



# Data Privacy and Pluralistic Ignorance

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Survey instrument, data and analysis code are available at <https://osf.io/b7dyn/>





## Some Background...

- SOUPS 2022 interview study
- Interview participants were concerned about data privacy
- But also judged others negatively for taking steps to limit data collection



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# Pluralistic Ignorance

- Social norms-based phenomenon
- Results from incorrect assumptions about others' beliefs
- People comply with a norm they privately disagree with
- Social norms are powerful influences on behavior!



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# Three characteristics of pluralistic ignorance:

1. Believing that **using the app or platform is common** among other people (*empirical expectation* - belief about what others do)
2. Believing **others would disapprove** if you don't use the app or platform (*normative expectation* - belief about what others believe)
3. Feeling **privately uncomfortable with or disliking** using the app or platform (personal belief about the behavior)



# Experiment Design

- Online experiment using short vignettes
- Three independent variables
  - Context (Alarm, Cookbook or Location)
  - Empirical Expectation (High vs. Low)
  - Normative Expectation (High vs. Low)

Somebody like you lives in a very similar area of the country. **Most / Few** [*empirical expectation*] residents are using their mobile device as their wake-up alarm, which means it is possible for the system to detect how often they snooze or sleep through the alarm. **Most / Few** [*normative expectation*] residents also believe that it is OK for people to use their mobile device as their wake-up alarm.



# Participants

- 746 participants recruited using Qualtrics panel service
- Quotas for age and gender based on the 2019 U.S. Census Bureau Current Population Survey
- Important! Norms are specific to a social group, community, culture
- Full factorial, between-subjects, random assignment

# N per condition

		Normative Expectations	
Empirical Expectations	Alarm	<i>Low</i>	<i>High</i>
	<i>Low</i>	72	62
	<i>High</i>	54	62

		Normative Expectations	
Empirical Expectations	Cookbook	<i>Low</i>	<i>High</i>
	<i>Low</i>	63	72
	<i>High</i>	61	60

		Normative Expectations	
Empirical Expectations	Location	<i>Low</i>	<i>High</i>
	<i>Low</i>	67	57
	<i>High</i>	55	61



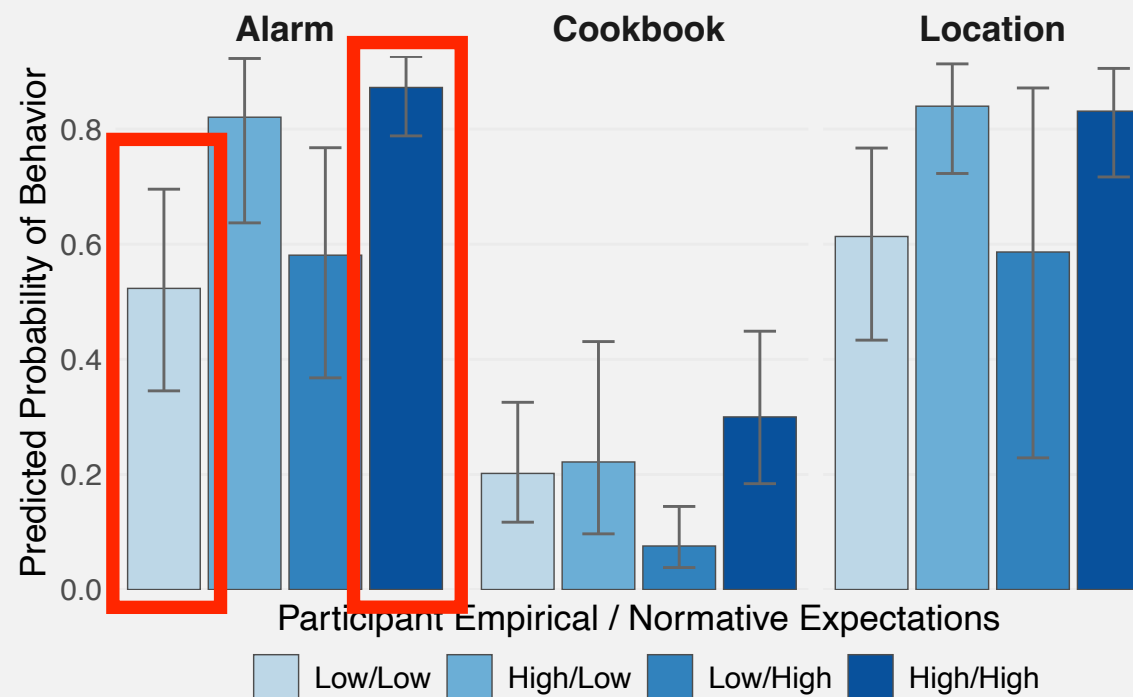
# RQ1: Is there a relationship between self-reported empirical and/or normative expectations and using a technology that has privacy implications?

Perceived Expectations

	Empirical (M)	Normative (M)
Alarm	57%	69%
Cookbook	33%	62%
Location	52%	50%

Empirical Expectation: Please **estimate the percentage** of fellow residents in your area who...

