

CS 6474/CS 4803 Social Computing: Ethics of Algorithms

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1. What can we do with data generated from social computing systems?

2. What should we **not** do with these data.

Challenges

- Legality? No simple answer, different opinions
- Terms and conditions / consent + contract
 - E.g. Twitter: “a Tweet [...] is a message of 140 characters or less that is public by default”
 - Just because it’s accessible – doesn’t mean it’s ethical
- Conflict between fundamental rights
- Ethics – corporate influence, (lack of) algorithmic transparency, impact on public life (e.g., elections), re-purposing data collected/generated for one reason for the other
- Privacy
 - Purpose limitation as a central principle
 - Reasonable expectations of privacy

Experimental evidence of
massive-scale emotional
contagion through social
networks

Summary

- The paper manipulated the contents of nearly 700,000 users' News Feeds to induce changes in their emotions
- Basic question: If you hear happy stories from your friends, does this
 - make you happy? ("emotional contagion")
 - make you miserable ("social comparison")

Summary

- In the first group, authors removed between 10% and 90% of the positive posts people would have seen in their News Feeds over one week
- In the second group they removed between 10% and 90% of negative posts they would have seen.
- The third and fourth groups were control groups where they removed equivalent numbers of posts at random.
- They then took the subsequent posts produced by each group during that week-long period and analysed how positive or negative they became in their own expressions as a result.

Summary

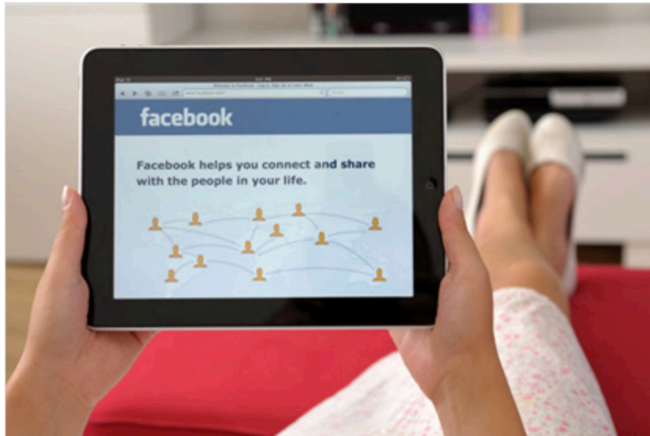
- This experiment was widely criticized on ethical grounds regarding informed consent.

Was Facebook's 'Emotional Contagion' Experiment Ethical?

Users and privacy activists are upset that researchers manipulated users' news feeds.



By [Naomi LaChance](#), Staff Writer | June 30, 2014, at 4:20 p.m.



Facebook may have toyed with your emotions. (iStockPhoto)

An academic study has come under criticism because its authors manipulated Facebook users' news feeds in order to gather data. The researchers, including one who worked for Facebook, admitted last week that they studied the parallel between an individual's emotions and the emotions portrayed on a news feed by manipulating the feeds of [about 700,000 users](#). Over one week in January 2012, researchers eliminated "positive" posts from some users' news feeds and eliminated "negative" posts from others, to see if doing so had an effect on the users' moods.

The authors of the study have drawn criticism for failing to ensure that the study was consensual, for violating users' privacy and for manipulating users' lives. The authors defend themselves, saying that the method is made permissible by Facebook's Data Use Policy.

A key takeaway – consent is important!

Class Exercise I

Redo the emotion contagion study experimentally but abiding by good ethics. What study design will you use?

But what about those who can't give consent any more? *The case of dead people*

- Warning: I am not a historian ;-)
- Today's view:
 - Dead people are, primarily, *dead*.
 - Limited scope and temporal decay of postmortal personality rights ("the need for protection disappears in line with memory of the deceased increasingly fading away", Bundesgerichtshof 1989)
- Medieval view:
 - Dead people are, primarily, *people*.
 - Memoria as a key social practice.
 - Obligation of the clergy: pray for others.

Class Exercise II

Redo the emotion contagion study but using observational / historical data, that is, without manipulating the News Feed. What study design will you use?

