



Northwestern University
School of Communication



BERKMAN CENTER FOR INTERNET & SOCIETY
AT HARVARD UNIVERSITY

Persisting Digital Inequality

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&

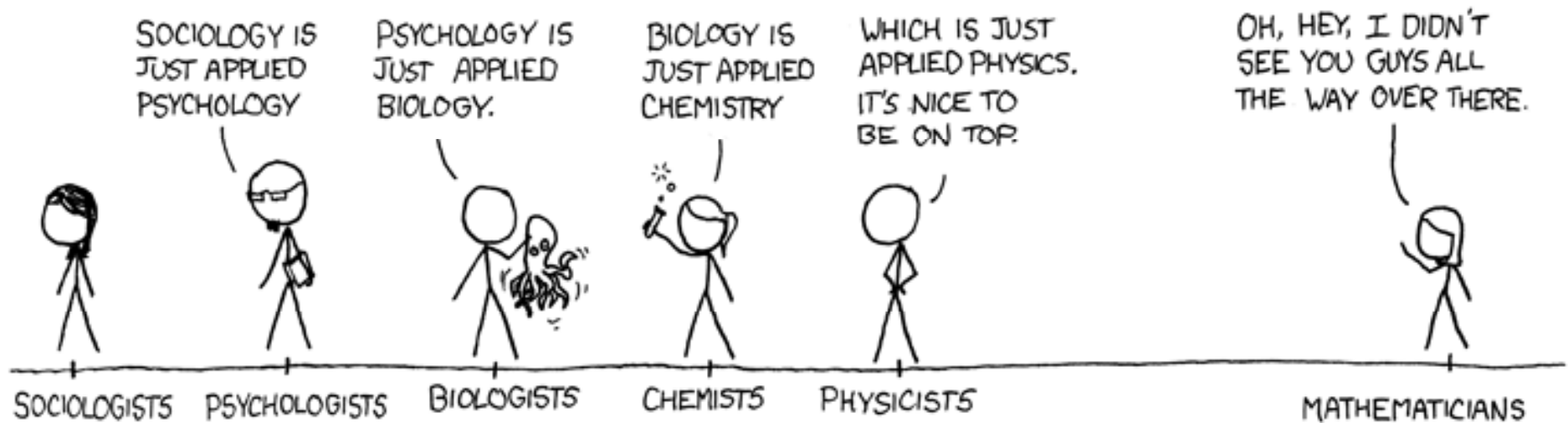
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FIELDS ARRANGED BY PURITY

→
MORE PURE



Eszter

© xkcd.com/435

Central Research Question: Who benefits most from their digital media uses?

Social Mobility vs Social Reproduction



Do ICT reduce or contribute to social inequality?

Mere connectivity \neq Effective, efficient uses

As we renew our schools and highways, **we'll also renew our information superhighway**. It is unacceptable that the United States ranks 15th in the world in broadband adoption. Here, in the country that invented the internet, **every child should have the chance to get online**, and they'll get that chance when I'm President – because that's how we'll strengthen America's competitiveness in the world.



Eszter Hargittai, Northwestern University



December 16, 2008

December 6, 2008

The American Recovery and Reinvestment Act of 2009

BUREAU OF THE CENSUS
PERIODIC CENSUSES AND PROGRAMS
For an additional amount for "Periodic Censuses and Programs", \$1,000,000,000.

NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION
BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM
For an amount for "Broadband Technology Opportunities Program", \$4,700,000,000: Provided, That of the funds provided under this heading, not less than \$4,350,000,000 shall be expended pursuant to division B of this Act, of which: not less than \$200,000,000 shall be available for competitive grants for expanding public computer center capacity, including at community colleges and public libraries; not less than

(3) provide broadband education, awareness, training, access, equipment, and support to—

TITLE VI—BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM

SEC. 6000. TABLE OF CONTENTS.

The table of contents of this title is as follows:

TITLE VI—BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM

Sec. 6000. Table of contents.

Sec. 6001. Broadband Technology Opportunities Program.

SEC. 6001. BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM.

(a) The Assistant Secretary of Commerce for Communications and Information (Assistant Secretary), in consultation with the Federal Communications Commission (Commission), shall establish a national broadband service development and expansion program in conjunction with the technology opportunities program, which shall be referred to as the Broadband Technology Opportunities Program. The Assistant Secretary shall ensure that the program complements and enhances and does not conflict with other Federal broadband initiatives and programs.

(b) The purposes of the program are to—

(1) provide access to broadband service to consumers residing in unserved areas of the United States;

(2) provide improved access to broadband service to consumers residing in underserved areas of the United States;

(3) provide broadband education, awareness, training, access, equipment, and support to—

(A) schools, libraries, medical and healthcare providers, community colleges and other institutions of higher education, and other community support organizations and entities to facilitate greater use of broadband service by or through these organizations;

(B) organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by the elderly, unemployed, aged, and other populations; and

(C) strategic facilities located in a designated economic zone, Economic Development District designated by the Department of Commerce, Renewal Community or Empowerment Zone designated by the Department of Housing and Urban Development, or Enterprise Community designated by the Department of Agriculture;

Overall Framework



Socio-
Economic
Status

Context



Technical



Social



Chicago Tribune

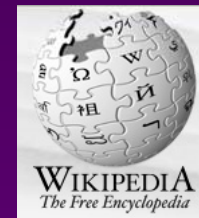
ESPN

facebook

myspace.com
a place for friends

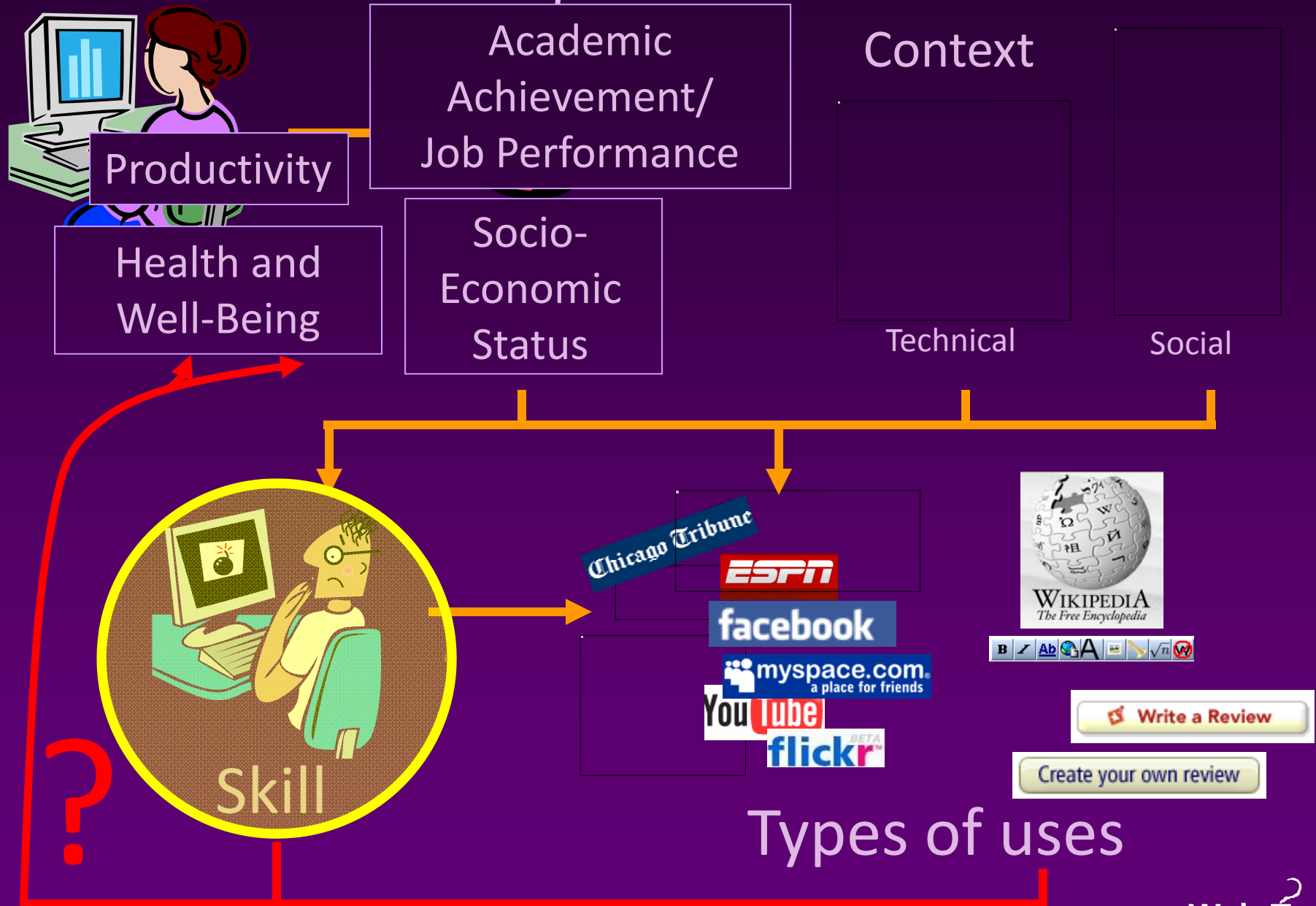
You Tube

flickr BETA



Types of uses

Overall Framework



Domains of skill

- Awareness and understanding
- Efficient information seeking
- Credibility assessment
- Knowledge of privacy, security issues



Do people's skills differ in
using the Internet?

What explains differences in
people's online skills?

How are skills related to
differentiated Internet uses?

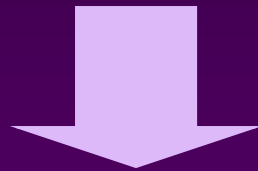
What are the implications
of differentiated uses?

Data on Internet uses

- Very much
- Very detailed

comparable Data on average internet users

- Very ~~much~~ little
- Very ~~detailed~~ basic



The Digital Data Paradox

Challenges of relying on log data

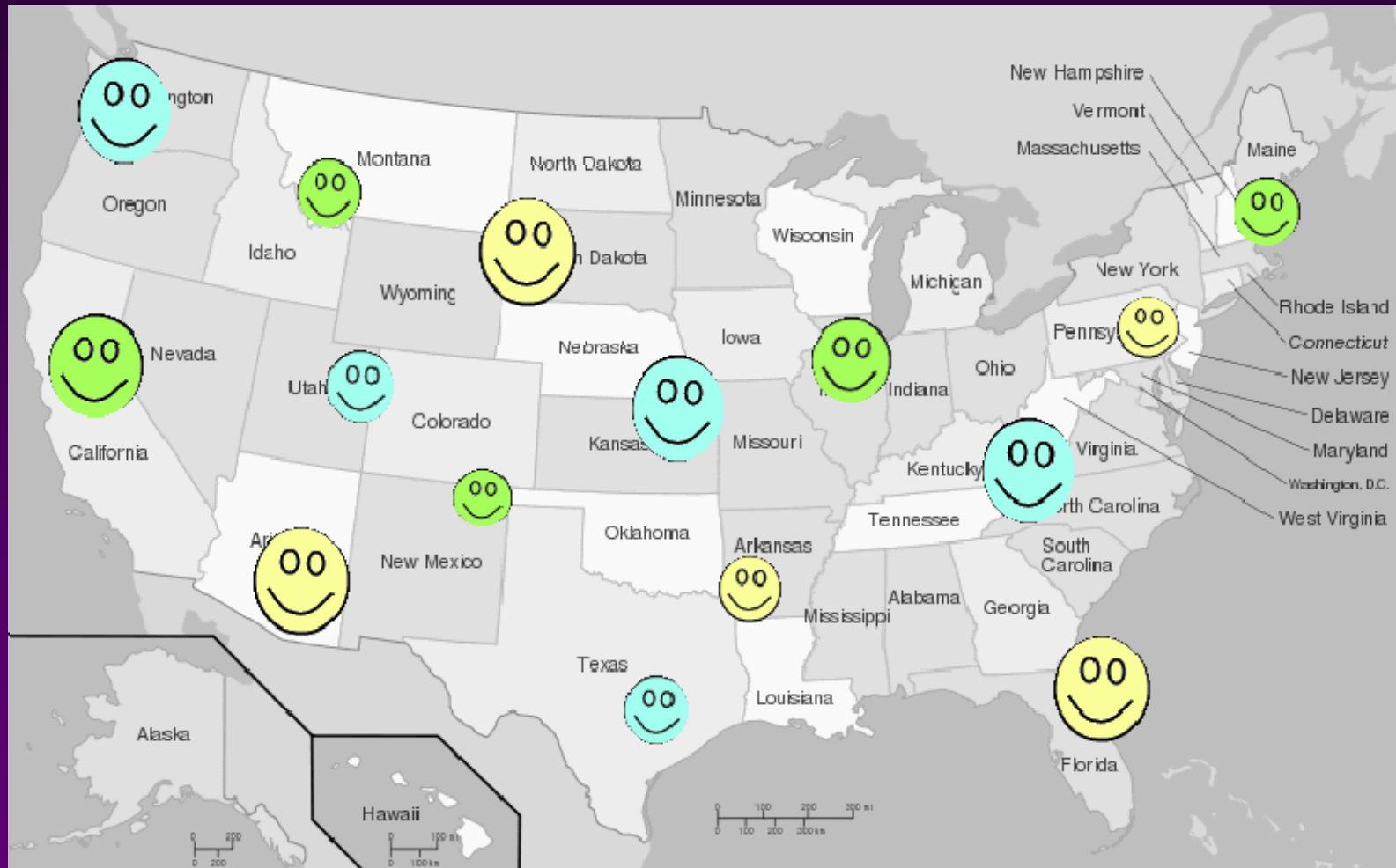
- Becoming user of a service is not a random event
- People understand and use sites/services differently
- Site usage is likely only one of many ways in which people engage for a particular behavior

