# Microsoft Research Faculty Summit 2014 15TH ANNUAL



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## Is the grass any greener?

Pervasive awareness, social media, and well-being

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### STUDYING SOCIAL CHANGE IS LIKE STUDYING GRASS

### New Technology



### Sociology



# Challenge of studying new technology and social change

#### **NEW TECHNOLOGY**

is supplanting the **MUNDANE** 

through

INOVATION

#### SOCIOLOGY

is piercing the

#### MUNDANE

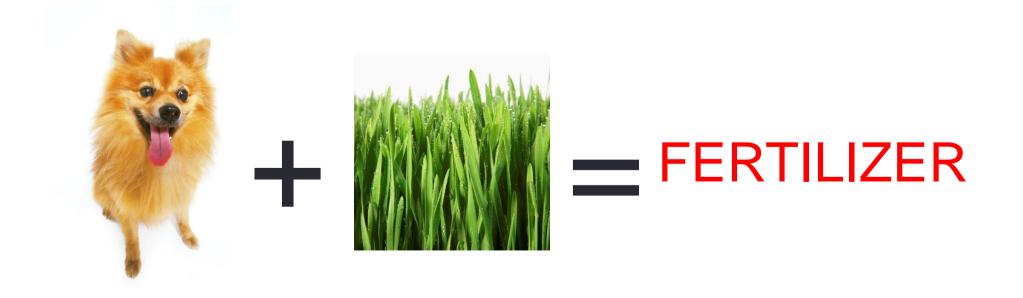
to reveal the splendor of the

**OBVIOUS** 

Note: These quotes were inspired by Myron Orleans (2000) and Bill Moyers.

### Therein lies the problem

- Technology is ever changing, whereas we can only understand how a technology has changed society once it has become mundane.
- Predictions about how a new technology will influence society often combines with nostalgia to produce...



### From the not so distant past...

## "Extensive use of electricity is corrupting the morals of the young".

Nov 25, 1888. New York Times.



### From the not so distant past...

"Women of refinement and exquisite moral training addicted to the use of the wheel... detrimental to the advancement of morality, nay even its stability".

May 16, 1899. Chicago Daily Tribune.



### And more recently...

"We expect more from technology and less from one another and seem increasingly drawn to technologies that provide the illusion of companionship without the demands of relationship."

April 21, 2012. The New York Times.



A wise man once asked a series of important question....

Stephen Colbert The Colbert Report Jan 17, 2011

### Even if I only get information from yo doesn't t Aren't I ev **e** If I'm co you're on 10 what eacl we are c way, how d

### Affordances of Social Media for Social Networks

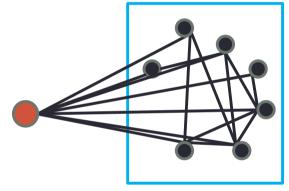
- More aware? Less alienated?
- Persistent
  - Social relationships less transitory than at any time in recent history.
    - In the recent past, social ties were lost at key life course events, now fewer social ties are lost over the life course.
    - "Organically connected" (Simmel 1908) ties of kinship, locality and occupation persist and apply social pressure over the life course.
- Pervasive
  - Awareness of the activities, interests, resources, and life course transitions of social ties as broadcast through digital technologies.
    - High surveillance of social ties.
    - Social ties that are increasingly specialized.
    - Increased awareness of diversity.
    - High rate of bridging relations and bridging communication (aka. context collapse).
  - These trends contrast with the view from sociology of how increasing "mobility" influences relationships: "bond-free living" where relationships come with no enduring strings and provide disposable gratification (Bauman 2000).

Persistent and pervasive, not a new social structure

### Pre-industrial community

- Few ties.
- Densely knit.
- Few foci of activity.
- High structural equivalence.
- Low diversity.
- Generalized reciprocity.
- High surveillance.
- Collective authority and repressive sanctions.

