
Un-Equal Online Safety?

A Gender Analysis of Security & Privacy Protection Advice & Protection Patterns

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Usenix Security Symposium 2023

Digital Tech & Gender Equality ...

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

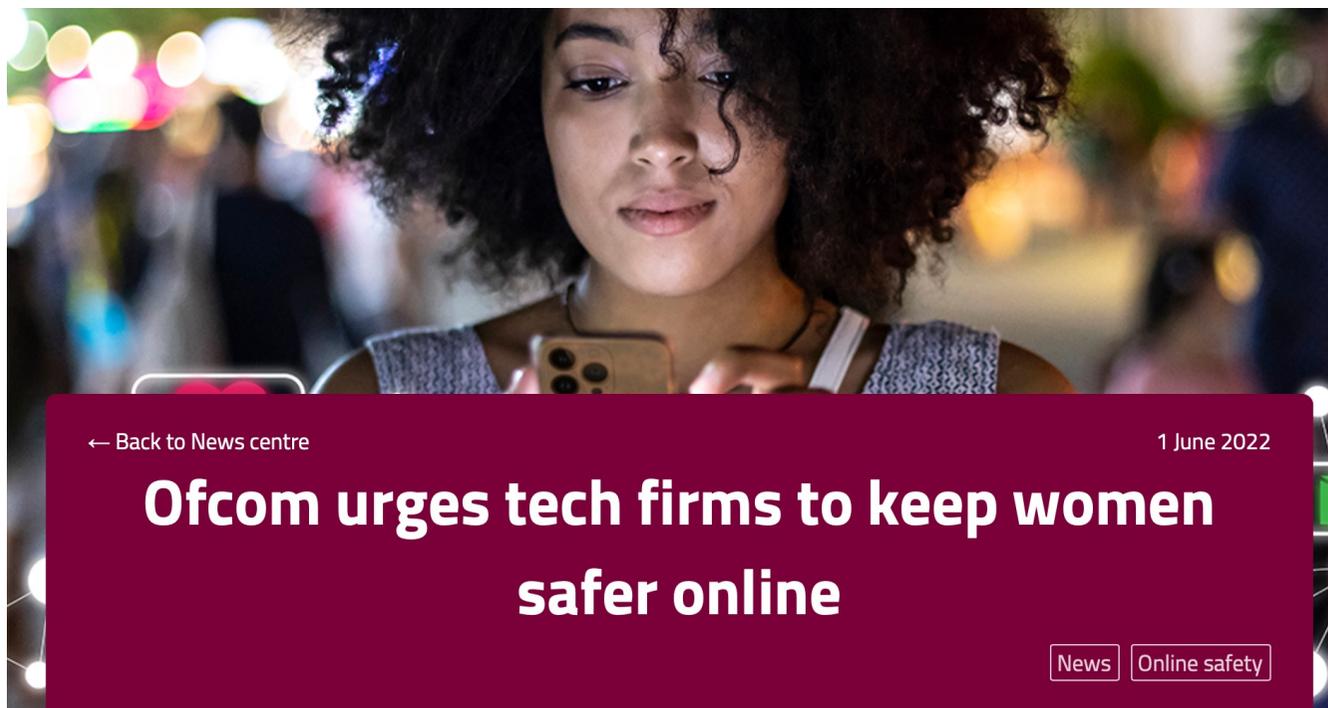
Stereotypes that men are more engaged with security & privacy topics or behave in more protective ways, while women are **expected to have poor confidence** (Wei et al., in IEEE S&P, 2023)

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



← Back to News centre

1 June 2022

Ofcom urges tech firms to keep women safer online

News Online safety

- 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.

“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



Method



N=604



+



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?

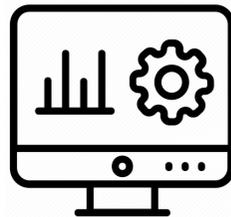
RQ5: What type of advice do women vs men receive from ISC?