Reasons for little comparable data on average users

- Lack of established/universal terms
- Moving target
- Rarely comparable across data sets



Data: Surveys of Internet uses and skills



CC US Map from Wikipedia

Data: Surveys of Internet uses and skills



© US Map from Wikipedia

Why the University of Illinois, Chicago?




Average temperature:
Feb: 28.2°F Mar: 39.6°F



Why the University of Illinois, Chicago?

Average temperature:
Feb: 28.2°F Mar: 39.6°F



U.S. News & World Report
usnews.com

Best Colleges 2009

Best Colleges: Racial Diversity: National Universities

Rutgers, the State University of New Jersey--Newark	Newark, NJ	Diversity index 0.74
University of Houston	Houston, TX	Diversity index 0.72
Nova Southeastern University	Ft. Lauderdale, FL	Diversity index 0.70
Polytechnic Institute of New York University	Brooklyn, NY	Diversity index 0.70
University of California--Riverside	Riverside, CA	Diversity index 0.69
Stanford University	Stanford, CA	Diversity index 0.67
Andrews University	Berrien Springs, MI	Diversity index 0.66
New Jersey Institute of Technology	Newark, NJ	Diversity index 0.66
University of California--Los Angeles	Los Angeles, CA	Diversity index 0.65
University of Bridgeport	Bridgeport, CT	Diversity index 0.65
Barry University	Miami Shores, FL	Diversity index 0.65
University of Illinois--Chicago	Chicago, IL	Diversity index 0.65
Massachusetts Institute of Technology	Cambridge, MA	Diversity index 0.65
St. John's University	Queens, NY	Diversity index 0.65
Texas Woman's University	Denton, TX	Diversity index 0.64

Data & Methods

- Students enrolled in the one required course on campus

(First-Year Writing Program)

- Paper/pencil survey

➤ February-March, 2007

➤ 1,060 first-years

➤ 82% response rate



➤ February-April, 2009

➤ 1,115 first-years

➤ 80.5% response rate

Wave 2 (same people as 2009)

➤ April-July, 2010

➤ 505

➤ 45% response rate

Sample descriptives (2009)

99% 18-19 years old

41% male; 59% female

47% neither parent has a
college degree

Race & ethnicity:

White 41%

Asian/Asian American 22%

Hispanic 24%

Black/African American 11%

American Indian/Alaskan Native .5%





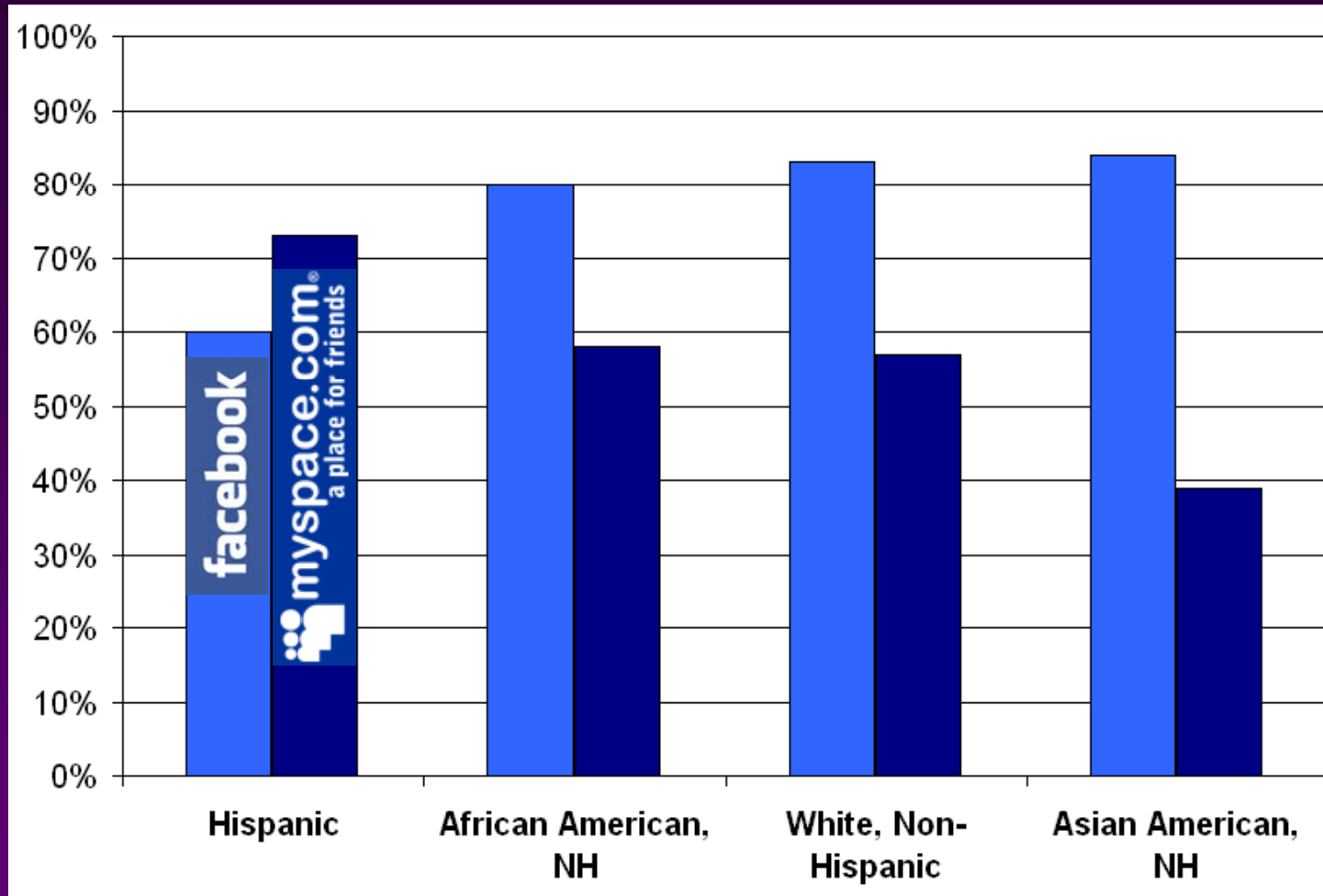
The Wired Generation

(2009)



- 100% either own or have easy access to a laptop or desktop
- 98% have access to the Internet at home
- 95% had access to the Internet at home during senior year in high school
- 70% started using the Internet regularly in middle school or earlier
- On average, spend 17 hours on the Web weekly (excluding email, chat and VoIP)
- 87% check email daily (the majority check several times a day)

Use of Facebook vs MySpace by Race/Ethnicity, 2007



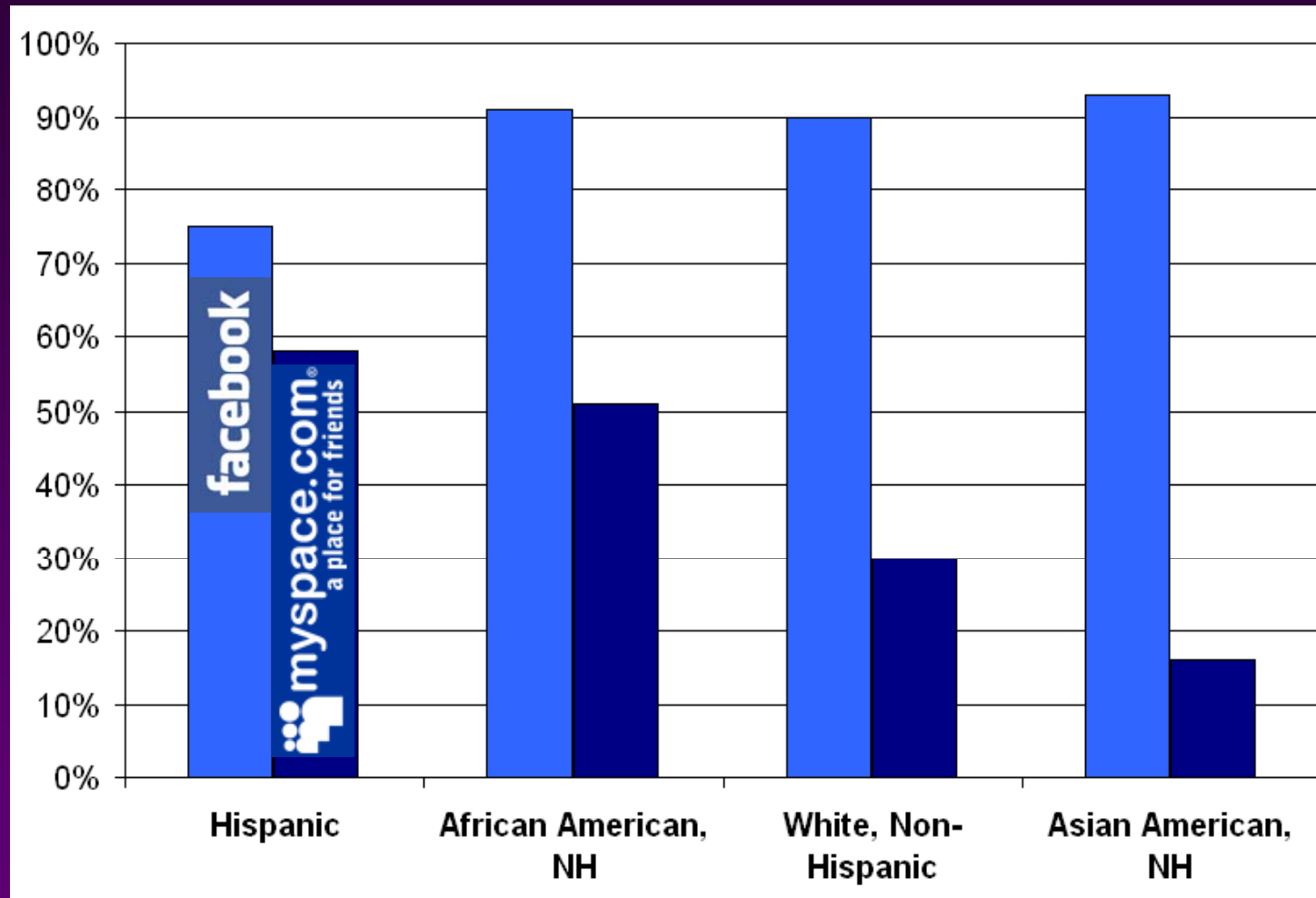
For details, see:

Hargittai, E. (2007) Whose Space? Differences among Users and Non-Users of Social Network Sites. *Journal of Computer-Mediated Communication*. 13(1).276-297.