Amid the ethical controversy surrounding the experiment, Facebook twice attempted to draw attention to the study's claims about well-being. Lead author Adam Kramer wrote:

The reason we did this research is because we care about the emotional impact of Facebook and the people that use our product. We felt that it was important to investigate the common worry that seeing friends post positive content leads to people feeling negative or left out. ... And we found the exact opposite to what was then the conventional wisdom: Seeing a certain kind of emotion (positive) encourages it rather than suppresses it [sic]. (2014)

Mike Schroepfer, Facebook's Chief Technology Officer, later reiterated Kramer's statement (2014).



Does Facebook Make You Depressed?



By Dr Perpetua Neo



D3SIGN VIA GETTY IMAGES

Someone once wrote me that scrolling through Facebook on a Friday afternoon made him feel low throughout the weekend. Everyone else seemed to be having so much fun, it made him “feel like a loser”. He’d been recovering from severe depression following a HIV diagnosis, and felt powerless over how Facebook affects his mood. His story isn’t dissimilar to that of my clients and my friends. In fact, one of my friends calls rebuilding life “climbing out of a crater and realizing there’s a mountain ahead of you.” And Facebook can be that mountain in our lives. Here’s seven points we can reflect upon to make that mountain less daunting.

If true, these findings could substantially alleviate concern that Facebook represents a threat to well-being. But the work has significant methodological concerns.

Summary

- Methodological flaws:
 - The effects are quite small
 - The estimated percentage changes in subjects' subsequent emotions are all 0.1% or less
 - Limited internal validity – removing one emotion might increase the other
 - Moreover, there is the difficulty of distinguishing emotional contagion from similar-patterned sociobehavioural phenomena like mimicry and conformity in the data
 - LIWC has limited validity
 - Self-presentation concerns – people may be reluctant to express certain emotions on Facebook

- **Additional concern -- whether Facebook posts are a valid and appropriate measure of the emotional impact of News Feed.**
- Very simple situational factors could influence validity, such as whether people generally spend time on News Feed before posting, or whether they often post first.
- If people tend to post first and then look at News Feed, then posts may not have high validity as a measure of News Feed's emotional impact.

“I always assumed that I wasn’t
really that close to [her]”:
Reasoning about invisible
algorithms in the news feed

Summary

- Central questions: is it useful to give users insight into the existence or functionality of opaque social computing algorithms like the News Feed? How can such insight affect end user experience?
- A user study with 40 Facebook users to examine their perceptions of the Facebook News Feed curation algorithm
- 62.5% participants were not aware of the News Feed curation algorithm's existence at all
- Authors developed a system, FeedVis, to reveal the difference between the algorithmically curated and an unadulterated News Feed to users
- Participants were most upset when close friends and family were not shown in their feeds.
- Participants often attributed missing stories to their friends' decisions to exclude them rather than to the News Feed algorithm.

Class Exercise III

Many people said that they felt cheated. But would more transparency in the News Feed be a good idea? From Facebook's perspective? From the users' perspective?

Class Exercise IV

Think about and propose a design affordance for Facebook that incorporates enough transparency, but balances the tension between Facebook's and the end users' interests.

Who is doing research and what
can/do they do?

Access and new digital divides?

- Who gets to do research?
 - Social-media companies?
 - Rich top-tier universities?
 - Computer scientists?
 - ... What about further demographics?
- “Research work is only getting funded these days if it involves big infrastructure projects”
 - (from a conversation with a critical data scientist who has big infrastructure projects)

What if the researcher is also the service provider?

- The Kramer et al., 2014 paper is a prime example.
- Thought Exercise: Are there any benefits to the research community? What are the challenges?

What if the service provider is also the news medium?

- Twitter's Trending topics, sorting of items on the News Feed
- Thought Exercise: What are the challenges if the service provider is also the news medium? What will be a solution?

Class Exercise V

Analyze the challenges in the recently released suicide prevention AI tool of Facebook. Analyze from the perspective of 1) informed consent; 2) methodology/algorithm; and 3) transparency.