Before we had computer networks, we had social networks



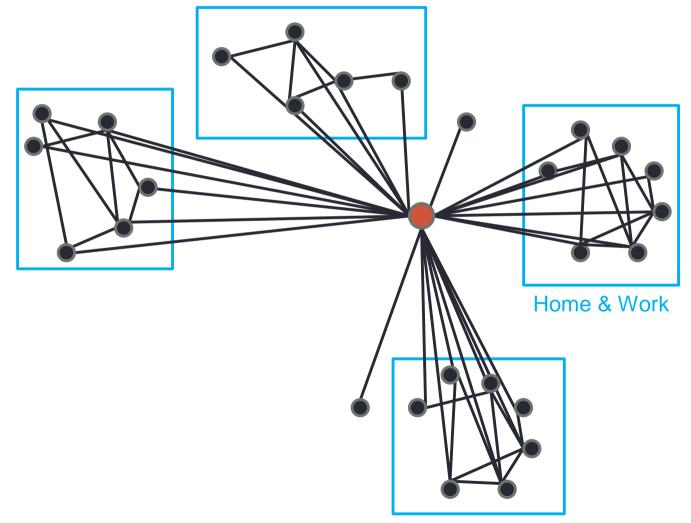
Home & Work

Persistent and pervasive, not a new social structure

### Urban-industrial community

- Multiple foci of activity.
- Lower density.
- Few bridges.
- Low surveillance.
- Higher diversity.
- Foci appear and disappear over the life course.
- Low structural equivalence.

### Before we had computer networks, we had social networks

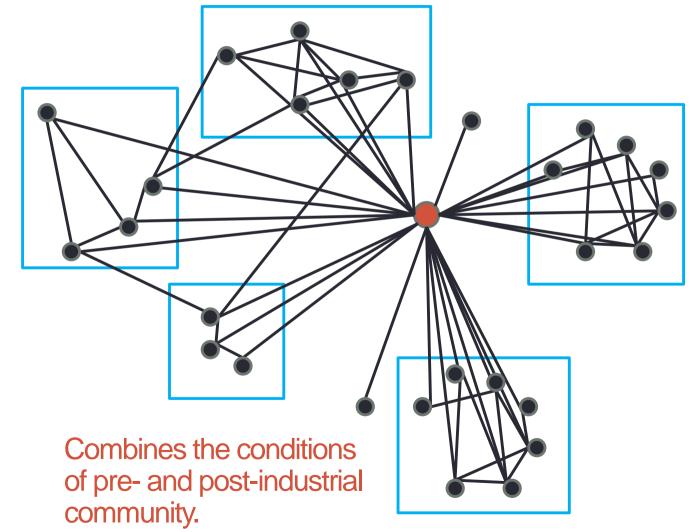


Persistent and pervasive, not a new social structure

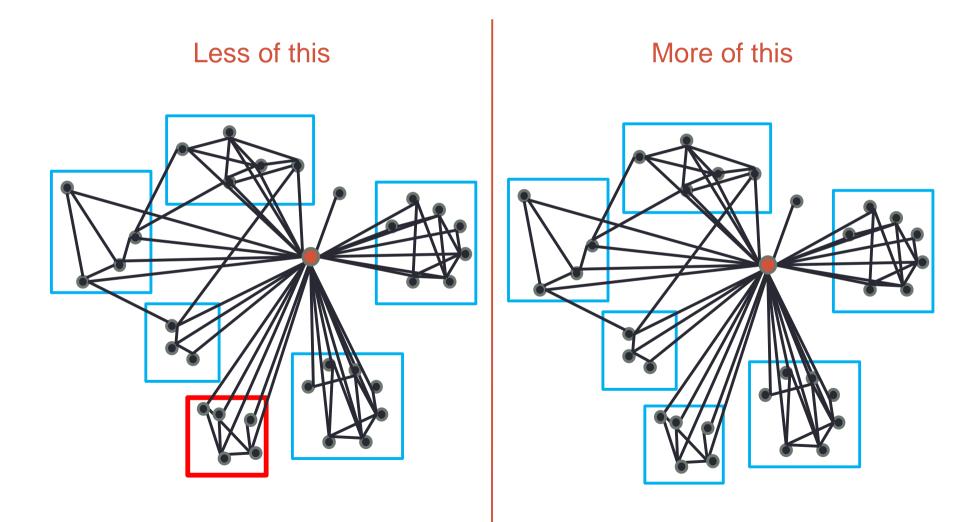
### Persistent & pervasive community

- Foci more stable over the life course.
- More bridging between foci.
- Density is higher.
- Surveillance is higher.
- *Perceived* diversity is higher.
- Generalized reciprocity?
- Repressive sanctions?