<http://webuse.org/p/a21>

Eszter Hargittai, Northwestern University

Use of Facebook vs MySpace by Race/Ethnicity, 2009



Hargittai, E. (In Press). Open Doors, Closed Spaces? Differentiated Adoption of Social Network Sites by User Background. In *Race After the Internet*. Edited by Peter Chow-White and Lisa Nakamura. Routledge.

Data more representative than may first appear

Hargittai, E. (2007). Whose space? Differences among users and non-users of social network sites. *Journal of Computer-Mediated Communication*, 13(1), article 14. <http://jcmc.indiana.edu/vol13/issue1/hargittai.html>

THE CHRONICLE OF HIGHER EDUCATION

The Wired Campus

Education-technology news from around the Web

November 20, 2007

Race, Class, and the Choice of Social-Networking Sites

Sure, both MySpace and Facebook are social networks, and both are beloved by college students. But the two sites are hardly created equal—at least not in terms of the significantly different groups of students who tend to frequent them.

Now Eszter Hargittai, an assistant professor of communication studies at Northwestern University, has shed some light on what sets MySpace partisans apart from Facebook fans. Her report, “Whose Space? Differences Among Users and Non-Users of Social Network Sites,” published in the October edition of the *Journal of Computer-Mediated Communication*, argues that a student’s race, ethnicity, and upbringing play important parts in predicting which online social networks he or she will join.

Eszter Hargittai, Northwestern University

nielsenwire

consumer

featured insights

global

media + entertainment

online + mobile

reports

Home » Nielsen News, Online + Mobile

The More Affluent and More Urban are More Likely to use Social Networks



(average: 4.50 out of 5)

September 25, 2009

The Wired Generation



.. but not in every way

UIC '09 = 4%

UIC '10 = 18%

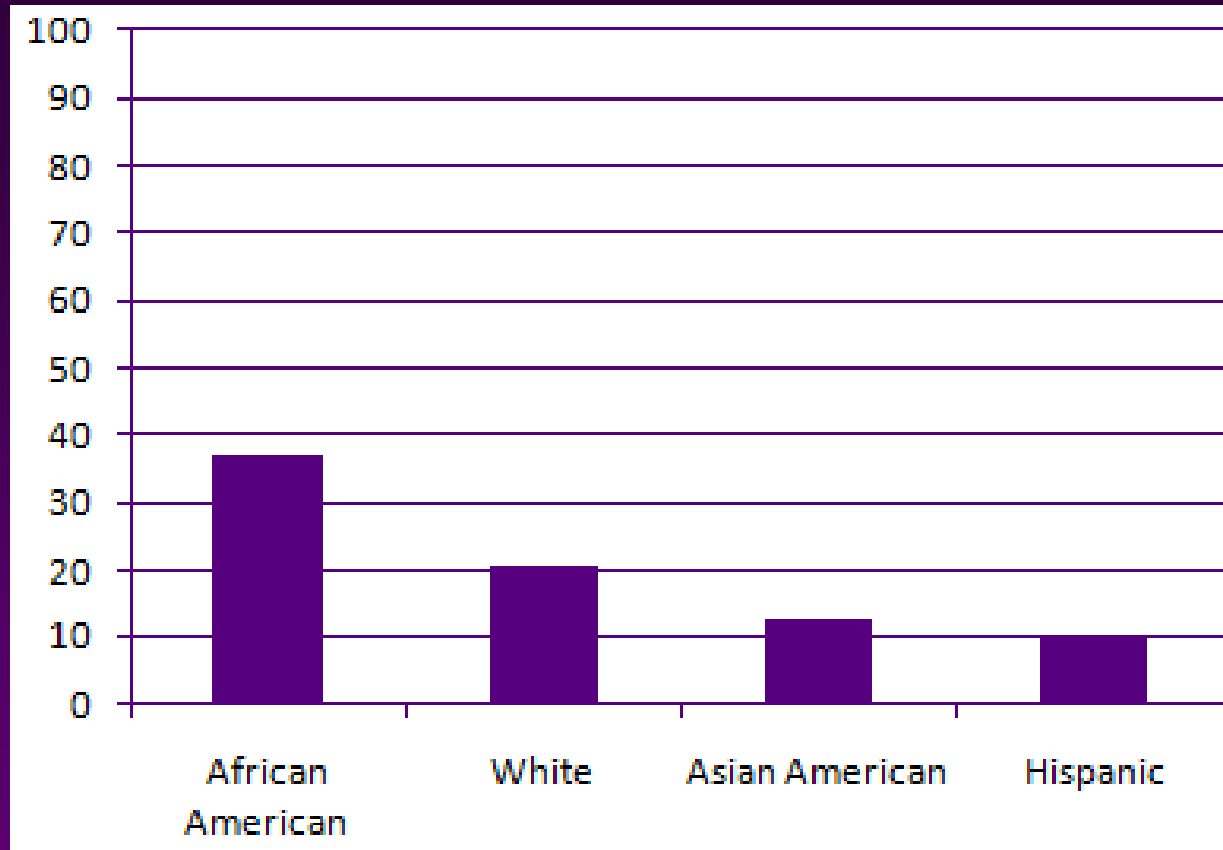
I refuse to switch to Twitter. I don't know what that is or the purpose. I sound like an old person, I think, but I really don't understand Twitter.

– Female Northwestern senior, Spring 2010

That's narcissism to the Nth degree, I just can't stand it, I think it's absolutely ridiculous.

– Female Northwestern senior, Spring 2010

Twitter use by race/ethnicity (2010)

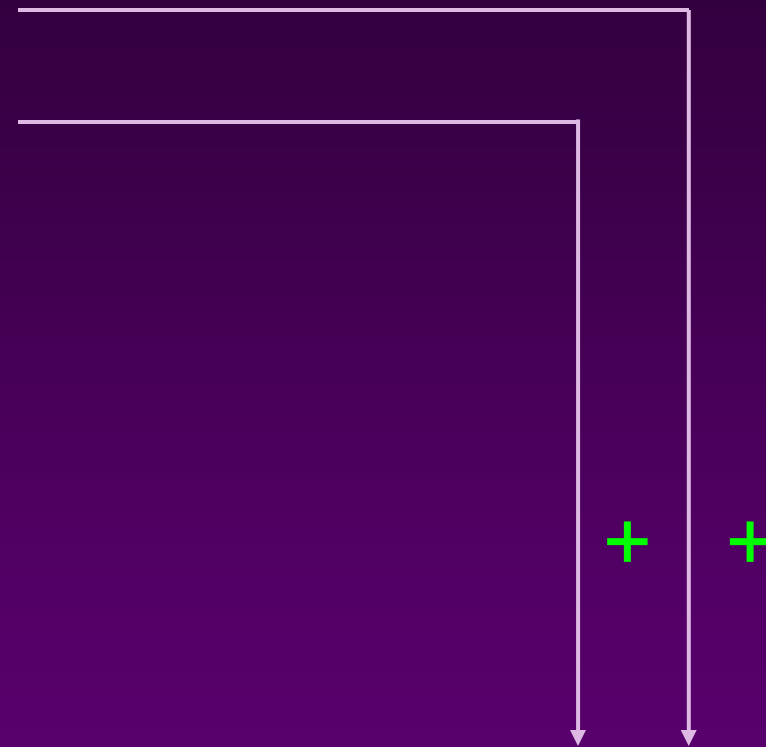


For details, see:

Hargittai, E. & Litt, E. (2011) The Tweet Smell of Celebrity Success: Explaining Twitter Adoption among a Diverse Group of Young Adults. *New Media & Society*. 13(5):824-842.
<http://webuse.org/p/a36>

Who uses Twitter?

African American
Web skill in 2009



Twitter use in 2010

Who uses Twitter?

African American

Web skill in 2009

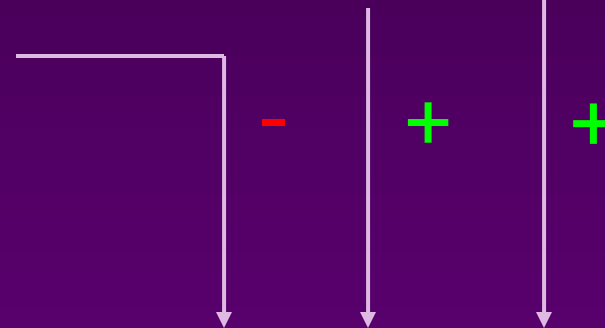
Interest in 2009 in:

Entertainment/celebrity news

Science, research

Technology

Politics, News



Twitter use in 2010

Who uses Twitter?

African American

Web skill in 2009

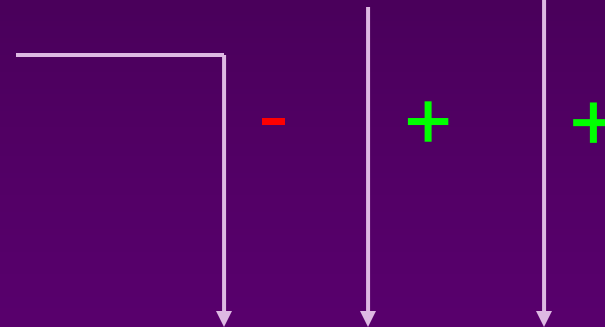
Interest in 2009 in:

Entertainment/celebrity news

Science, research

Technology

Politics, News



Twitter use in 2010

Data on Internet skill?

Main data sources



In-person
observations and
interviews

Surveys



Data:

Observations of search and information seeking



100 randomly sampled adults
Mercer County, NJ, 2001-2002

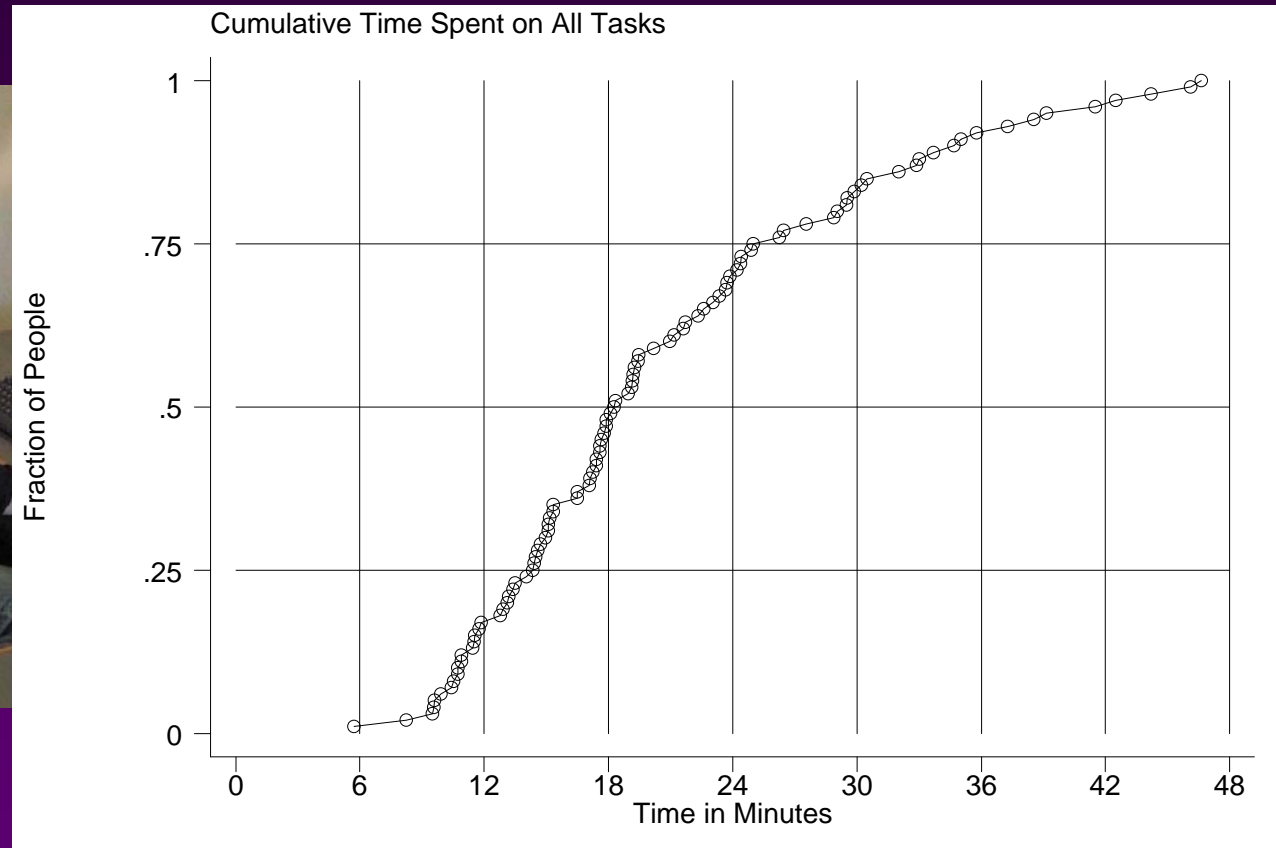
Health info

Job search

Gov't documents

Data:

Observations of search and information seeking



Measures of actual skill; survey instruments

Measuring awareness & understanding

How familiar are you with the following computer and Internet-related items?
Please choose a number between 1 and 5 where 1 represents "no understanding" and 5 represents "full understanding" of the item.



