

# Empirical Measurements of Perceived Privacy Risk

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# New Findings on Privacy Risk

New scale is introduced to control the perceived likelihood of privacy risk in user surveys. Observations of scale:

- As likelihood increases, people are less willing to share their personal data
- As societal benefits increase, people are more willing to share their personal data

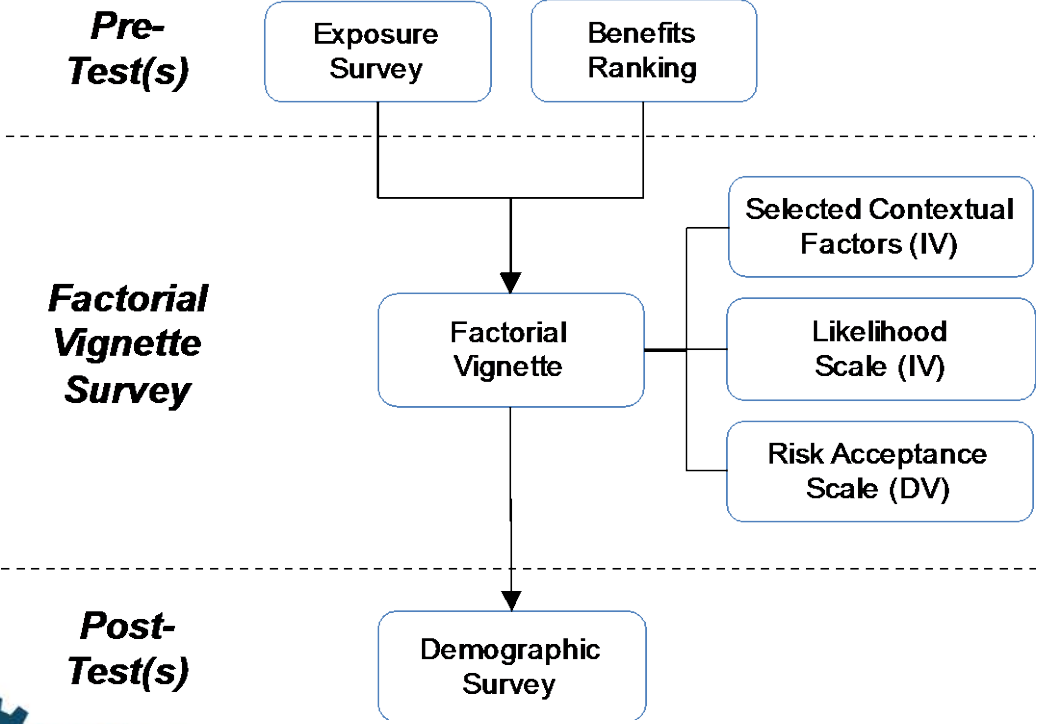
When sharing personal data with the federal government, participants are more willing to share information ***about who they are*** than information ***about what they do online***

Measuring privacy risk is complex, and thus measuring “discomfort” is an easier means to approximate privacy risk

# What is Risk?

- Bauer (1960) defined risk as comprised of two dimensions: uncertainty and adverse consequences
- NIST (2015) defines risk “as a function of the likelihood that an adverse outcome multiplied by the magnitude of the adverse outcome should it occur”
  - $Risk = Likelihood \times Impact$
- Empirical risk research in judgement and decision sciences (1970-) distinguishes *revealed preferences*, and *expressed preferences*, or so-called *perceived risk*

