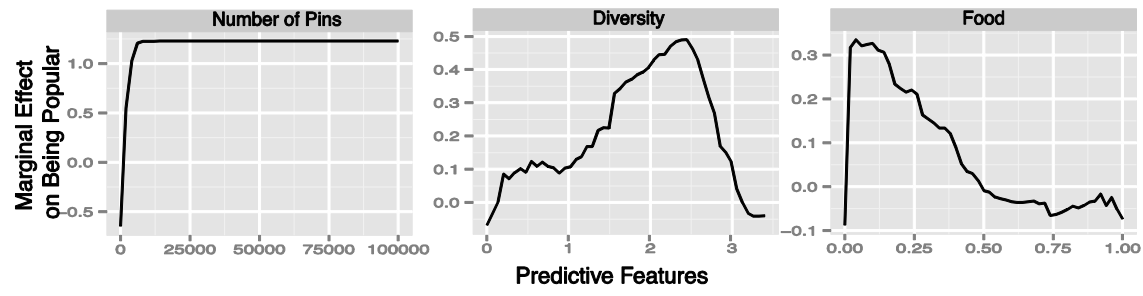


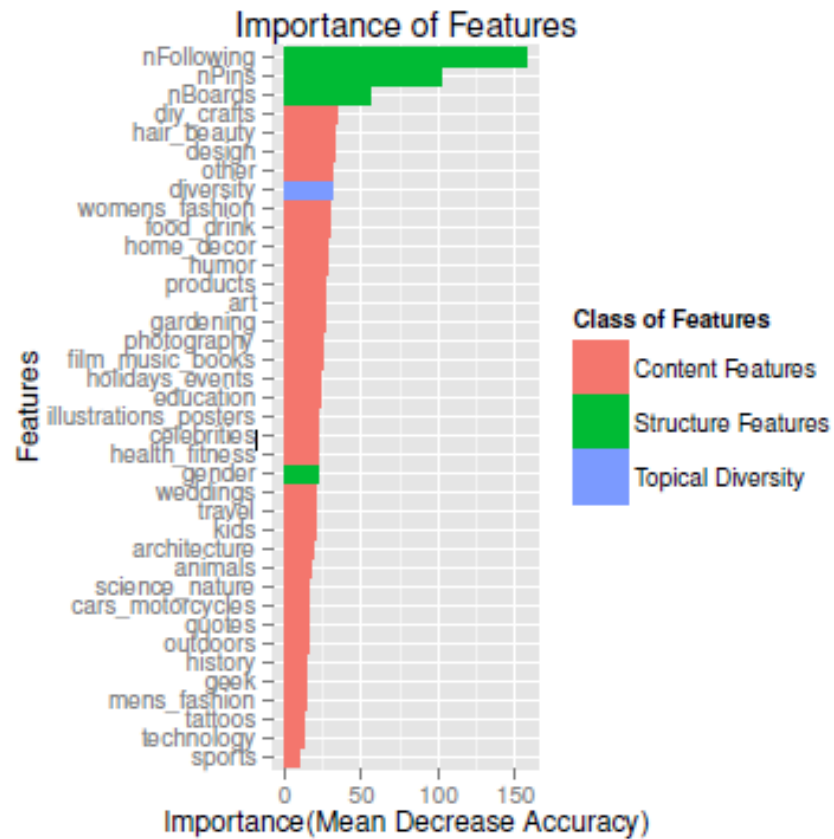
Effect of Movie Gender on Article Length



**DO THE GENDER INEQUALITIES
ON WIKIPEDIA MATTER MORE
THAN (OR LESS THAN OR JUST
AS MUCH AS) THOSE ON
PINTEREST?**







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Loren

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- Betsy DiSalvo
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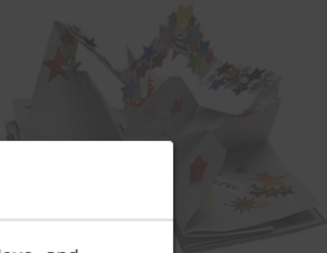
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- New in Mystery & Thriller
Follow
- Books to look forward to
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- Books I've Read
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Edit your home feed

New! It's super easy to add stuff you love, and remove stuff you don't.

YOUR TIME TO SHINE
Your Place to Dream



Book*

omto
Textiles, baskets, quilts, fabr...



hearts

Repin by Michael Muller
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Hearts



Hearts

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'Catenarhythm' installation at Living Design Gallery. Installation for ribbon project by Mina Perhonen, 2008

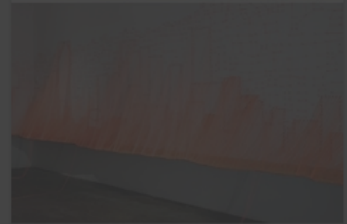
Repin by Michael Muller
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Textiles, baskets, quilts, fabr...



Ilse Acke: KLEUR PART ONE
1 repin

Repin by Michael Muller

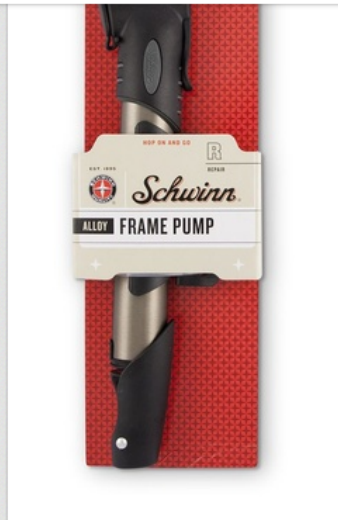
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Nancy Middlebrook

Repin by Michael Muller
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Textiles, baskets, quilts, fabr...





CAP.Schwinn.FramePump_DL_sm all
4 repins 3 likes

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onto Packaging



Cupcake cake with owl cakepops- cute. Oh my, soooo cute!
by sugartreebakeshoppe

Repinning by Jennifer Axtman
onto Cupcakes!!!

You're never too old, too wacky, too wild, to pick up a book and read to a child.
-Dr. Seuss

Dr.Seuss
Repinning by Jennifer Axtman
onto dr.Seuss



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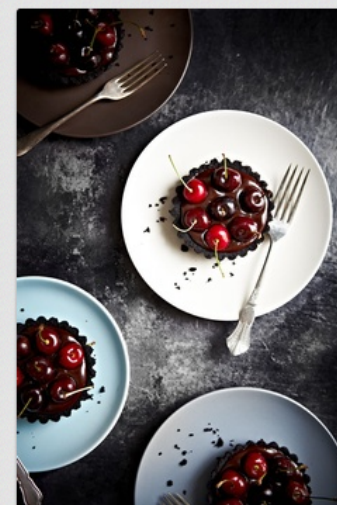
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