For details, see:

- * Hargittai, E. & Hsieh, Y.P. (2012). Succinct Measures of Web-Use Skills. *Social Science Computer Review*.
- * Hargittai, E. (2009). An Update on Survey Measures of Web-Oriented Digital Literacy. *Social Science Computer Review*. 27(1):130-137.
- * Hargittai, E. (2005). Survey Measures of Web-Oriented Digital Literacy. *Social Science Computer Review*, 23(3):371-379.

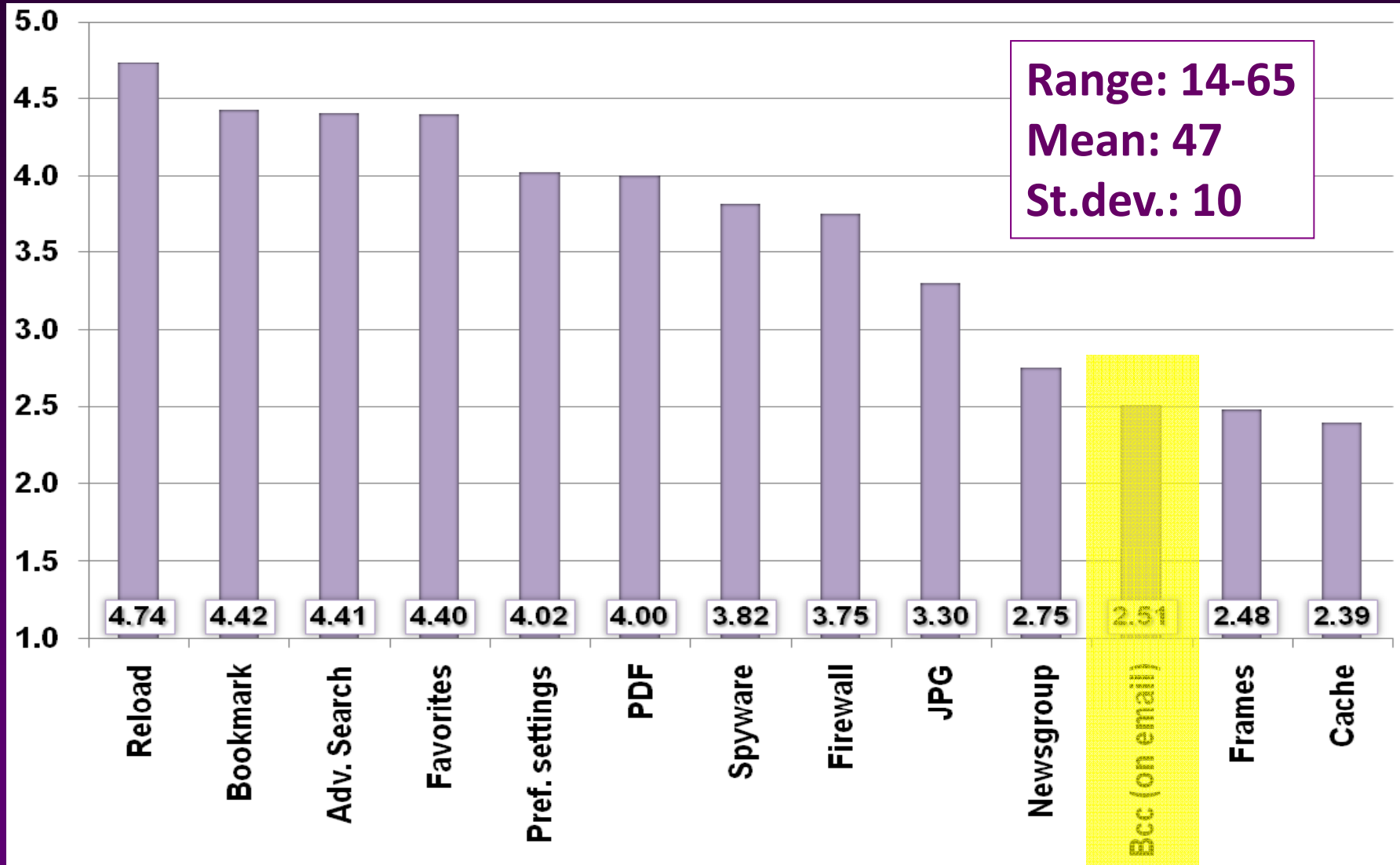
12. How familiar are you with the following computer and Internet-related items? Please choose a number between 1 and 5 where 1 represents "no understanding" and 5 represents "full understanding" of the item.

	Understanding Scale				
	None	Little	Some	Good	Full
JPEG	1	2	3	4	5
Frames	1	2	3	4	5
Preference settings	1	2	3	4	5
Newsgroups	1	2	3	4	5
PDF	1	2	3	4	5
Refresh/Reload	1	2	3	4	5
Advanced search	1	2	3	4	5
Weblog	1	2	3	4	5
Bookmark	1	2	3	4	5
Bookmarklet	1	2	3	4	5
Spyware	1	2	3	4	5
Bcc (on email)	1	2	3	4	5
Blog	1	2	3	4	5

For details, see:

- * Hargittai, E. & Hsieh, Y.P. (2012). Succinct Measures of Web-Use Skills. *Social Science Computer Review*.
- * Hargittai, E. (2009). An Update on Survey Measures of Web-Oriented Digital Literacy. *Social Science Computer Review*. 27(1):130-137.
- * Hargittai, E. (2005). Survey Measures of Web-Oriented Digital Literacy. *Social Science Computer Review*, 23(3):371-379.

Basic Internet-related terms



Bcc (on email)