# Risk Measurement Framework



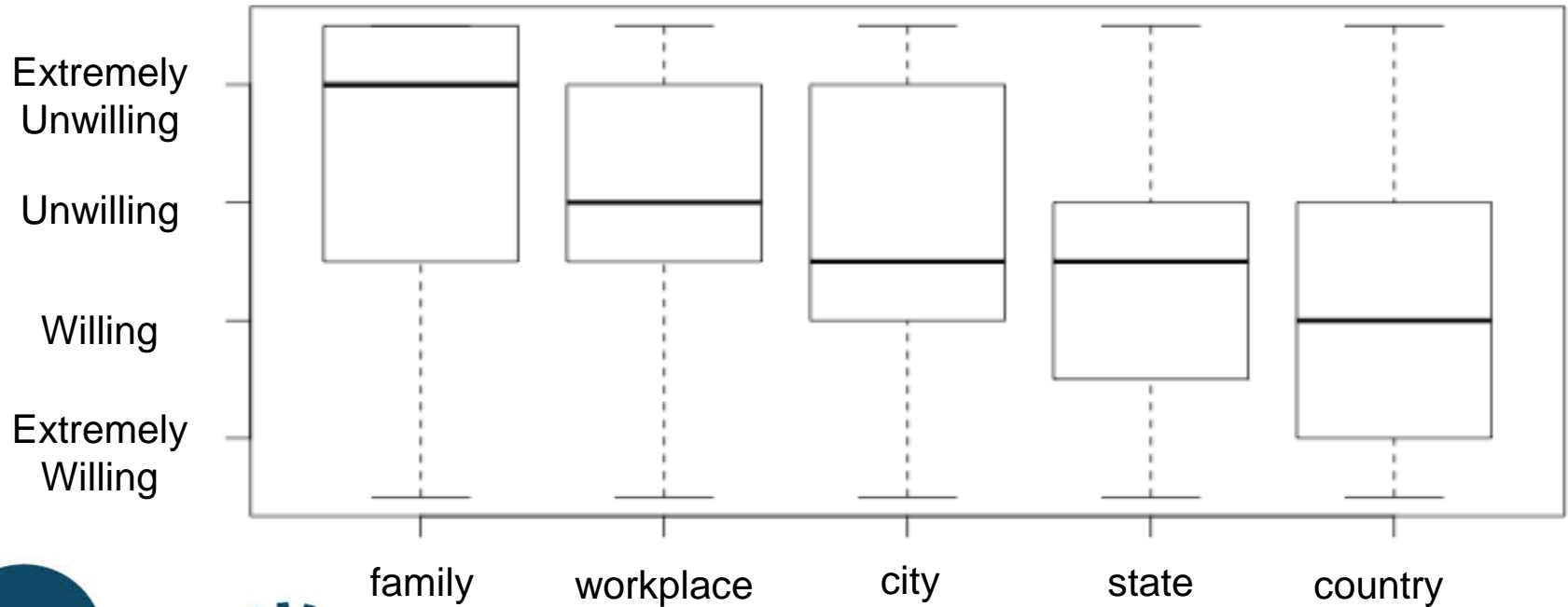
# Factorial Vignette

Please rate your willingness to share your information below with the Federal government, for the purpose of **[insert data purpose]**.

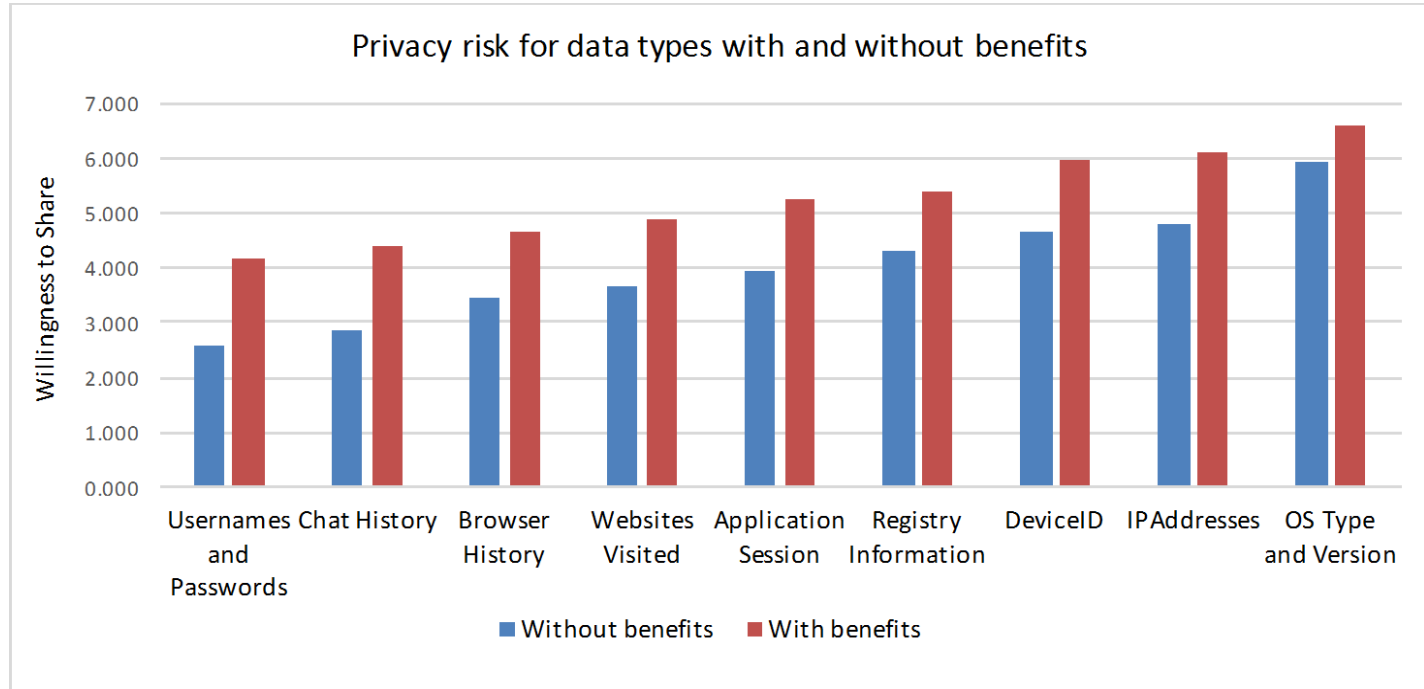
When choosing your rating for the information types below, consider the **[insert risk likelihood]** and the purpose above.