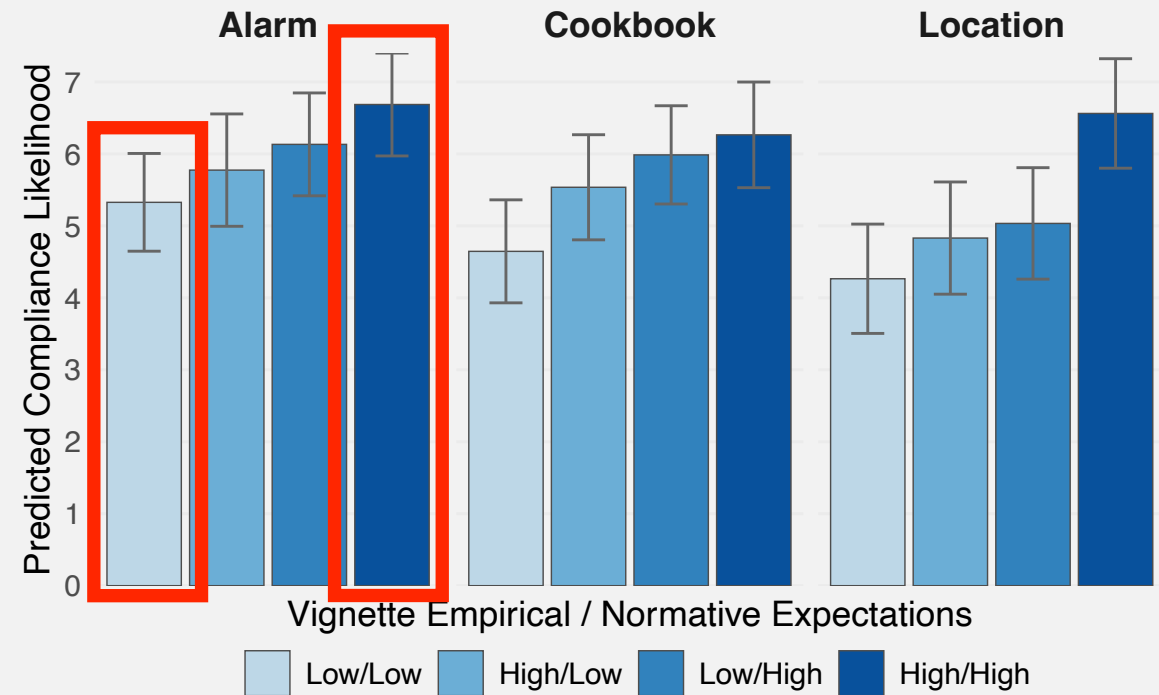
Normative Expectation: Please **estimate the percentage** of fellow residents in your area who believe it is OK for people to...





## RQ2: Do empirical and normative expectations affect likelihood of compliance with a behavior that produces potentially invasive, unwanted inferences?

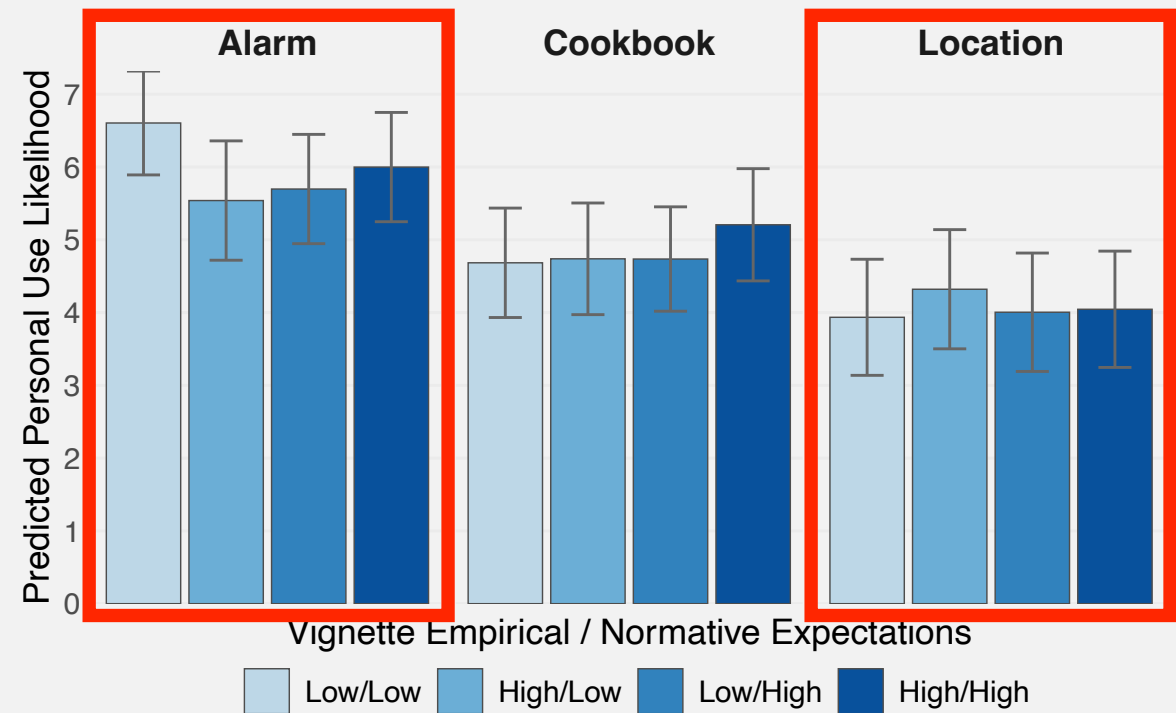
- Vignettes manipulated the strength of social norms
- DV was the likelihood of the main character in the vignette complying with the norm
- High empirical and normative expectations caused an increase in compliance likelihood





## RQ3: Is there a relationship between the technology use context, including possible inferences, and behavioral intentions?

- Participants self-reported how likely they would be to do what the vignette described
- As inferences became more invasive, people were less willing to do use their mobile phones in that way





## The three characteristics of pluralistic ignorance were all present in the data.

What does this mean for privacy??

- Awareness interventions (education, privacy policies, etc.) may not work
- Sharing best practices may reinforce existing norms



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- No easy solutions to lessening social influence and changing social norms...
- End users need to become more aware of others' true beliefs!
- Don't ignore social influences on data privacy choices and behaviors.
- Replication materials: <https://osf.io/b7dyn/>



Photo by [James Cridland](#) on [Flickr](#)



# Thank You!

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