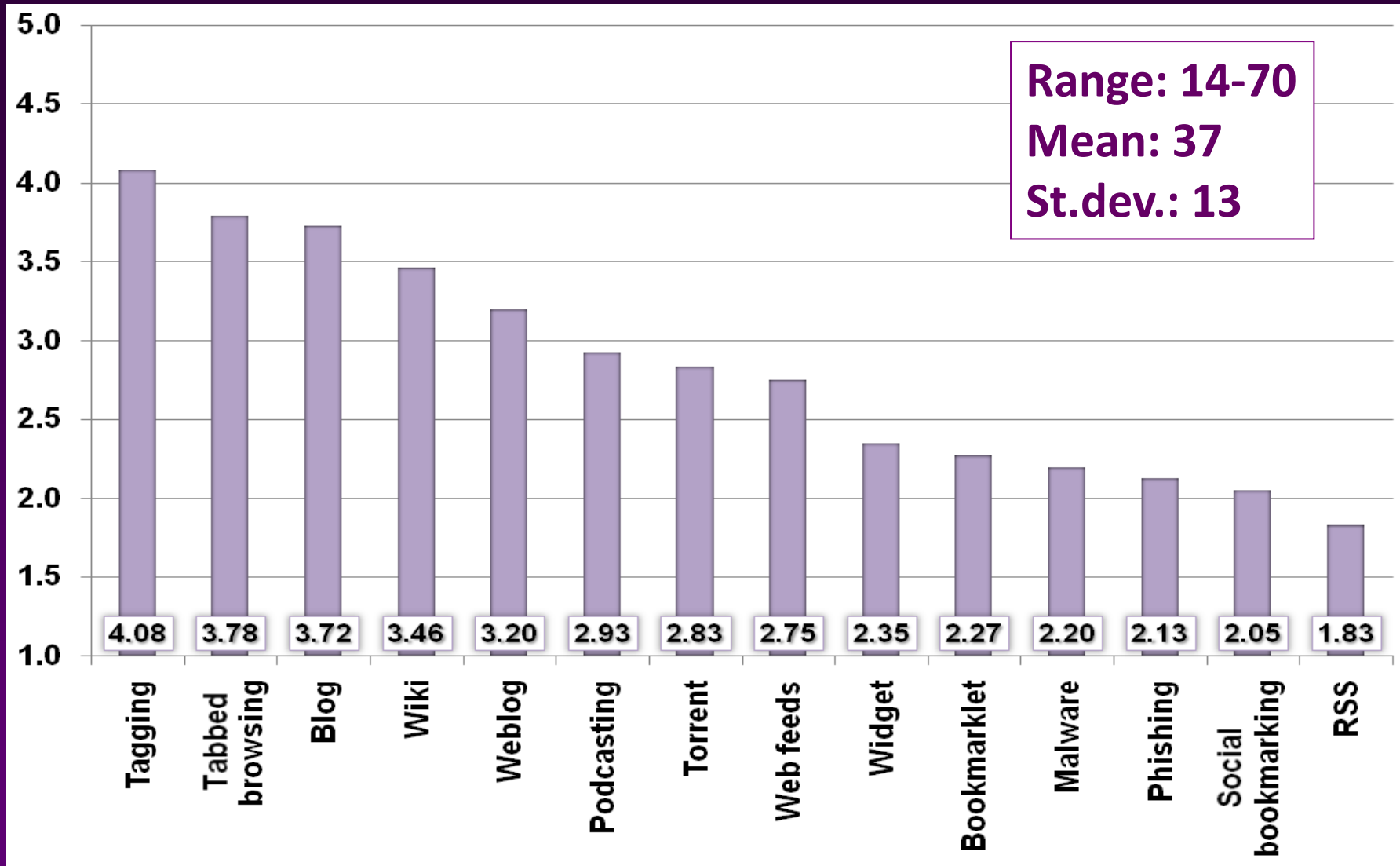
2.51

1

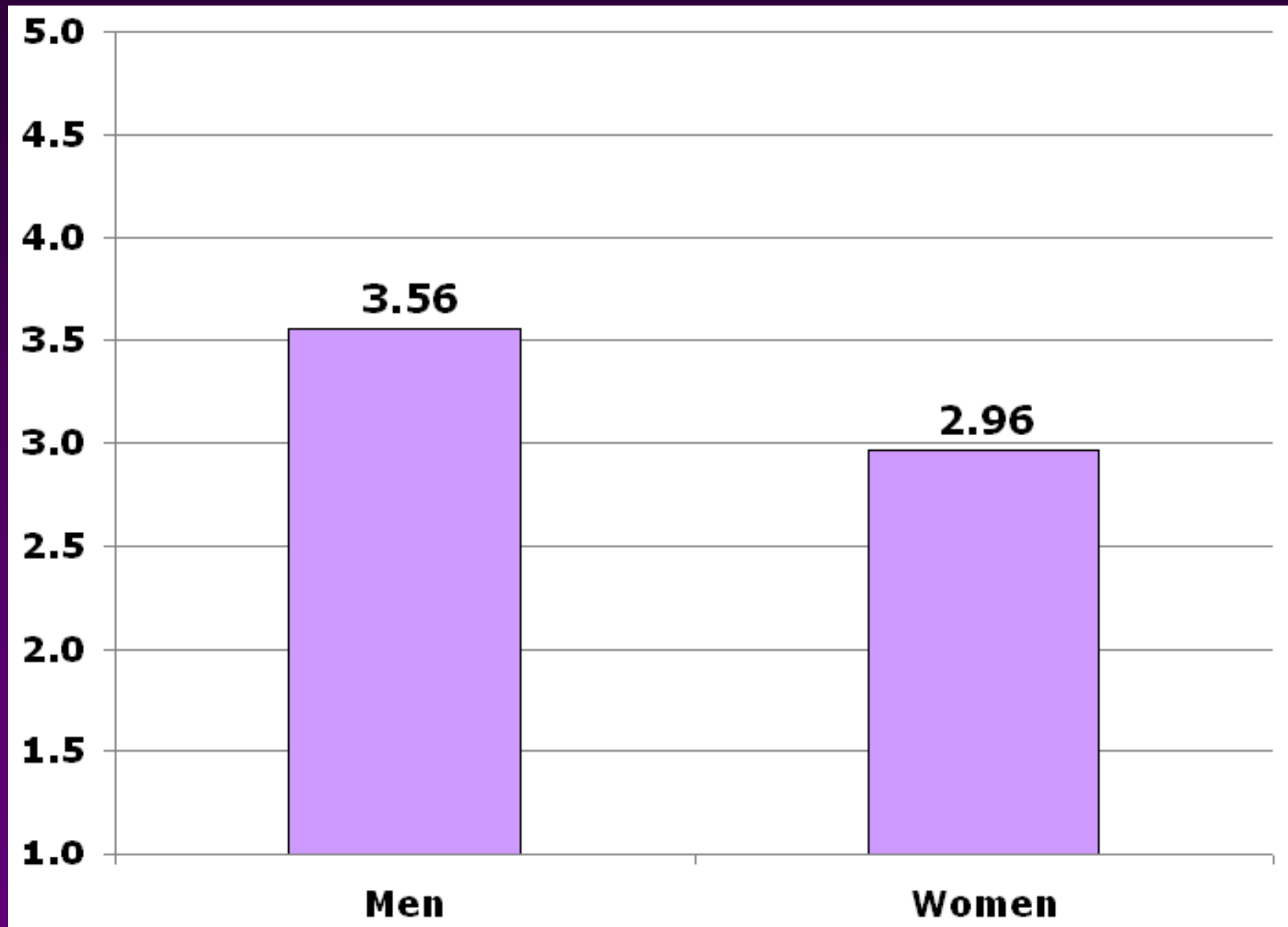
5

34% could not identify the correct description of bcc functionality on a multiple-choice question (UIC '10)

Advanced Internet-related terms



Relationship of skill & gender



Differences in Actual and Perceived Online Skills: The Role of Gender

Eszter Hargittai, *Northwestern University*

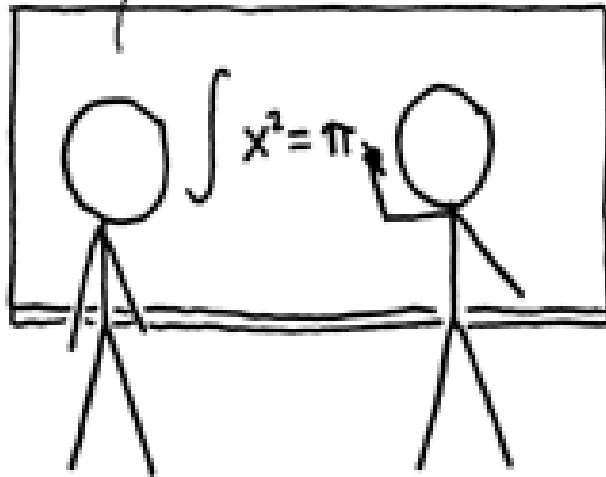
Steven Shafer, *Princeton University*

Objective. The literature on gender and technology use finds that women and men differ significantly in their attitudes toward their technological abilities. Concurrently, existing work on science and math abilities of students suggests that such perceived differences do not always translate into actual disparities. We examine the yet-neglected area concerning gender differences with respect to Internet-use ability. In particular, we test how self-perceived abilities are related to actual abilities and how these may differ by gender. *Methods.* We use new data on web-use skill to test empirically whether there are differences in men's and women's abilities to navigate online content. We draw on a diverse sample of adult Internet users to investigate the questions raised. *Results.* Findings suggest that men and women do not differ greatly in their online abilities. However, we find that women's self-assessed skill is significantly lower than that of men. *Conclusions.* Women's lower self-assessment regarding their web-use skills may affect significantly the extent of their online behavior and the types of uses to which they put the medium. We discuss the implications of these findings for social inequality.

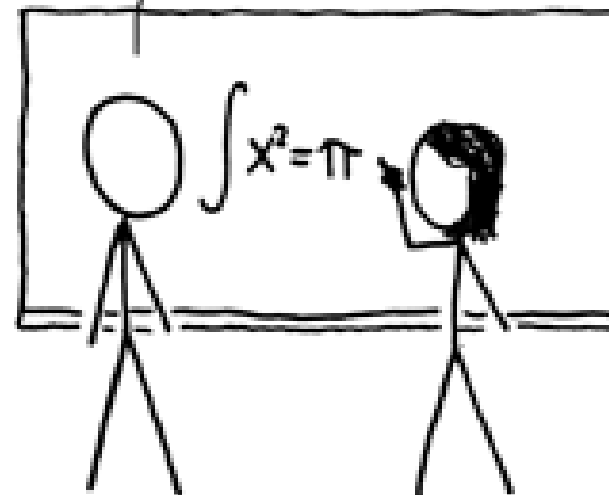
Hargittai, E. & Shafer, S. (2006). Differences in Actual and Perceived Online Skills: The Role of Gender. *Social Science Quarterly*. 87(2), 432-448.

Eszter Hargittai, Northwestern University

WOW, YOU
SUCK AT MATH.



WOW, GIRLS
SUCK AT MATH.



 xkcd.com/385

Eszter Hargittai & Gina Walejko

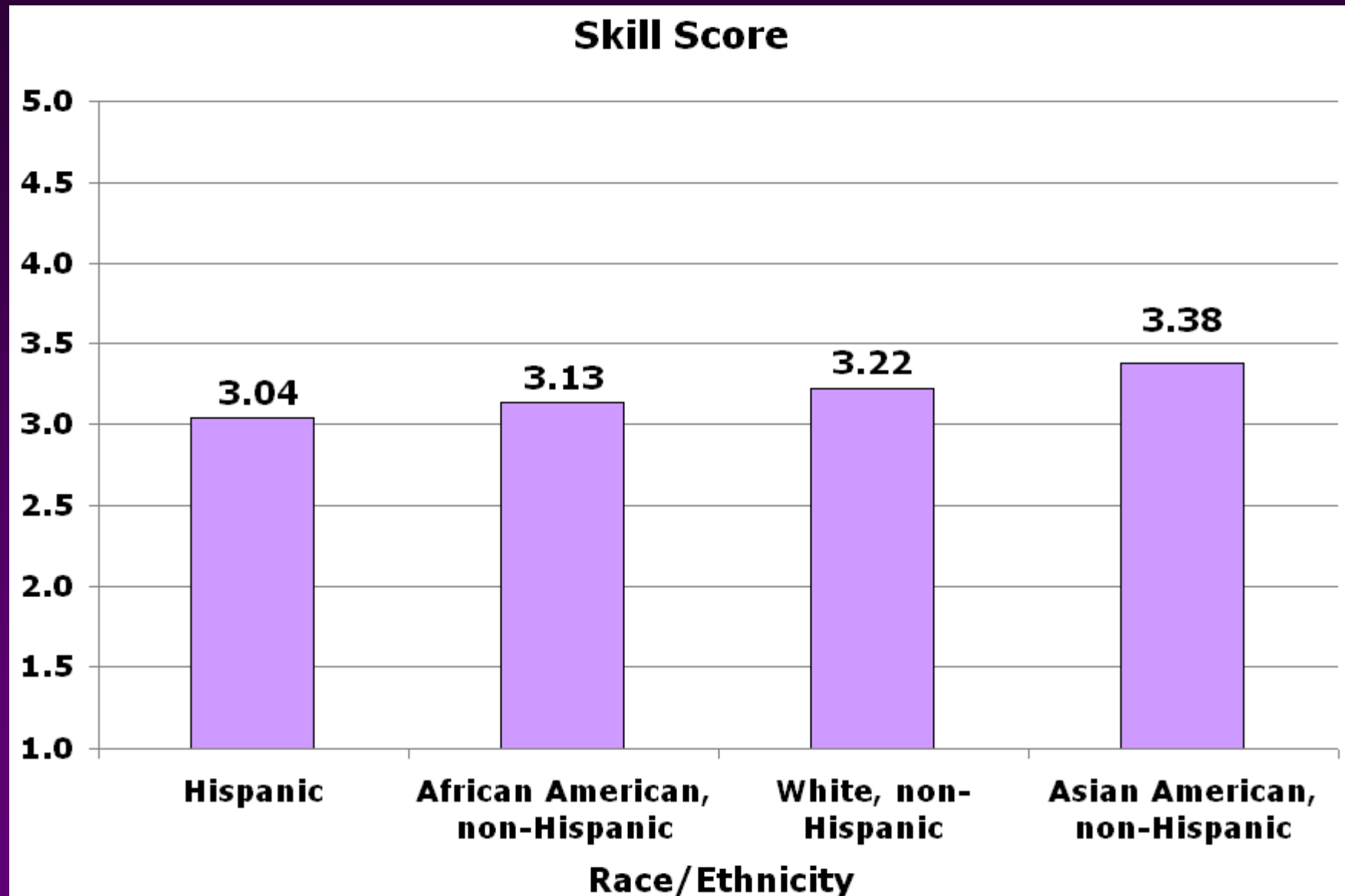
THE PARTICIPATION DIVIDE

Content creation and sharing in the digital age

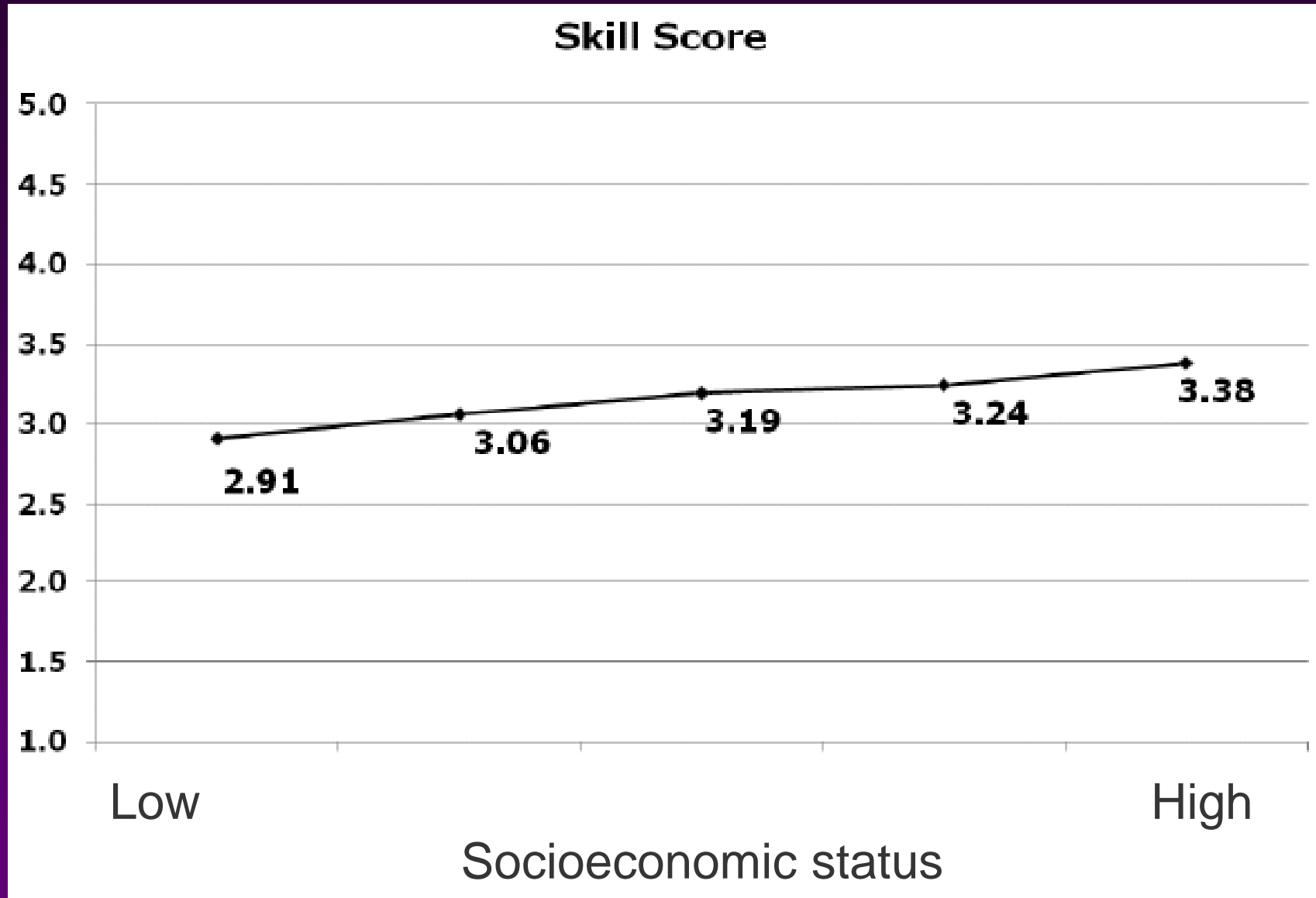
This paper looks at the prevalence of creative activity and sharing in an age when the barriers to disseminating material have been considerably lowered compared with earlier times. The authors use unique data to explore the extent to which young adults create video, music, writing and artistic photography, as well as the prevalence of sharing such material online. Findings suggest that despite new opportunities to engage in such distribution of content, relatively few people are taking advantage of these recent developments. Moreover, neither creation nor sharing is randomly distributed among a diverse group of young adults. Consistent with existing literature, creative activity is related to a person's socioeconomic status as measured by parental schooling. The novel act of sharing online, however, is considerably different by gender with men much more likely to engage in it. However, once internet user skill is controlled for, men and women are equally likely to post their materials on the Web.