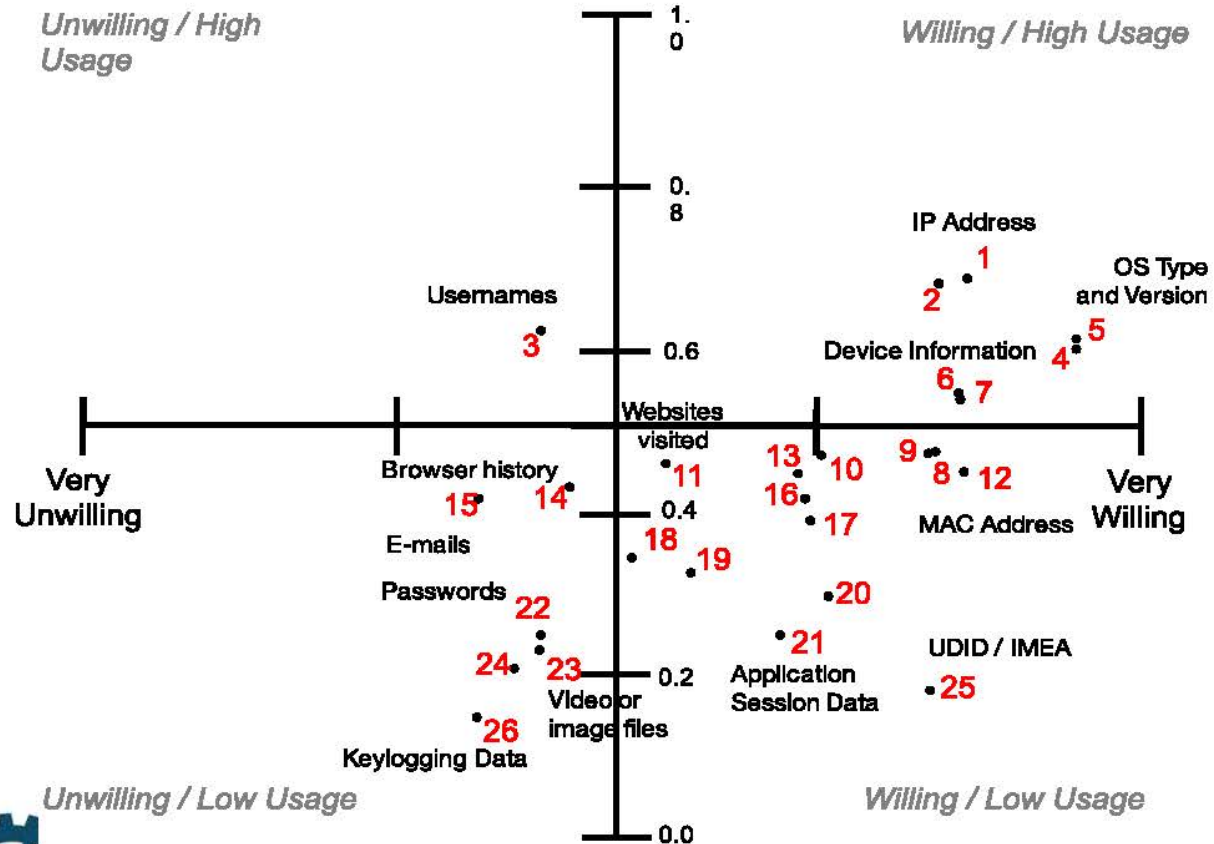
	Extremely Willing	Very Willing	Willing	Somewhat Willing	Somewhat Unwilling	...
Age Range	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Home Address	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