Before we had computer networks, we had social networks



#### How do we start to understand the implications of this shift?



# What is community like when social ties are persistent and pervasive?

- Your social ties are less transient, it is harder to leave relationships behind.
  - Foci persist online, and the density of relations creates perpetual awareness through 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> degree relationships.
- You are more aware of the attributes of your family, friends, and acquaintances.
  - While overall diversity is probably not increasing, your knowledge of the diversity around you does increase.
- You assume all the benefits of awareness.
  - Awareness is important as a precondition for empathy and trust.
  - You are more aware of the resources embedded in your social network – social capital.
- You also experience all the costs of awareness.
  - Your ties are aware of your resources, and draw on those resources!
  - Their awareness is experienced by you as social pressure.
  - There is a "cost of caring" associated with your awareness.

### THE BENEFITS OF AWARENESS

### **Social Capital**

- Social capital
  - The sum of the resources embedded in social structure (Coleman 1988; Bourdieu 1986; Lin 2001).
- Bonding social capital
  - Resources accessible from one's closest, most homogeneous relationships.
  - By nature of the intimacy of the relationships involved, associated with network density, closure, trust, and shared norms.
- Bridging social capital
  - The resources most likely to be accessible from heterogeneous resources.
  - More likely to come from less intimate, "weak" social ties, associated with bridging and network diversity.

### Social capital and social media

#### Bonding

- Study of "Core networks"
- 14%: Internet users in general more close confidants
- • 19%: Typical Facebook users, compared to other internet users, more close relationships.

#### Bridging

- Study of diverse social ties (access to different social positions).
- <sup>7</sup>%: Internet users know more diverse people.
- • ↑7%: Typical Facebook users, compared to other internet users.

- However, most bridging social capital comes from participation in diverse social settings.
  - e.g., voluntary groups, religious institutions, neighborhoods, public spaces, and semi-public spaces (e.g., cafés).
- If we look at the role that social media plays in use of these traditional social settings, we find:
  - About half of the bridging social capital that comes from using digital technologies is indirect.
  - It comes from the interaction between technology use and use of these foci of activity.

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  - It comes from the interaction between technology use and use of these traditional social settings.



 Internet use is associated with more frequent visits to semipublic spaces (e.g., cafés).

- Half of the bridging social capital from using digital technologies is indirect:
  - It comes from the interaction between technology use and use of these traditional social settings.



- Bloggers attend church more often, volunteer in more organizations, and are more frequent visitors to public spaces.
- People who share digital pictures online volunteer even more and visit public spaces more often.

Source: Hampton et al. (2011)

- Half of the bridging social capital from using digital technologies is indirect:
  - It comes from the interaction between technology use and use of these traditional social settings.



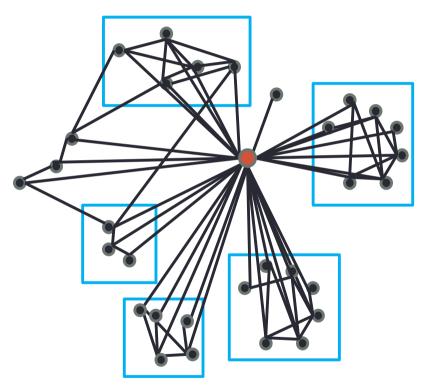
#### • As one example:

- An intensive social media user has a network that is 46% more diverse than those who do not use these technologies.
- 21% of that 46% is attributed to greater use of established social settings that have long afforded diverse contacts.

Source: Hampton et al. (2011)

### Is there a dark side?

- The technology that provides for persistent and pervasive contact offers many social goods.
- But, it's not about the technology, it's about the social structure it affords.
- These network structures may also have less desirable consequences.



### THE COSTS OF AWARENESS?



Two examples of how the awareness afforded by persistent and pervasive contact can be problematic. 1. Participation in a deliberative democracy, and the spiral of silence.