Hargittai, E. & Walejko, G. (2008). The Participation Divide: Content Creation and Sharing in the Digital Age. *Information, Communication and Society*.11(2):239-256.

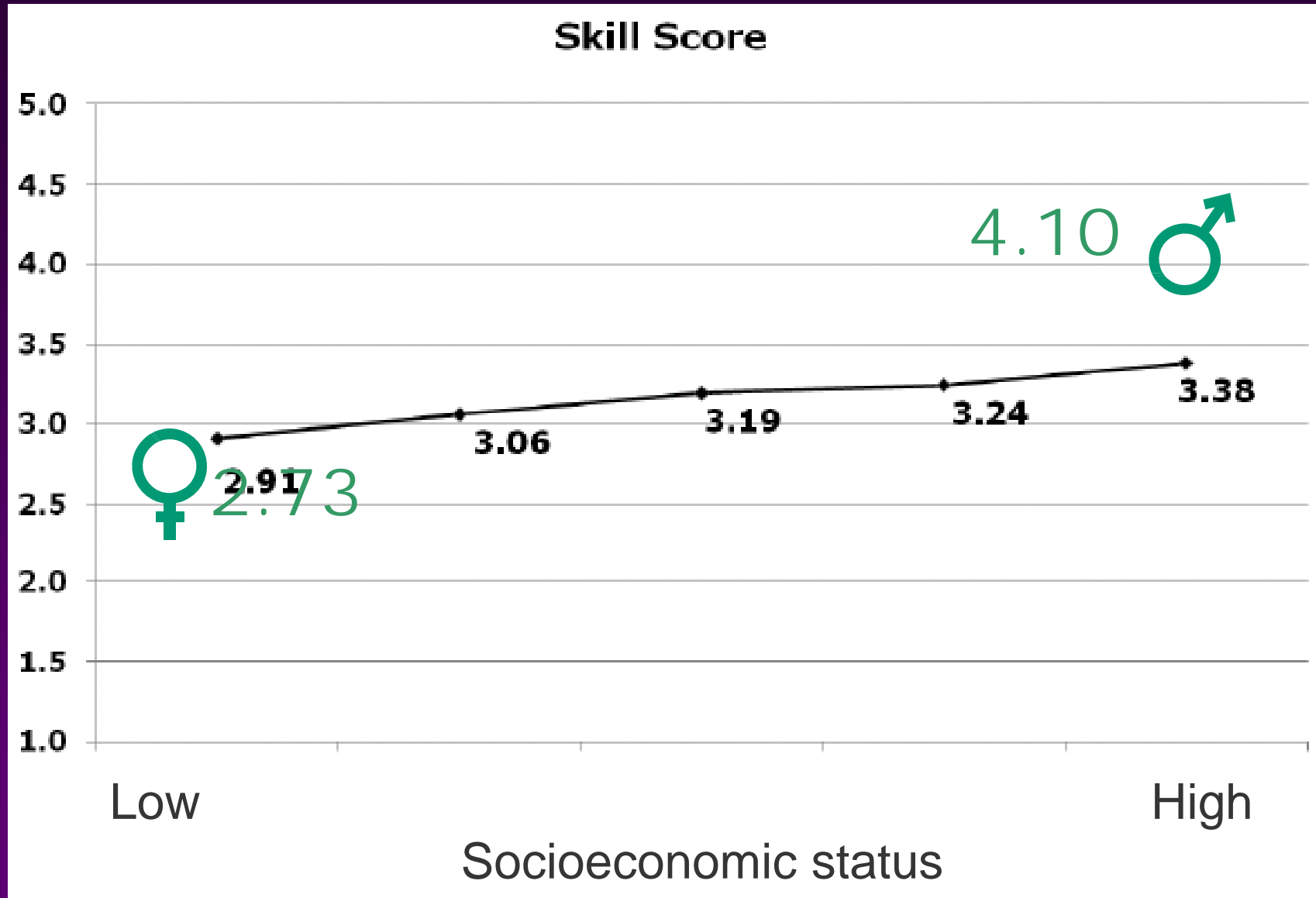
Relationship of skill & race/ethnicity



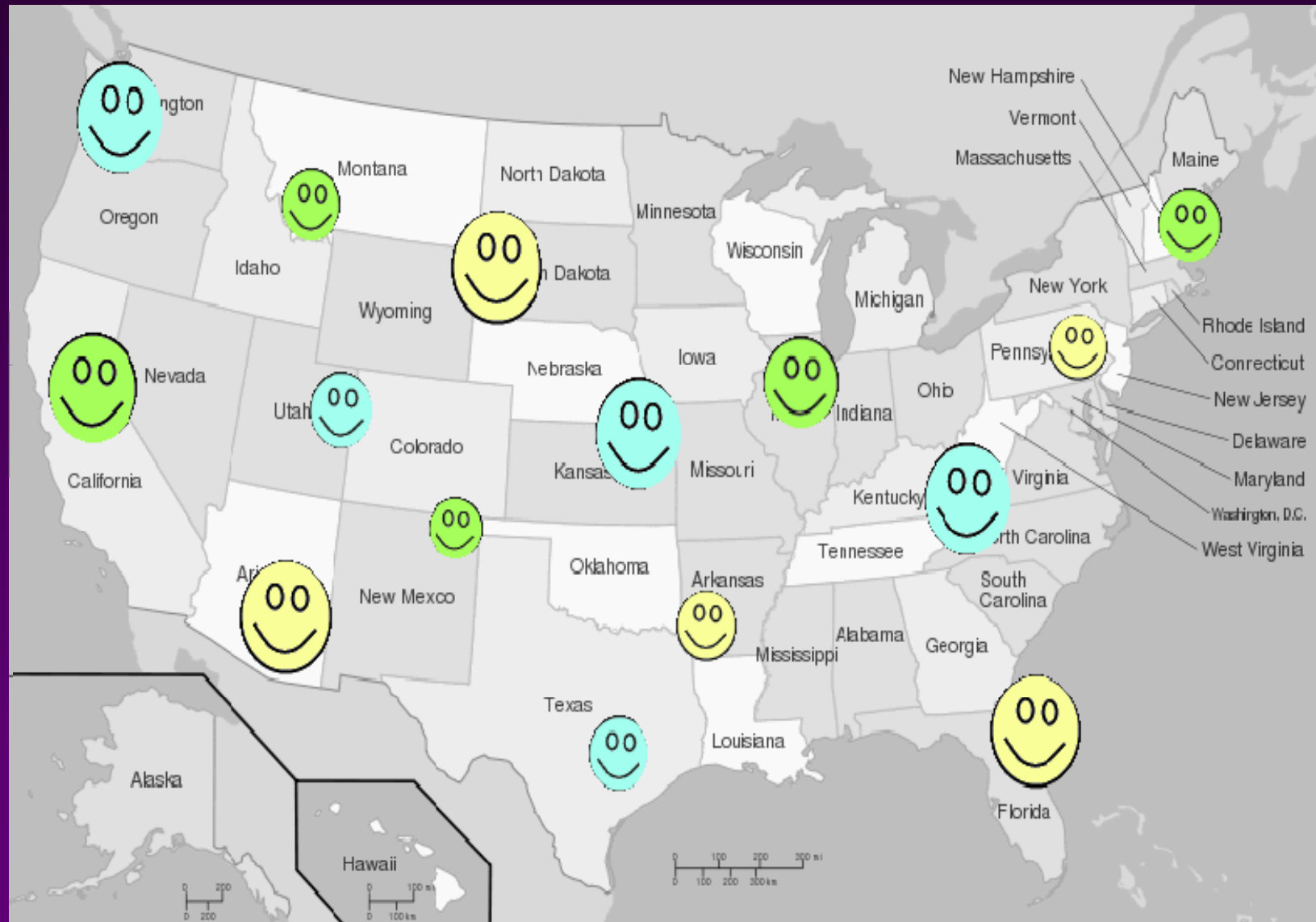
Relationship of skill & socioeconomic status



Relationship of skill & socioeconomic status

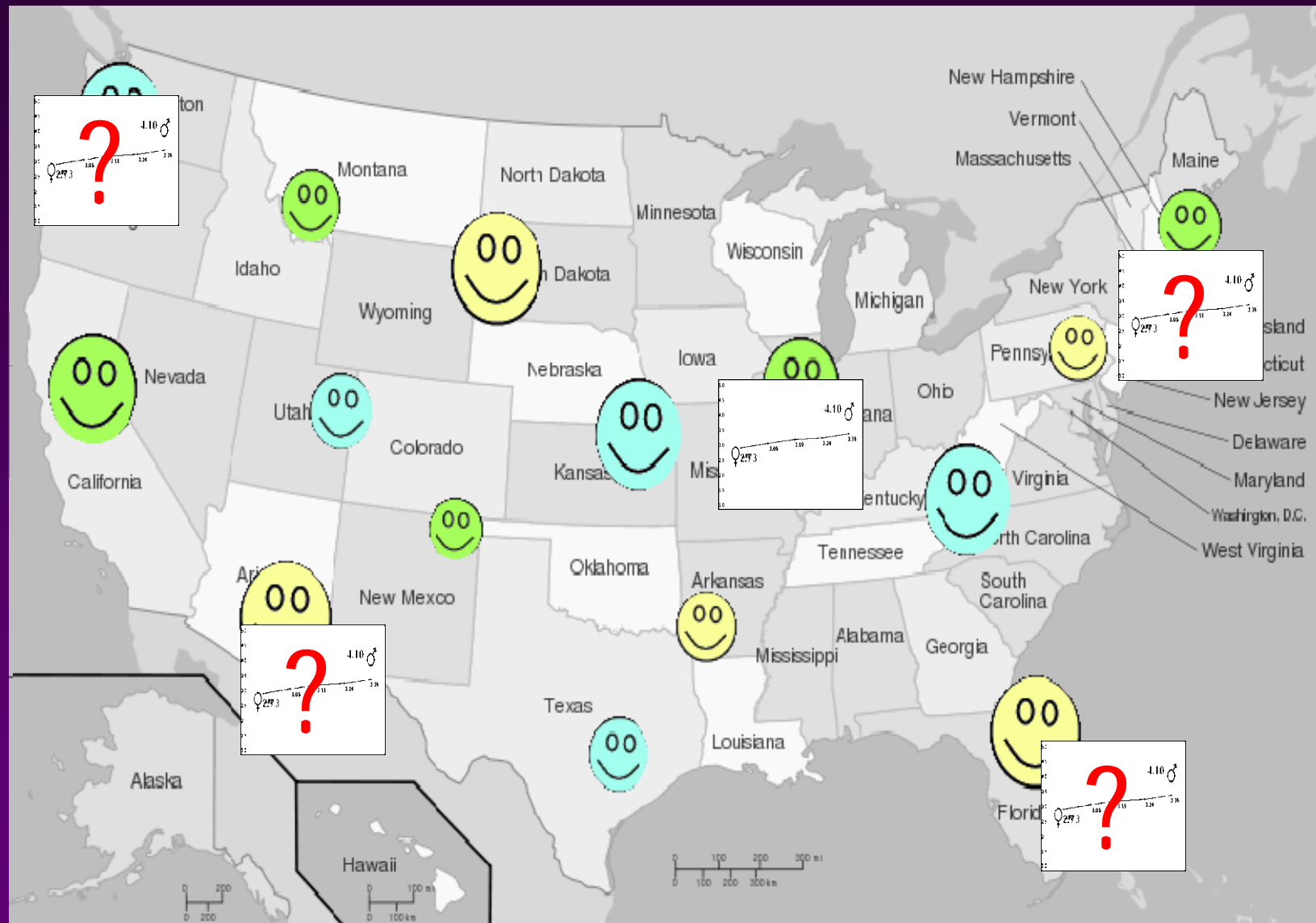


How about skill differences nationally?



