Un-Equal Online Safety?
A Gender Analysis of Security & Privacy Protection Advice & Protection Patterns

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A privacy gender gap exists in how women vs men feel wrt online tracking and protective behaviour (Coopamootoo et al., in Usenix Security, 2022)

Stereotypes that men are more engaged with security & privacy topics or behave in more protective ways, while women are expected to have poor confidence (Wei et al., in IEEE S&P, 2023)

LGBTQ+ reject broad digital safety advice, as they interfere with livelihood (Geeng et al., in Usenix Security, 2022)

We need a safe, affordable, and inclusive internet, one that doesn’t fuel harmful gender stereotypes, silence women’s voices, and imperil women’s safety and rights. Equally, we need digital tools to boost women’s participation and leadership in the digital space. It is not enough for women and girls to simply have access to technology and digital skills; they must also become active agents of change to create a safer and equitable digital future for all (UNDP, 2022).
Women & Digital Safety

“Women are more likely than men to be victims of severe forms of cyber violence and the impact on their lives is far more traumatic.”

European Institute for Gender Equality

Women are more specifically targeted. Women are less confident about their online safety than men. Women feel less able to have a voice and share opinions online.
Method

RQ1: What advice source do people use for SP protection, given their gender differences?

RQ2: What SP technologies and methods do women vs men use?

RQ3: How does advice source associate with and impact SP usage, given gender differences?

RQ4: For what reasons do women versus men approach intimate & social connections (ISC) for protective SP advice?

RQ5: What type of advice do women vs men receive from ISC?
Participants

n=303  n=301

10% across each of 10 age groups from 18 to 65+

UK Population

Sample

42%

51.1%

higher % masters & PhD

higher % undergraduates

Of those studying CS

19% 10%

81% 15%

Tech workforce

26% 16.5%

74%
Participants

n=303  n=301

No difference in information navigation, social and mobile digital skills

Slight differences in operational and creative digital skills

Significant difference in Affinity for Technology Innovation
Advice Sources

Intimate & Social Connections (ISC)
- Family, friends, in-person contact, colleagues

Online Content
- General research, specialist pages, reviews & recommendations, tech adverts, social media content, online forums

Other
- News/TV shows, training, system prompts and settings, consumer magazine
Advice Sources

- 4x family
- 2x colleagues/work
- Higher % of not aware/none
- Family only or in combination with another source
- 2-4x general research, specialist pages, online forums, social media, tech advert
- Higher % of multiple sources
- Gen research only or in combination with another source
Protective SP technology / method

More likely to not use any SP method / tech

More likely to use SP tech
Association: Advice Source & SP technology / method
Prediction: Advice Source & SP technology

**Intimate & Social Connections (ISC)**
No significant impact on use of SP tech

**Online Content**
General research, specialist pages, reviews & recommendations, tech adverts, online forums predict use of SP tech with 3x to 11x

**Other**
Training predicts use of SP tech with 9.6x

An increase in # of advice sources from 0, 1, 2, 3 gradually increases odds of using SP tech
Motivation for ISC support & advice received

**ISC Skills**
- Perceived ISC knowledge
- Belief that ISC are up-to-date
- ISC work in IT
- Belief that ISC have IT skills & experience

**ISC Qualities**
- Trustworthy
- Ease of access
- Helpful

**Own Skills**
- Need help

**Other**
- Evaluate options and mutual sharing
- Seek reassurance for own practices

**ISC Qualities**
- Reliable

Password security, privacy settings & SNS
Malware & scams, communication & n/w privacy
**Take-Away:** The distinct gender norms in SP access & participation leads to questioning the equitability of SP advice and technologies.

- We need socially-supported versions for SP tech, in communal spaces.
- Evaluation of effectiveness of online advice.
- Accessible and relevant, coherence across sources, linked to threat models.
- Multi-stakeholder collaborations for addressing gendered SP.
- Consideration for stereotypical cues that cause gender-type engagement.
- Critical reflection on what gender equity means for SP & digital safety.
- Development of an SP equity assurance framework.
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