2. Social stress, and the cost of caring.

### #1 – Deliberative Democracy

- The legitimacy of democratic decisions is based on deliberation, not simply the procedure of voting.
- A process whereby citizens voluntarily participate in *discussions* on public issues (Tarde 1899, Dewey 1927, Habermas 1984).
- "Political conversations" can include formal and informal talk, discussion, and arguments without any specific purpose or predetermined agenda (Kim, Wyatt, & Katz 1999).
- Builds understanding, tolerance, political knowledge, and political participation (Jacobs et al. 2009).
- This process depends on people's exposure to information on public issues and on their willingness to discuss these issues with those around them.

### Social media and democracy

- Some evidence of a correlation between social media use and political *participation*.
  - Compared to someone who uses Facebook a couple of times per week, someone who uses the platform multiple times per day is:
    - More than twice as likely to have attended a political rally or meeting.
    - 50% more likely to have tried to convince someone to vote for a specific candidate.
    - 40% more likely to have said they voted or intend to vote.
- Some evidence to suggest that social media has aided in collective action in the Middle East and elsewhere (Tufekci & Wilson 2012, Hussain & Howard 2013).
- Democratic participation  $\neq$  deliberation.
- Little empirical evidence that for most people, social media have increased exposure to information on political issues, opened up new opportunities for everyday political conversation, or reduced the barriers to sharing opinions.

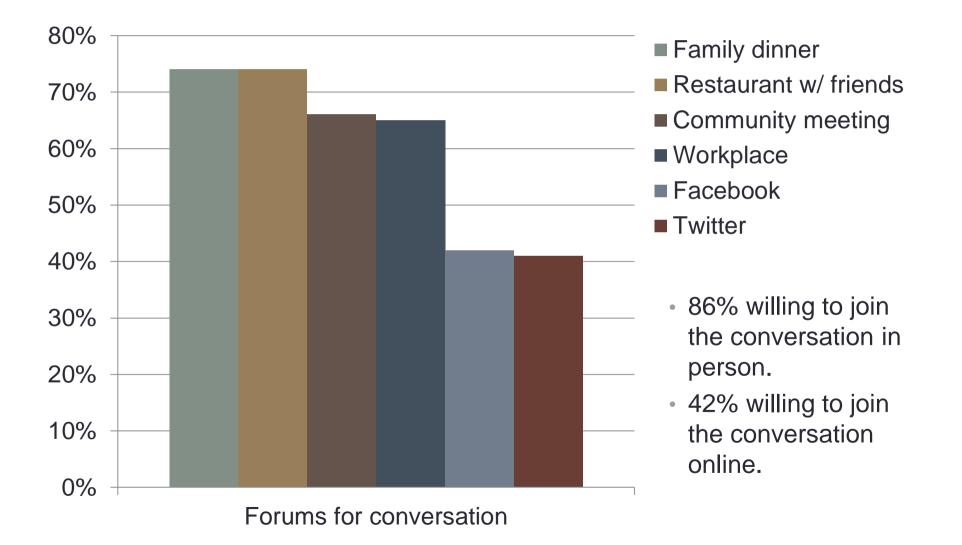
### Studying political conversations

- Aug-Sept 2013: Random digit dial (including mobile phones) survey in English and Spanish of 1,801 adults (Internet and non-Internet users) conducted in collaboration with the Pew Research Center's Internet & American Life Project.
  - Wanted to know where people get their news about important public issues.
  - How willing people are to discuss a political issue in different social settings: public meetings, at home, at work, with close friends, online.
  - How social media use is related to information exposure and willingness to join conversations about a political issue.
- Focused on one example of a political issue of recent national importance, revelations by Edward Snowden about the U.S. government's surveillance program to collect information on people's telephone calls, emails and other online communications.