© US Map from Wikipedia

How about skill differences nationally?



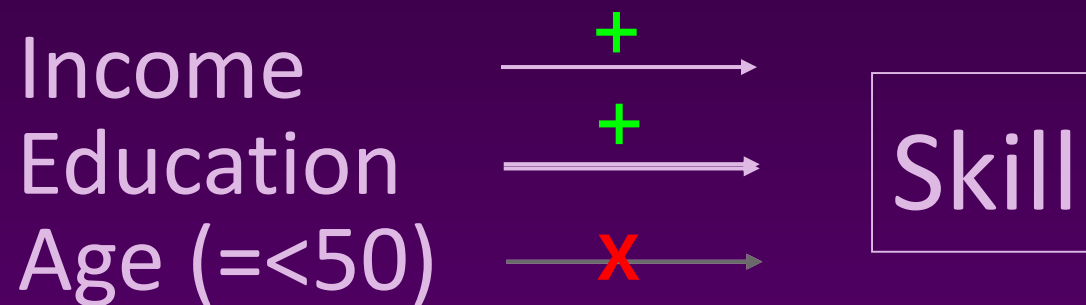
© US Map from Wikipedia

Explaining skill differences nationally (2009)



Source: Federal Communications
Commission broadband survey

Explaining skill differences nationally (2009)

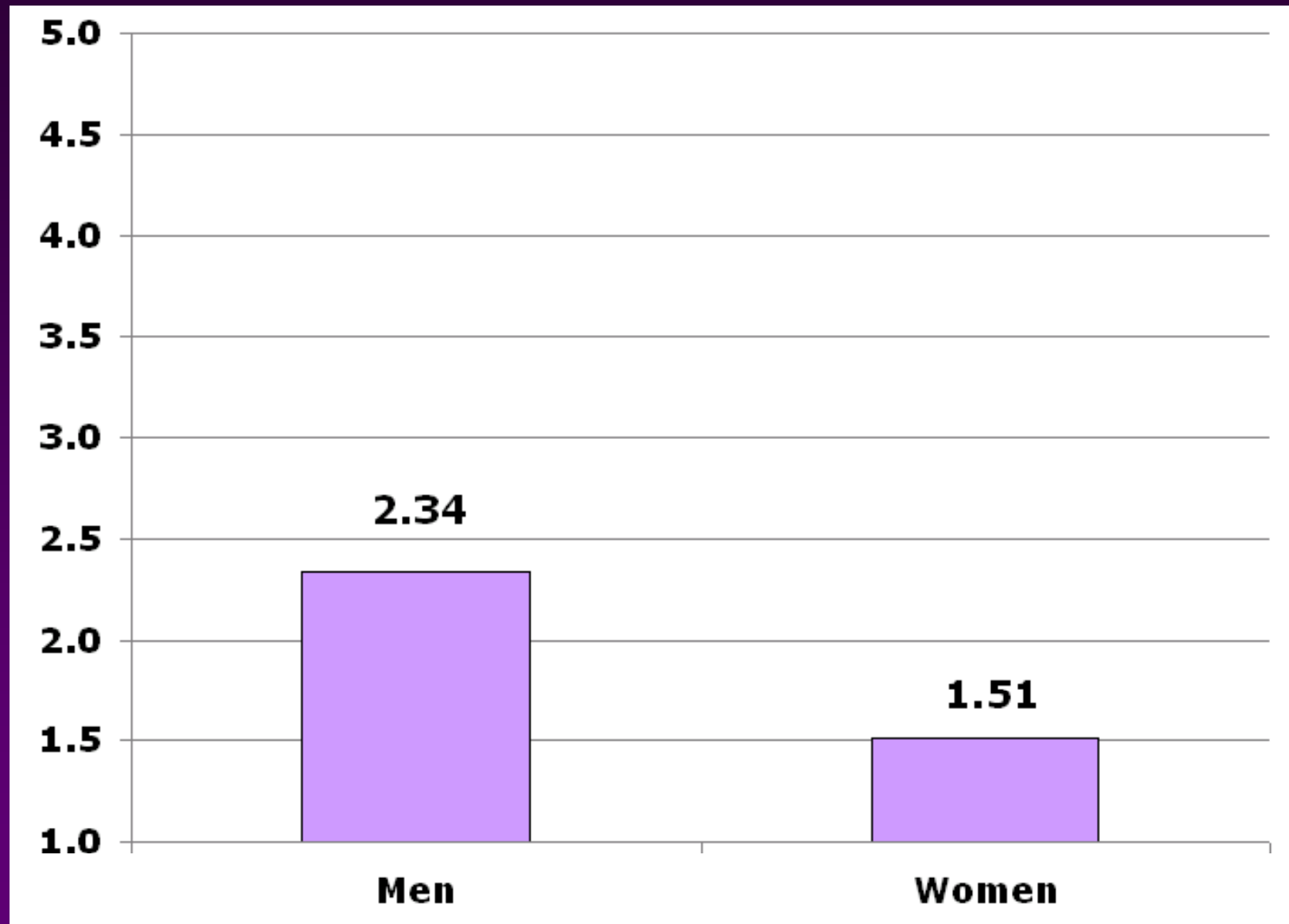


Source: Federal Communications
Commission broadband survey

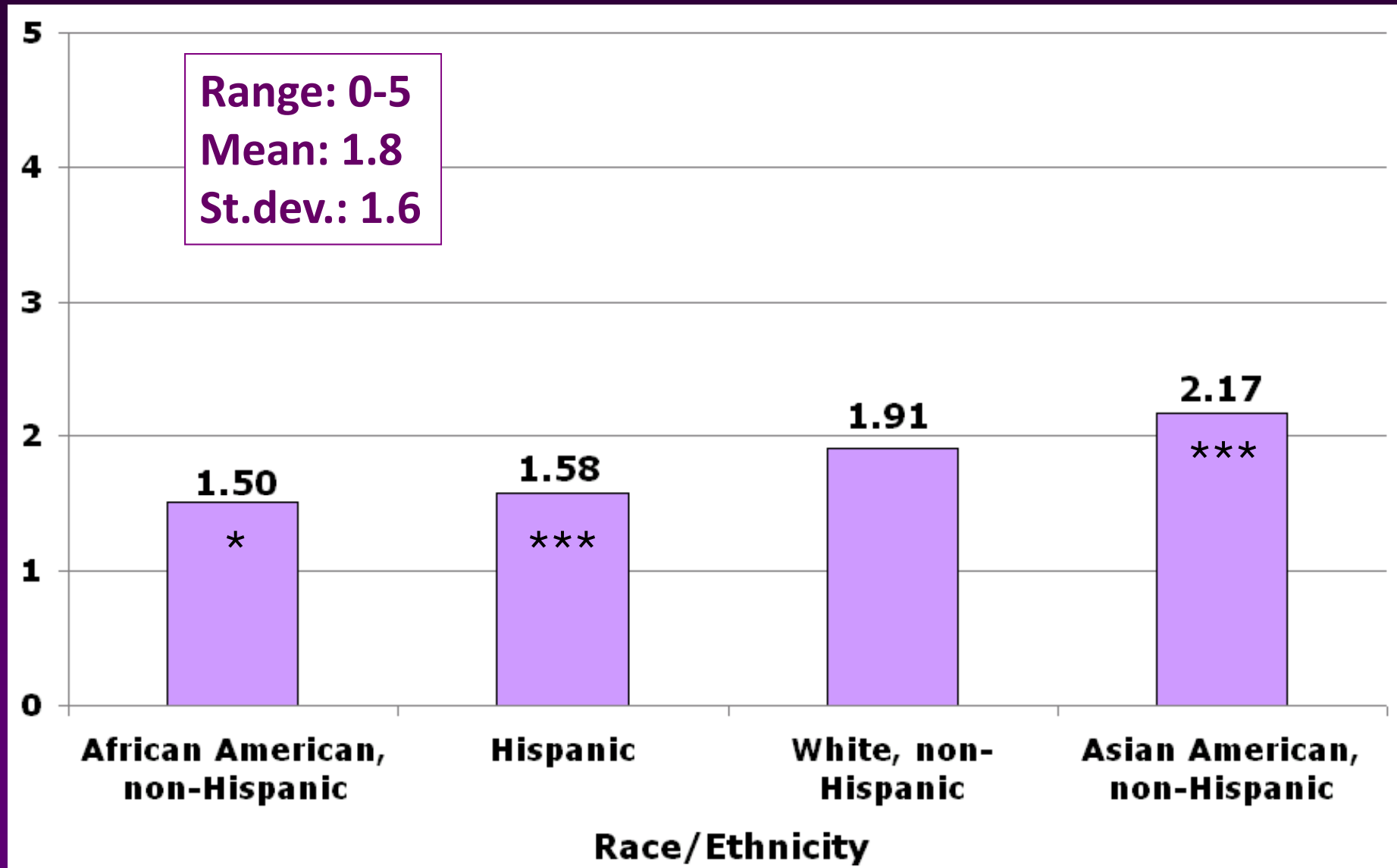
Is there a participation gap?