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

Tech
workforce

16.5%



19%



26%



10%



81%



74%



15%

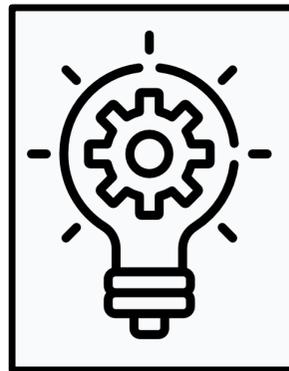
Participants



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)



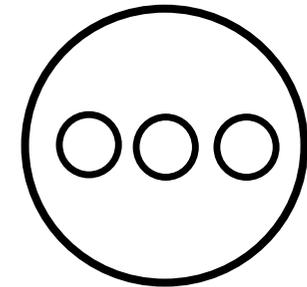
Family, friends, in-person contact, colleagues

Online Content



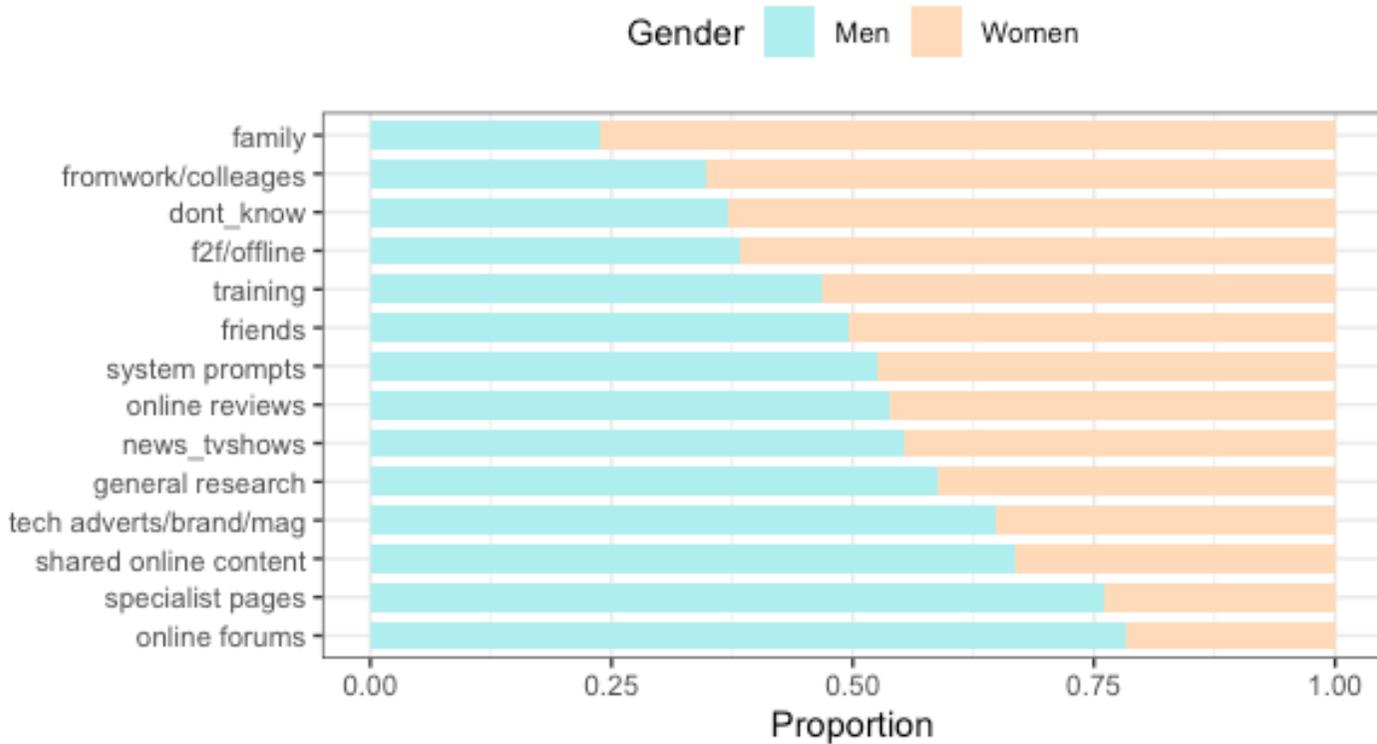
General research, specialist pages, reviews & recommendations, tech adverts, social media content, online forums