### Studying political conversations

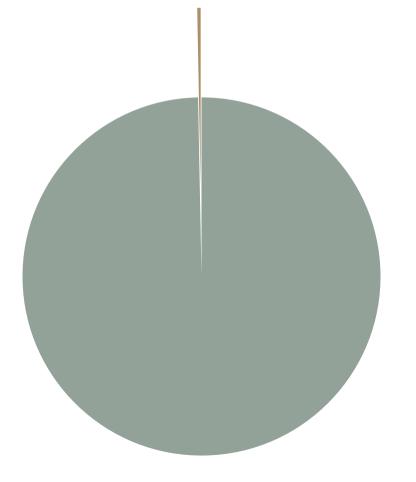
- Full findings to be published in a Pew Report (mid-July) w/ Lee Rainie, and my graduate students Weixu Lu and Inyoung Shin.
- DV = Willingness to join a conversation on this issue in different settings: public meeting, at work, at a restaurant with friends, at a family dinner, on Facebook, and on Twitter.
- ICTs IVs = internet use, mobile phone use, exposure to information from traditional mass media and social media, frequency of Twitter, Instagram, Pinterest, LinkedIn, and Facebook use, number of FB ties, frequency of FB updates, FB "liking", FB commenting, and FB private messaging.
- Other IVs = demographics, interest, knowledge, opinion strength, perceived opinion agreement of: spouse/partner, family members, close friends, coworkers, neighbors, Facebook network, Twitter followers.

### Willing to voice their opinion



### New opportunities for discussion?

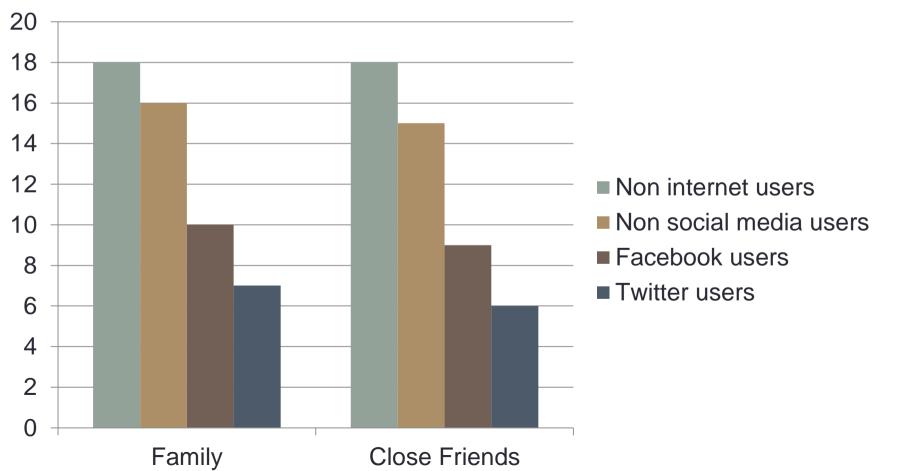
0.3% willing to discuss online but not in person



Willing to discuss in person or in person and online

Willing to discuss online, but unwilling to have a conversation in person

# "Awareness" is the important difference between social media users and "others"



% Uncertain about friend's and family's opinions

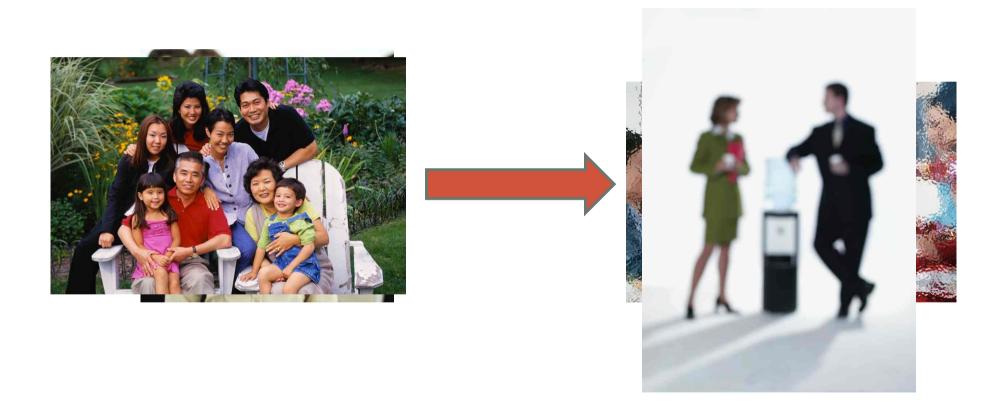
#### Awareness is not always good

- Classic example: The spiral of silence (Noelle-Neumann, 1974).
- Those who feel that they hold a minority opinion will tend to self-censor out of a fear of being isolated (ostracism or ridicule).