# Risk Likelihood



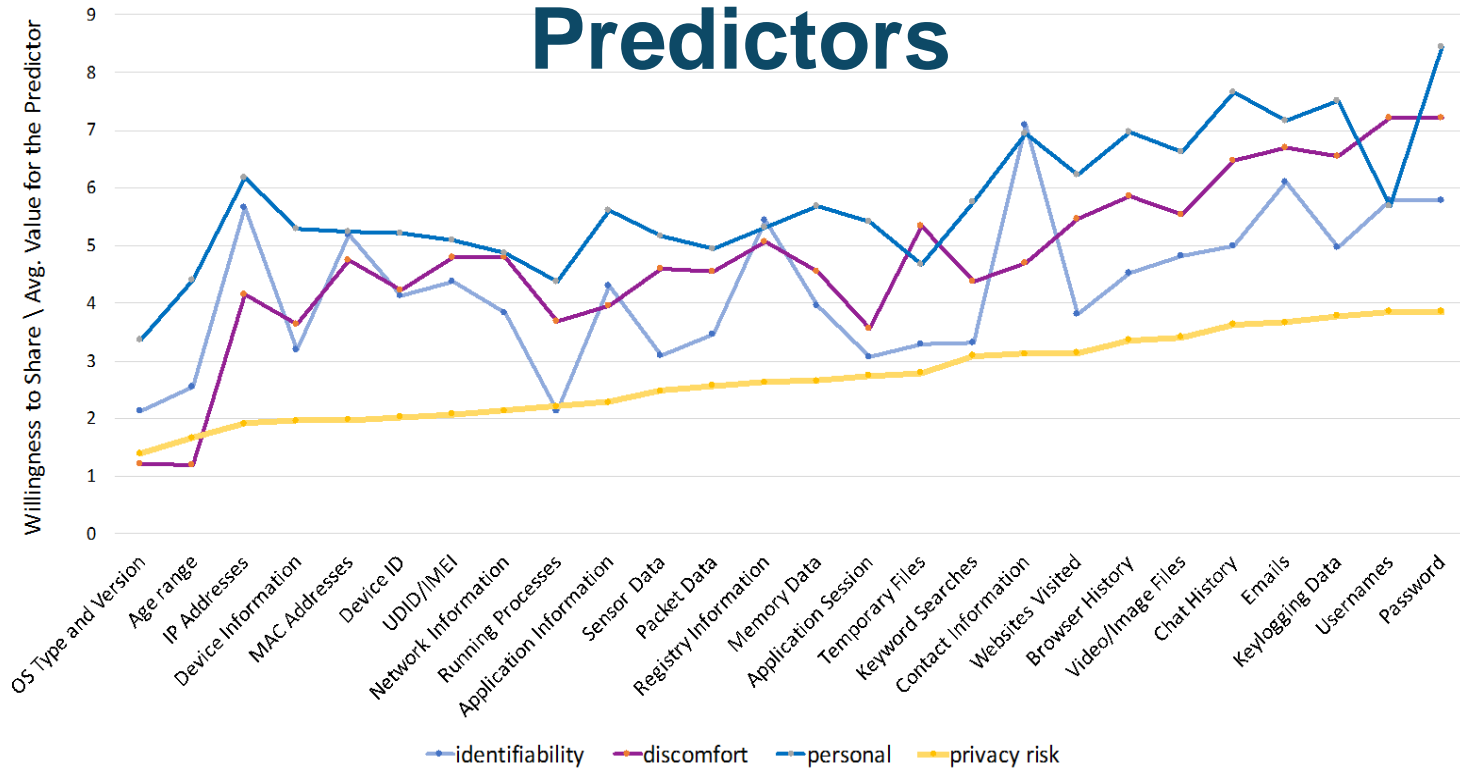
# Benefits







# Predictors



# Impact of Privacy Risk Metric

Facilitates “Privacy by Design” by helping software designers identify high-risk data types associated with their business practices

Helps regulators and policy authors identify high-risk items so that related data practices can be described clearly in policies

Assists users in making decisions related to using online services

Supports the standardization of the Privacy Impact Assessments