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

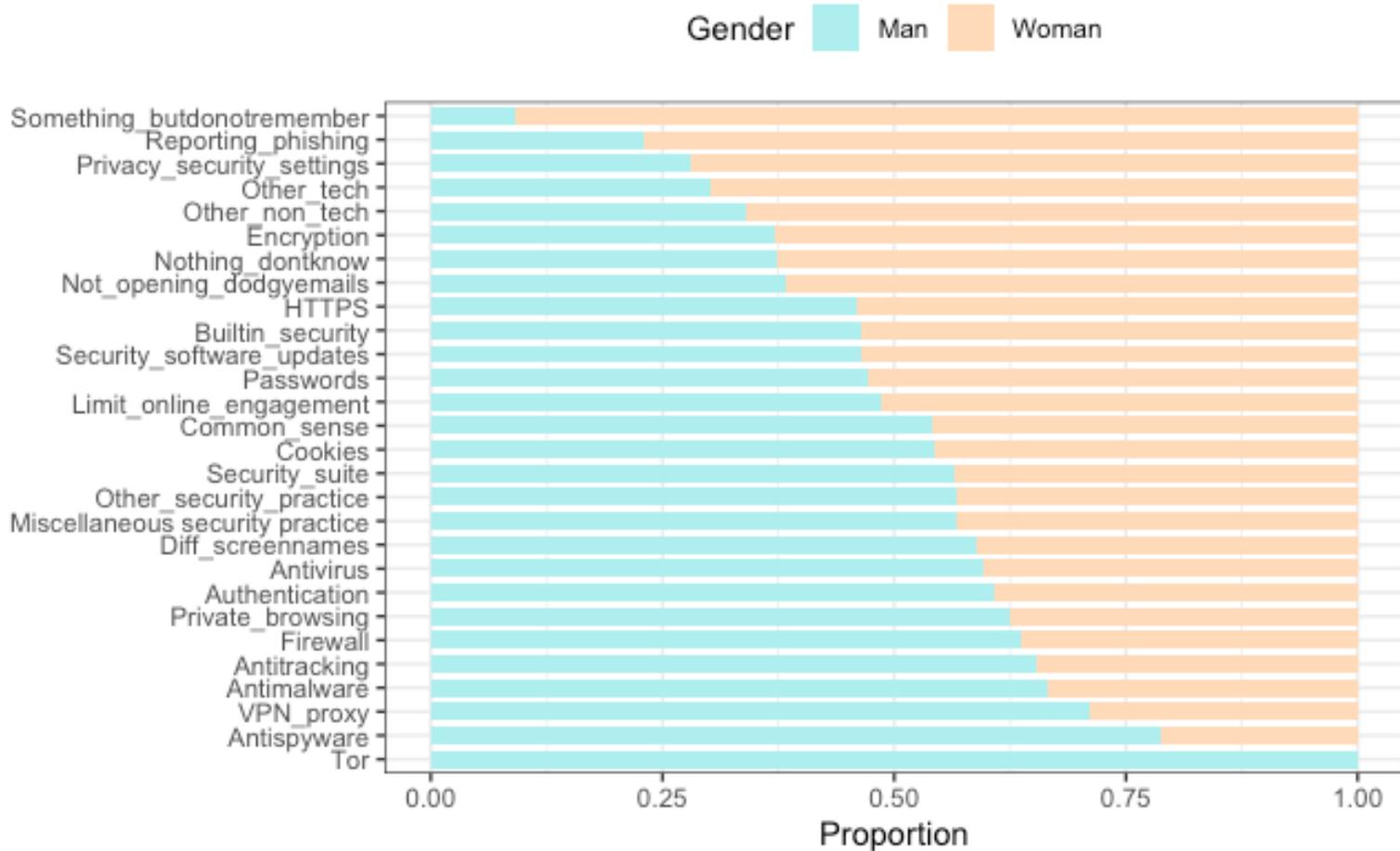


2-4X general research, specialist pages, online forums, social media, tech advert

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)



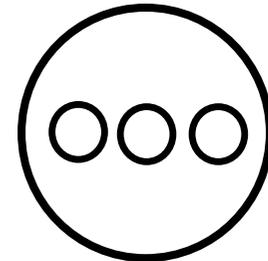
No significant impact
on use of SP tech

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

Password security,
privacy settings & SNS



Other	Evaluate options and mutual sharing Seek reassurance for own practices
ISC Qualities	Reliable

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



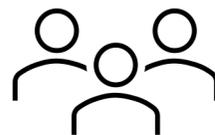
We need socially-supported versions for SP tech, in communal spaces

Features to sustain dialogue & support learning, for asking for help: what to ask, to whom, how?



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

“Un-Equal Online Safety?”

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 Paper link



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AGENCY
RESEARCH

Assuring Citizen Agency in
a World of Complex
Online Harms



Engineering and
Physical Sciences
Research Council