Presenting the Self on Unstable Ground

An Exploratory Study of User Adaptation to Constant Change in Algorithmically-Driven Social Platforms

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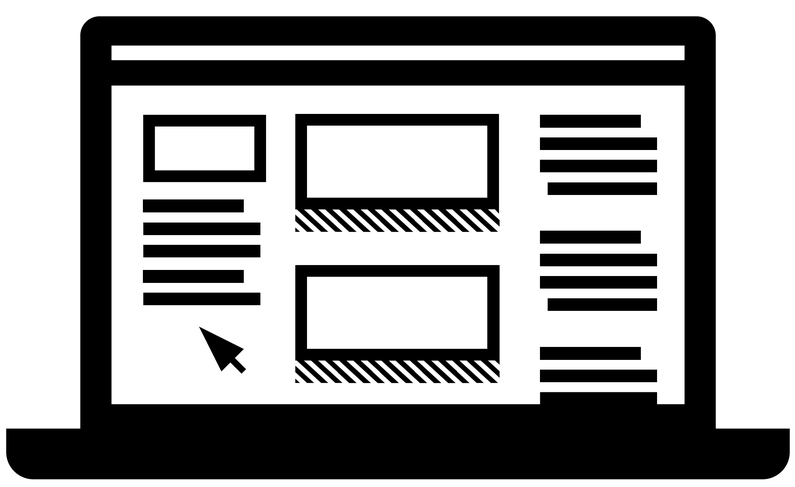
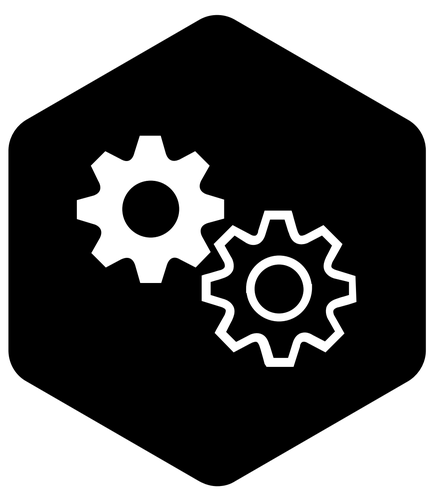


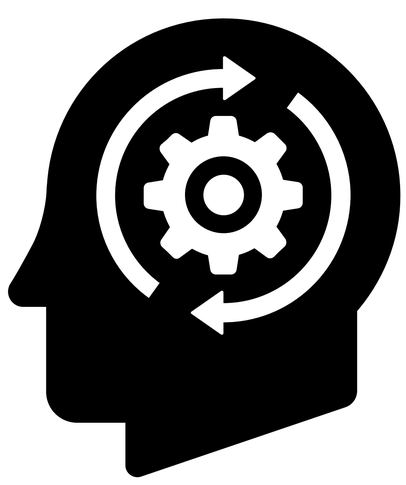
Social Platforms

are key sites where people enact their self-presentation and identity disclosure goals (e.g., controlling who gets to see a specific facet of one's identity)



Opaque Visibility Algorithms

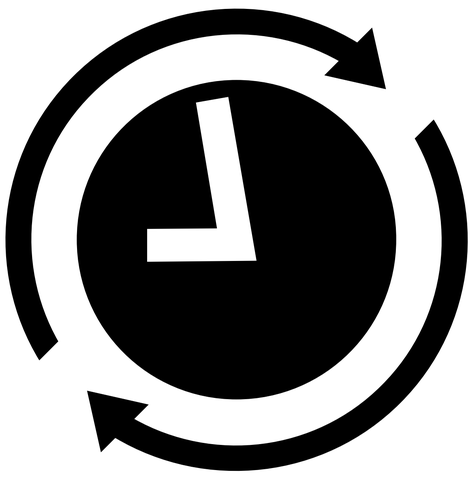
complicate self-presentation by obscuring key cues about the audience, adding a computational actor that users can not directly know