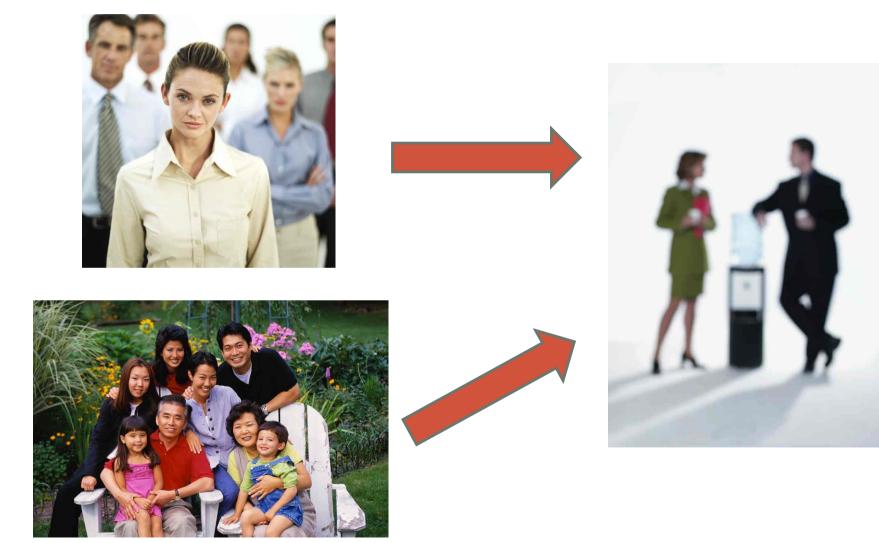
#### Silence is domain specific

- The tendency to self-censor depends on the reference group and the forum for discussion (Oshagan, 1996).
  - e.g., a person might be willing to have a discussion with family over dinner if they suspect family members agree with their opinion, but the same person might not be willing to speak out at work if they do not expect agreement with coworkers.

#### Silence is domain specific



#### Silence is domain specific



• Findings: the old spiral of silence:

www.mysocialnetwork.net

- At work, people are 2.9 times more likely to say that they would join a conversation on this topic if they feel that their coworkers are in agreement.
- Out for dinner with friends, people are 1.4 times more likely to be willing to discuss this issue if they feel that their close friends are in agreement.
- And we find the same thing on social media platforms. Facebook users are 1.9 times more likely to say they would discus this issue on Facebook if they feel that people in their Facebook network are in agreement.

#### A new 'spin' on the spiral of silence

- Social media users less willing to speak out in other settings:
  - Someone who uses Facebook a few times per day is 0.6 times less likely to be willing to discuss this topic at a *public meeting* than someone who uses Facebook only a couple times per week.
- The spiral of silence from social media affects selfcensorship across domains:
  - If they feel that their Twitter followers do not agree with their opinion, a typical Twitter user is 0.3 times less likely to join a conversation at work.
    - If they feel their followers agree, they are only 0.7 times less likely.
  - A typical Facebook user, who does not feel his or her Facebook friends agree with their position, is half as likely to join a conversation when *out to dinner with friends*.
    - If they think their Facebook friends agree, they are only 0.7 times less likely to speak out.

#### The Downside of Awareness

- Why does social media use reduce people's willingness to join political conversations?
  - Increased awareness of other people's opinions on political issues; increased awareness of diversity in their network overall.
  - Failing to find expected opinion agreement with social media "friends" (and seeing diversity on other issues) results in a fear of isolation that leads to self-censoring online and in other social settings (e.g., at work, in person with friends).
- Birds of a feather flock together.
  - When you break from the flock, diversity = opportunity.
- They also flock to the same pond.
  - When you encounter difference where you expect to find similarity, diversity = uncertainty.

#### #2 – Social Stress

- Social stress
  - The stress that comes from one's relationships.
  - Typically a result of stressful life experiences (having a child, getting married, etc.).
- Psychological stress
  - A state where an individual lacks the ability or the resources to adapt or cope with demands.
- The high cost of caring
  - Psychological distress that results from exposure to events that happen in the lives of people close to us (Kessler and McLeod, 1984).