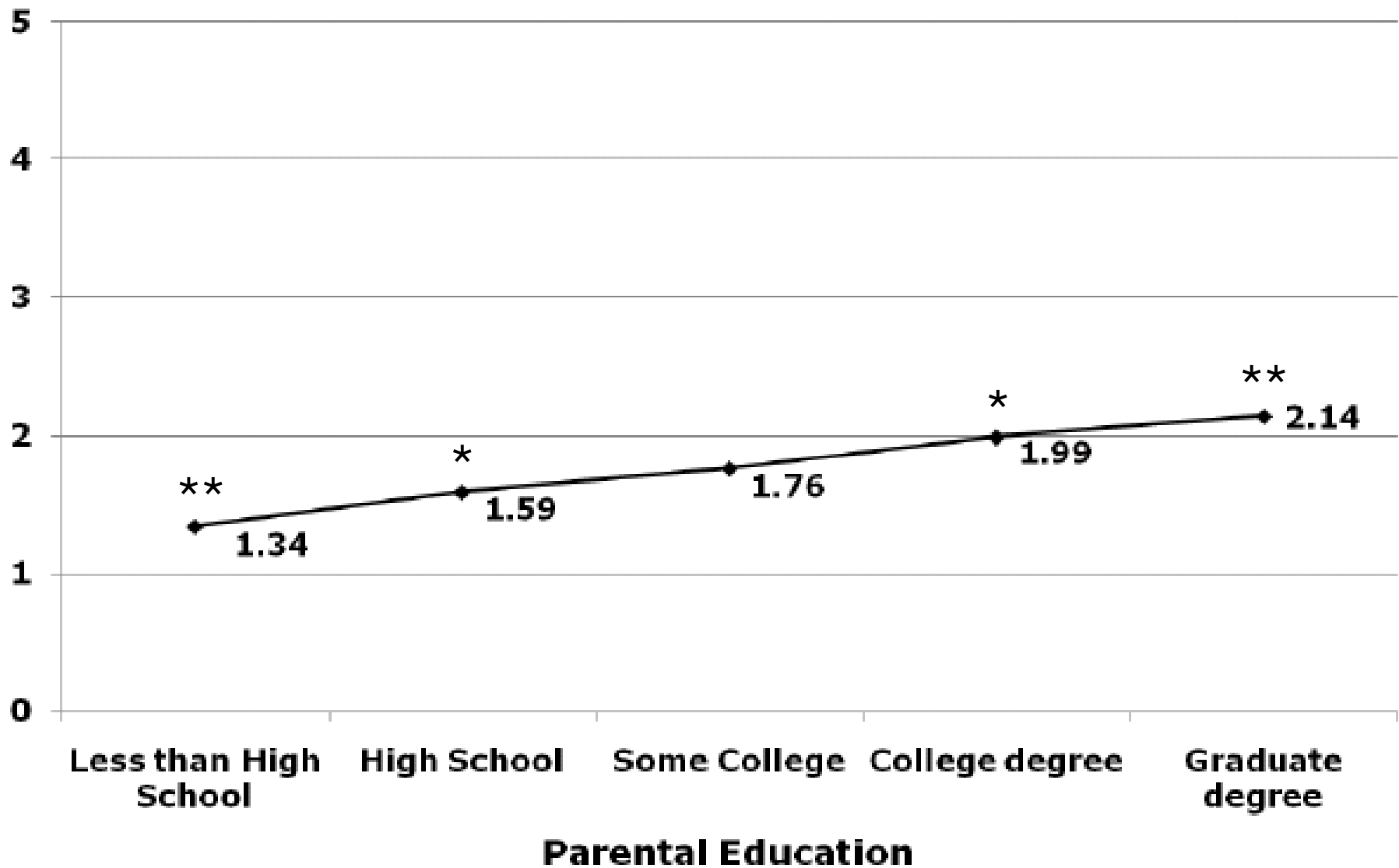
Number of online engagement activities by gender



Number of online engagement activities by race

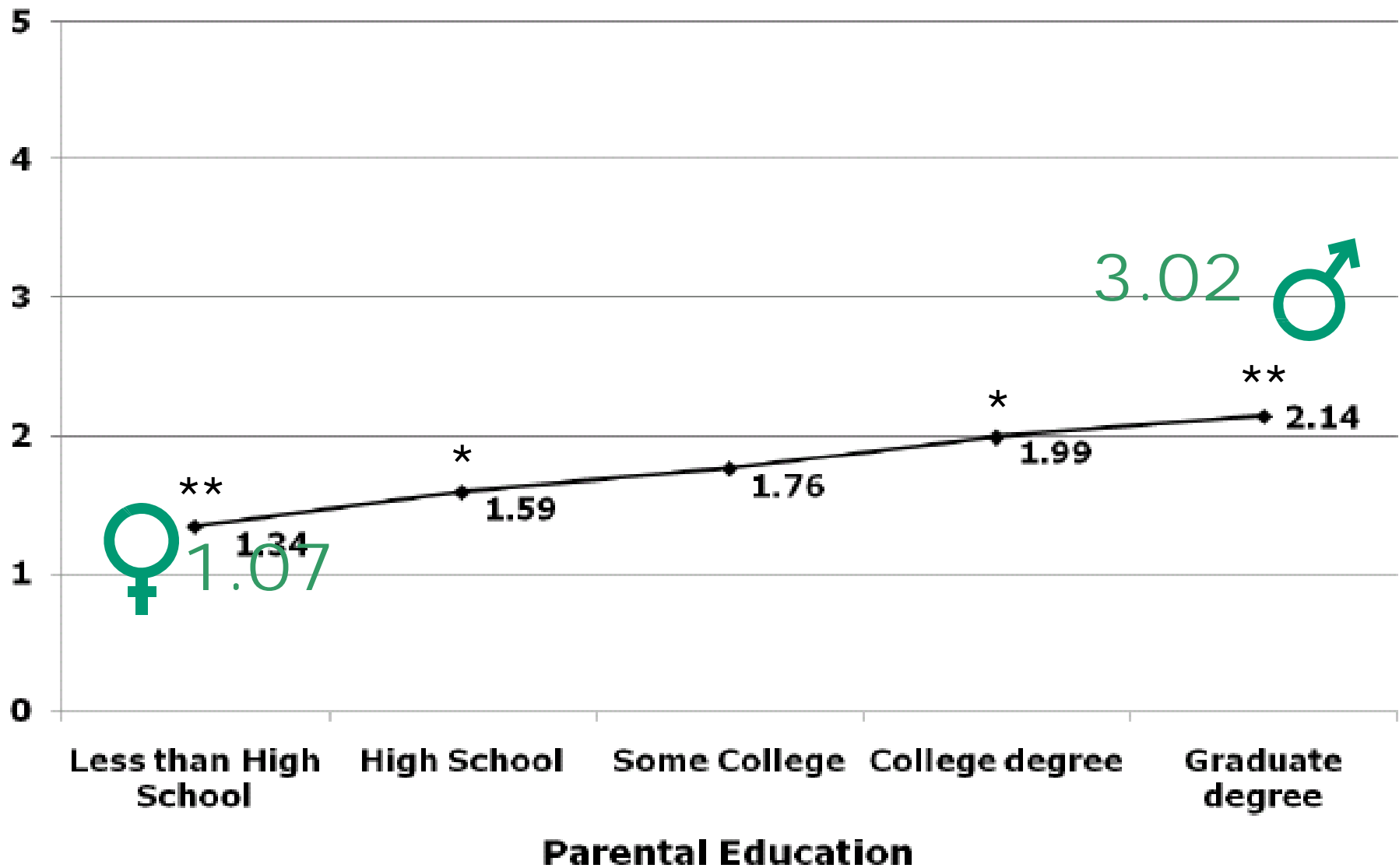


Number of online engagement activities by parental education



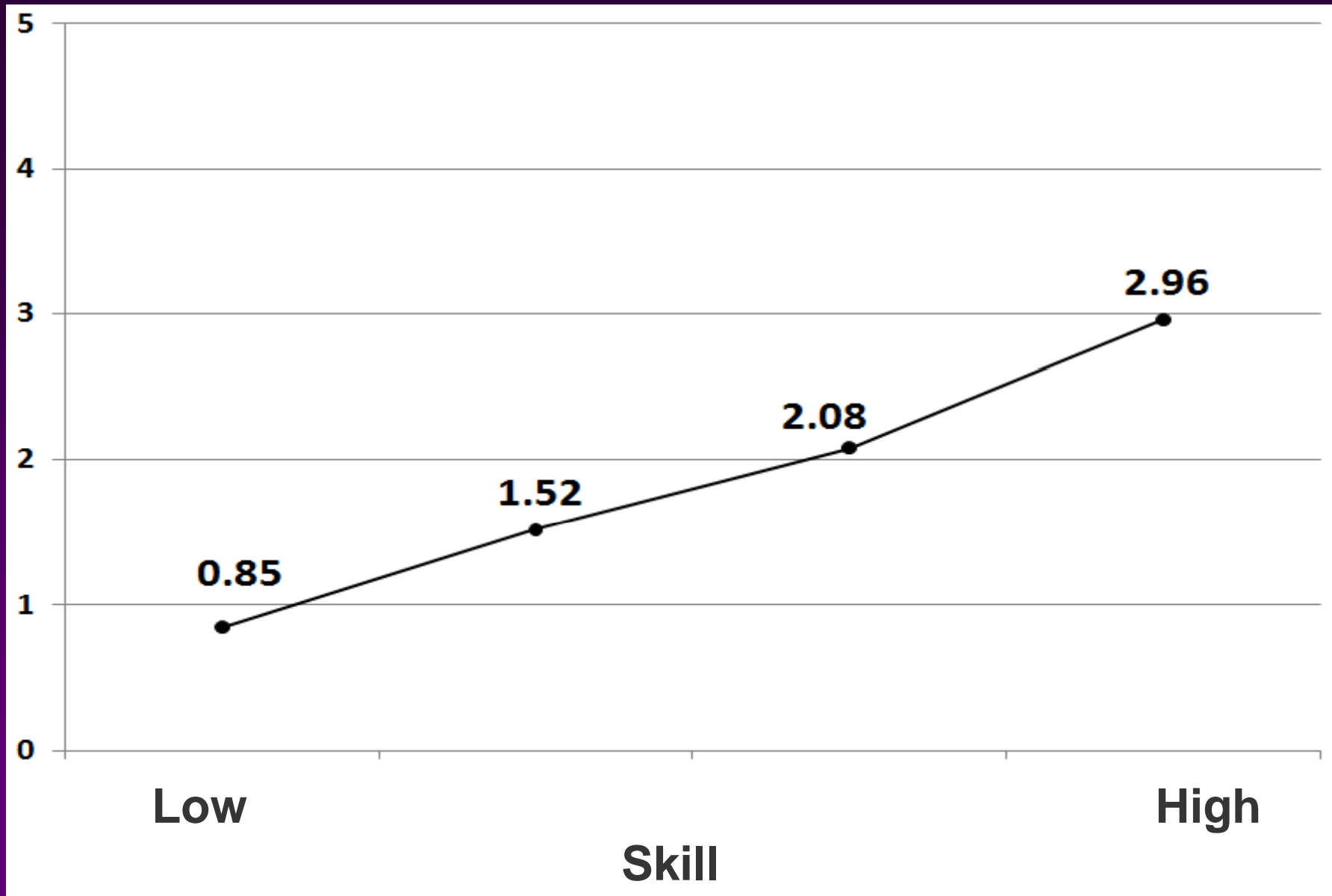
* $p < .05$ ** $p < .01$ *** $p < .001$

Number of online engagement activities by parental education

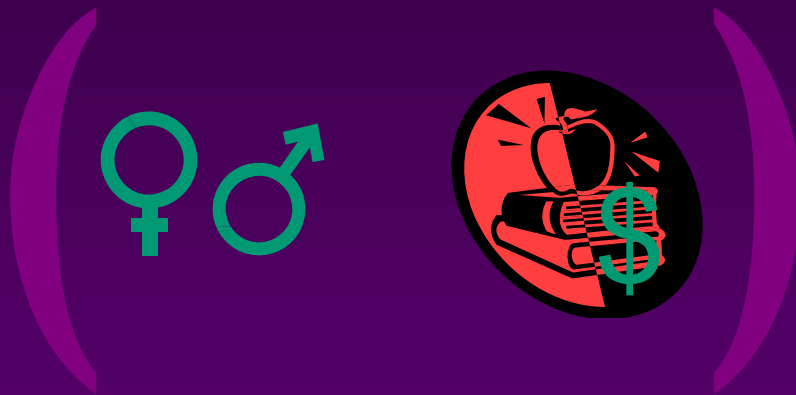


* $p < .05$ ** $p < .01$ *** $p < .001$

Number of online engagement activities by skill



Why is it helpful to focus on skill?



Important next step

Updating skill instrument to reflect social media uses and skills

Conclusions

- People's Internet skills differ considerably
- Gender, race/ethnicity, socioeconomic status all relate to people's skills
- Adoption of a service is not a random event
- People's background and online skill relates to what they do online
- Studies based on logs of a specific site/service/community must be conscious of the biases related to use of said site/service/community in the first place

Thanks to funders:

Thank you!



Robert and Kaye Hiatt Fund for Research
on Media, Technology, and Society



THE GRADUATE SCHOOL
NORTHWESTERN UNIVERSITY



Northwestern University Residential Colleges

Thanks to students/former students:



Thank you!

eszter.com
webuse.org

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gplus.to/eszter