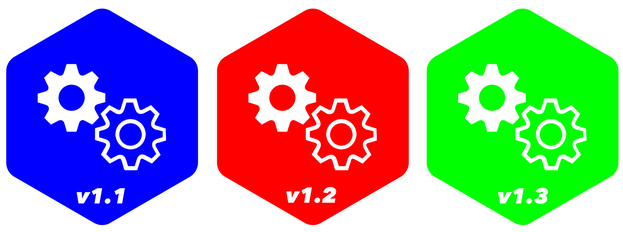


Folk Theories

of how each algorithmic system operates help everyday users navigate these challenges, so they can achieve their self-presentation goals

Folk Theories are a rudimentary form of *Algorithmic Literacy*:
skills/knowledge that enable people to effectively navigate algorithmic environments in pursuit of their goals



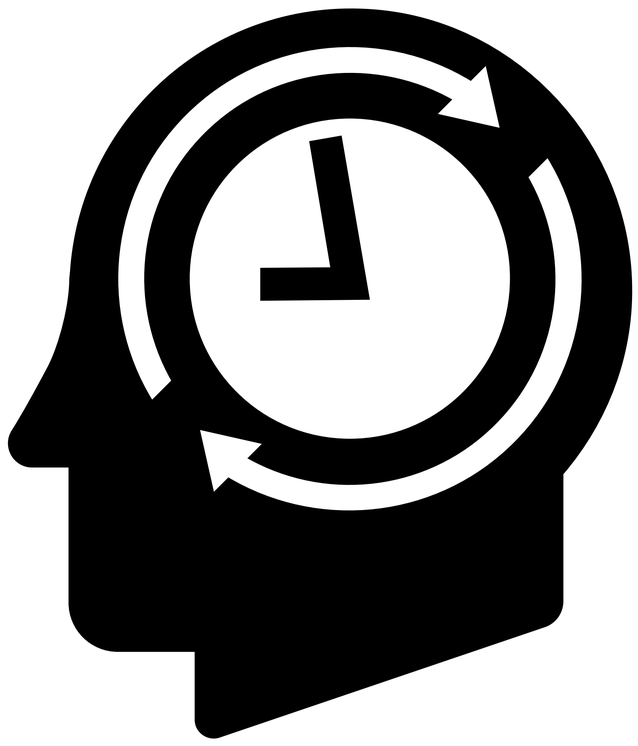


The Problem

- Platform algorithms change constantly.
- Humans suffer from change blindness, but…
- Adaptation to platform change is essential to achieving one's self-presentation goals

A folk theory that is useful guidance one day may be misleading and harmful the next.

To adapt and achieve their goals, users need folk theories and an algorithmic literacy that are responsive to change -
a temporally-aware algorithmic literacy



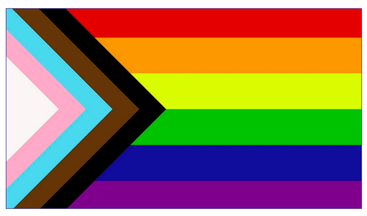
How do users notice, interpret, and adapt to self-presentation-relevant changes on algorithmically-driven social platforms?

We know how users form folk theories to enable them to pursue their self-presentation goals [3], and how they react in cases of sudden, well-publicized change [4] - but what about everyday algorithmic changes? How do we update our folk theories to account for them? Our self-presentation behaviors?

Challenge: Algorithmic understanding and folk theories are subtle and difficult to elicit.

Solution: Start from the margins [8], a population with heightened self-presentation concerns [5].