# Everything my wife told me is true!

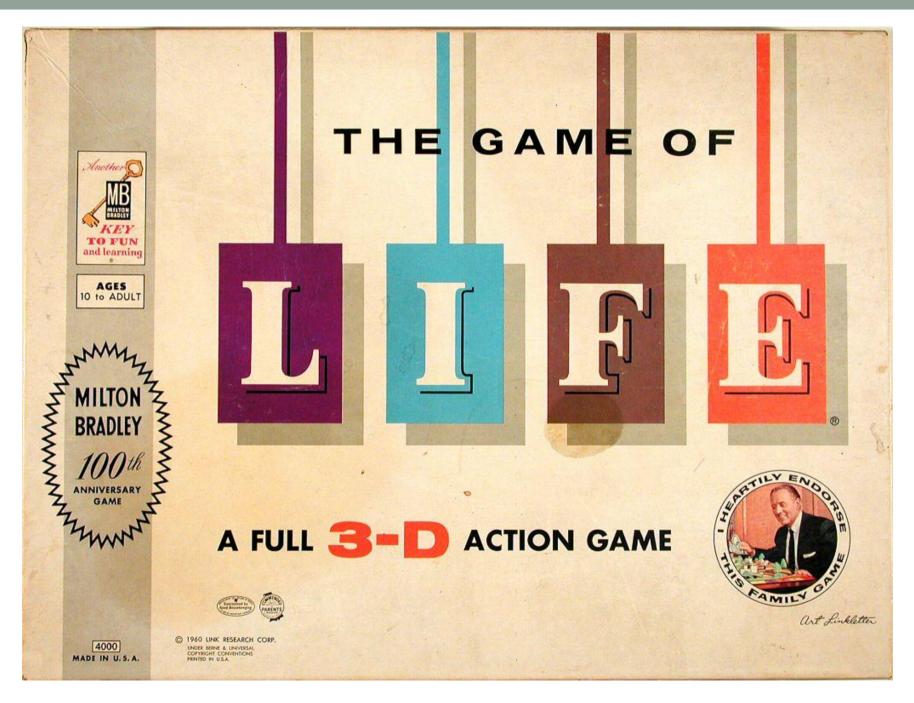
- Men are insensitive jerks.
- And women do carry the weight of the world on their shoulders.

 Full findings to be published in a Pew Report (later this summer) w/ Lee Rainie, and my graduate students Weixu Lu and Inyoung Shin.

# **Studying Social Stress**

- We asked participants if they knew someone other than themselves who had experienced any of a dozen "major life events" in the past 12 months.
  - And, if the person was someone close, or an acquaintance they were not very close with.
  - 12 events were taken from an established inventory of major life events (Turner and Wheaton, 1995)

	both	close	weak
started a new job	57.1	45.8	54.8
moved or changed homes	55.5	42.9	53.3
became pregnant, gave birth, or adopted a child	53.6	36.8	52.0
hospitalized or a serious accident or injury	49.6	37.8	48.0
became engaged or married	49.5	32.6	48.2
fired or laid off	42.3	26.9	40.3
experienced the death of a child, partner, or spouse	36.4	23.8	35.0
had a child move out or back into the house	35.7	28.4	34.4
went through a marital separation or divorce	31.1	18.9	30.0
experienced a demotion or pay cut at work	26.2	18.2	25.2
accused of or arrested for a crime	22.4	10.8	21.8
victim of a robbery or physical assault	22.0	13.9	21.3
Mean number	4.8	3.4	4.6



#### Who is most aware?

- On average, women are aware of more major events in the lives of the people around then – specifically close ties (approx. 20% more).
  - Younger people and those with more education are also more aware.



#### Social media amplifies awareness

- Awareness of close ties from typical levels of technology use:
- Women:
  - Visits Pinterest 6x per month, aware of 28% more major events.
  - Shares 8 photos/week, aware of 14% additional major events.
  - 320 Facebook friends, aware of 13% more events.
- Men:
  - Sends 3 texts/day, aware of 12% more major events.
  - Visits LinkedIn 6x per month, aware of 6% more events.
  - Visits Pinterest 2x per month, aware of 3% more events.
  - While the typical male Facebook user does not update their Facebook status even once per month, those who do so once per week tend to be aware of 2% more events in the lives of their closest ties.
- A woman who visits Pinterest 9 times per month is aware of 1 additional event from the twelve we studied, men had to visit more than daily before they were aware of one additional major life event amongst their closest ties.

Information in little bits does add up to a big gulp.

- Each drop can have a big impact.
- Different technologies have different impacts for men and women.

#### Awareness and Psychological Stress

- How does social stress affect psychological stress?
- Cohen's Perceived Stress Scale (PSS).
  - The degree to which individuals feel their lives are overloaded, unpredictable and uncontrollable.
  - e.g., "In the last 30 days, how often have you found that you could not cope with all the things that you had to do".
- Who has less stress?
  - Men have significantly less stress.
  - Those with higher education.
  - Married or living with a partner.
  - For women, but not men, those who were younger, and those employed in paid work outside of the home.

# Psychological stress and technology use

- Men
  - No relationship to psychological stress for any uses of social media, mobile phones, or the internet more broadly.
- Women
  - Lower levels of stress the more pictures they shared through their mobile phones, the more emails they sent and received, and the more frequently they used Twitter.
  - A women who uses Twitter a half dozen times per month, sends or receives 25 emails per/day, and shares a couple of digital pictures through her mobile phone per day would score 3% lower on our scale of perceived stress.
  - Only sending private messages through Facebook, was associated with higher levels of reported stress.

#### The cost of caring

- Awareness of "unfortunate" events associated with higher stress, other events are neutral.
- Women affected by a larger range of unfortunate events than men.
- Women and the cost of caring:
  - ↑ 14%: someone close to them experienced the death of a child, partner, or spouse.

  - $\uparrow$  9%: an acquaintance experienced a demotion or cut in pay.
  - ↑ 5%: someone close hospitalized or experienced a serious accident or injury.
- Men and the cost of caring:
  - $\uparrow$  15%: someone close to them had been accused of or arrested or a crime.
- Given the larger number of events related to women's stress, and the higher level of awareness that women have of major events in other people's lives, the cost of caring is a cost especially felt by women.

# The joy of missing out

- Controlling for awareness of unfortunate events in other people's lives, the relationship between higher stress and private messaging on Facebook disappears.
- Recall, that when women were aware that someone close to them experienced the death of a child, partner, or spouse: Stress ↑14%.
  - Women who were aware that an acquaintance, who was not close to them had experienced the death
    of a child, partner or spouse, they reported lower levels of psychological stress: Stress ↓ 6%
  - Roughly equivalent to the lower level of stress report by women who are married or living with a
    partner.
- You don't know how good you have it until...
  - Not "Schadenfreude" (Shaw-den-froy-da) pleasure from others misfortune, but relief from avoiding misfortune; awareness that the lives of close friends/family could be much worse.

# SUMMING UP

# Life under the conditions of persistent and pervasive relationships

- Enjoy the embrace of family, friends and acquaintances throughout the life course.
  - "Dormant ties" may never truly be dormant.
  - More close ties for companionship, support, etc. (bonding social capital).
  - More weak ties and better awareness of diversity for access to jobs, unique information, etc. (bridging social capital).
- Suffer the embrace of family, friends and acquaintances throughout the life course.
  - New uncertainties as a result of new found diversity.
  - Increasingly experience the "cost of caring" (especially women).
- Long term social trends... unclear.
  - Under what conditions will in-group or cross-group social pressures prevail?
  - Higher levels of empathy and trust?
  - Return of collective group control, and repressive sanctions?

## Designing for a better tomorrow?

- It's not about the technology.
- It's about the social structure the technology affords.
- The structure of relations under persistent and pervasive contact provides opportunities and constraints.
- Persistent and pervasive contact is not about alienation and disengagement. It is about connectivity and awareness.
- Awareness and connectivity are generally social goods, but they are not without costs.
- How should we mitigate the costs?





# Designing for a better tomorrow?

- Should we maximize for deliberation?
  - Crosscutting exposure brings many benefits in terms of tolerance, knowledge, etc.
  - If deliberation is lower as a result of higher awareness of diversity, that may be the more important social good.
  - Some evidence that deliberation results in reduced participation.
- Should we reduce the cost of caring?
  - Social media does not directly increase the cost of caring, only awareness.
  - Redistribute the cost of caring more evenly to men?
  - It is not clear that all stress is bad.
  - Women may view social media as a tool to help deal with the cost of caring (receiving and giving support).

#### New Technology + Sociology



Let's grow a better hybrid

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