In-Depth, Qualitative Examination of Adaptation to Algorithmic Change in an LGBTQ+ Population



- 30 LGBTQ+ participants
- Seven probes (visual elicitation, diary entries, scenarios, letter writing, "would you rather," scavenger hunt)
- In-depth follow-up interviews

- Constructivist grounded theory [1] analysis
- Key sensitizing concepts: Adaptive Structuration Theory [11], Sensemaking Theory [13], Social Media Self-Presentation Theory [2]

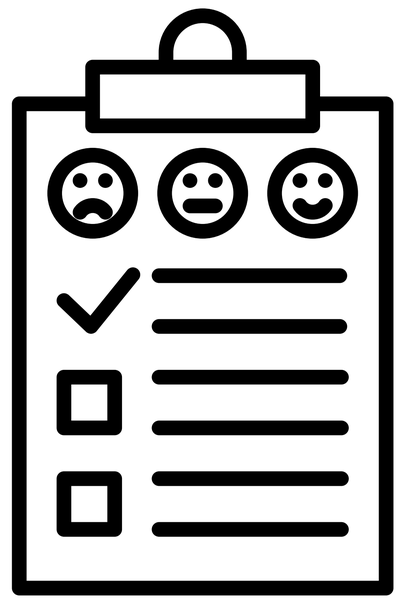
How can we us this knowledge to define, measure, and support a temporally-aware algorithmic literacy for social platform users?

We generally discuss algorithmic literacy as a static concept [10], but the fact that algorithmic systems are ever-changing [7] suggests we need a new approach. Can we use our new knowledge of folk theory-based adaptation to begin fleshing out this new, user-centered, cognitively-based approach to algorithmic literacy?

Challenge: Algorithmic literacy currently has no standard for measurement, hindering wider adoption of this crucial concept as the basis for future theoretical and design work.

Solution: Starting from deep qualitative understanding, figure out how to measure it.

Generalize, Expand, Measure via Survey Follow-up with a General Sample



- Design, pilot-test, deploy, validate new survey measures of algorithmic literacy
- Study 1 data as guide to how to measure
- Open-response items to triangulate with study 1 results for increased robustness
- Integrate work on adaptive structuration [11], folk theory measurement [6], algorithmic explanation [12], web skills [9]
- Test new scales for relationships with self-presentation [2], adaptation [11] variables

Northwestern

1. Charmaz. 2014. Constructing grounded theory.
2. DeVito, Birnholtz, and Hancock. 2017. Platforms, People, and Perception: Using Affordances to Understand Self-Presentation on Social Media. CSCW 2017.
3. DeVito, Birnholtz, Hancock, French, and Liu. 2018. How People Form Folk Theories of Social Media Feeds and What It Means for How We Study Self-Presentation. CHI 2018.
4. DeVito, Gergle, and Birnholtz. 2017. "Algorithms ruin everything": #RIPTwitter, Folk Theories, and Resistance to Algorithmic Change in Social Media. CHI 2017.
5. DeVito, Walker, and Birnholtz. 2018. "Too Gay for Facebook:" Presenting LGBTQ+ Identity Throughout the Personal Social Media Ecosystem. CSCW 2018.
6. Eslami, Rickman, Vaccaro, Aleyasen, Vuong, Karahalios, Hamilton, and Sandvig. 2015. I always assumed that I wasn't really that close to [her]": Reasoning about invisible algorithms in the news feed. CHI 2015.
7. Gillespie. 2014. The Relevance of Algorithms. In Media technologies: Essays on communication, materiality, and society.
8. Harding. 2004. Introduction: Standpoint theory as a site of political, philosophic, and scientific debate. In The Feminist Standpoint Theory Reader: Intellectual and Political Controversies.
9. Hargittai and Hsieh. 2012. Succinct survey measures of web-use skills. Social Science Computer Review.
10. Klawitter and Hargittai. 2018. "It's Like Learning a Whole Other Language:" The Role of Algorithmic Skills in the Curation of Creative Goods. International Journal of Communication.
11. Markus and Silver. 2008. A foundation for the study of IT effects: A new look at DeSanctis and Poole's concepts of structural features and spirit. Journal of the Association for Information systems.
12. Rader, Cotter, and Cho. 2018. Explanations as Mechanisms for Supporting Algorithmic Transparency. CHI 2018.
13. Weick, Sutcliffe, and Obstfeld. 2005. Organizing and the process of sensemaking. Organization Science.

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Dissertation Extended Abstract

How Users React to Platform Change

Folk Theory Formation and Self-Presentation

LGBTQ+ Self-Presentation