Subjective versus objective knowledge of online safety/dangers as predictors of children's perceived online safety.

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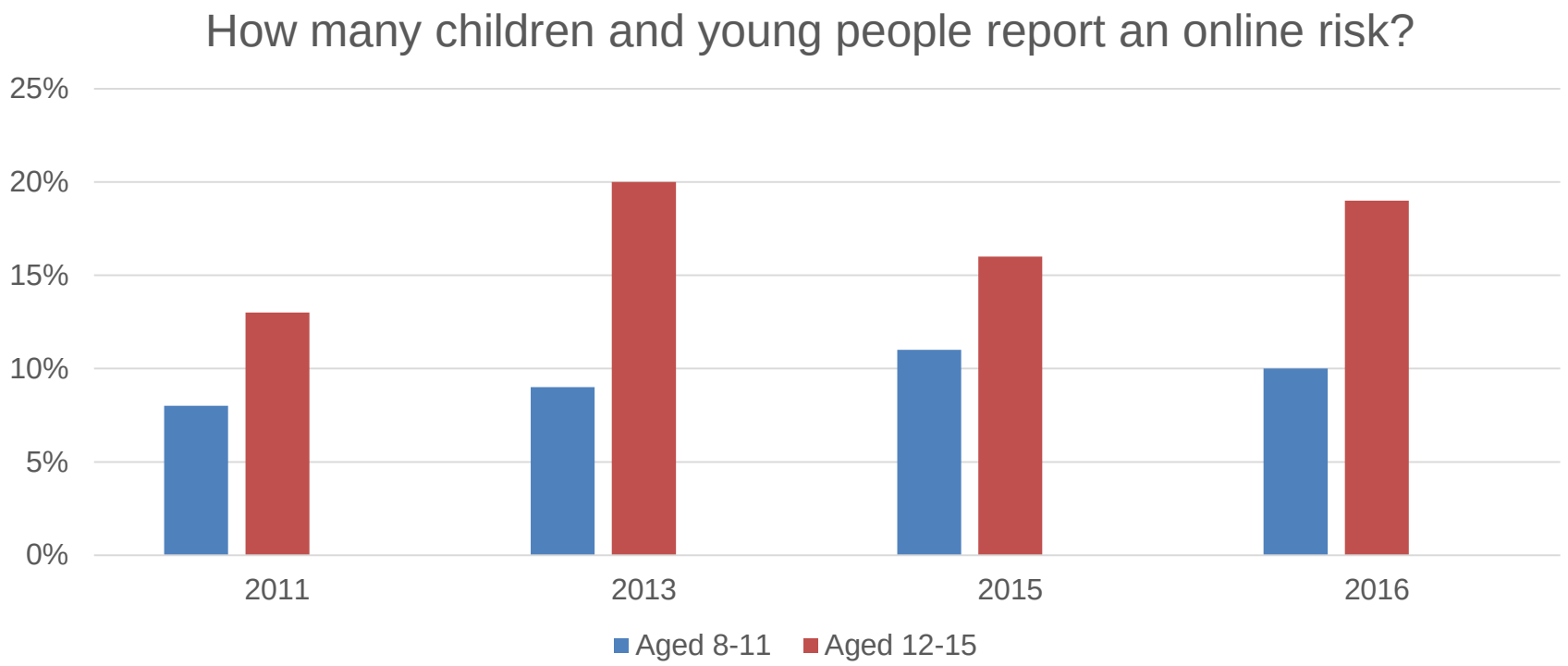
Children's online activities and risks



(Livingstone et al., 2017)

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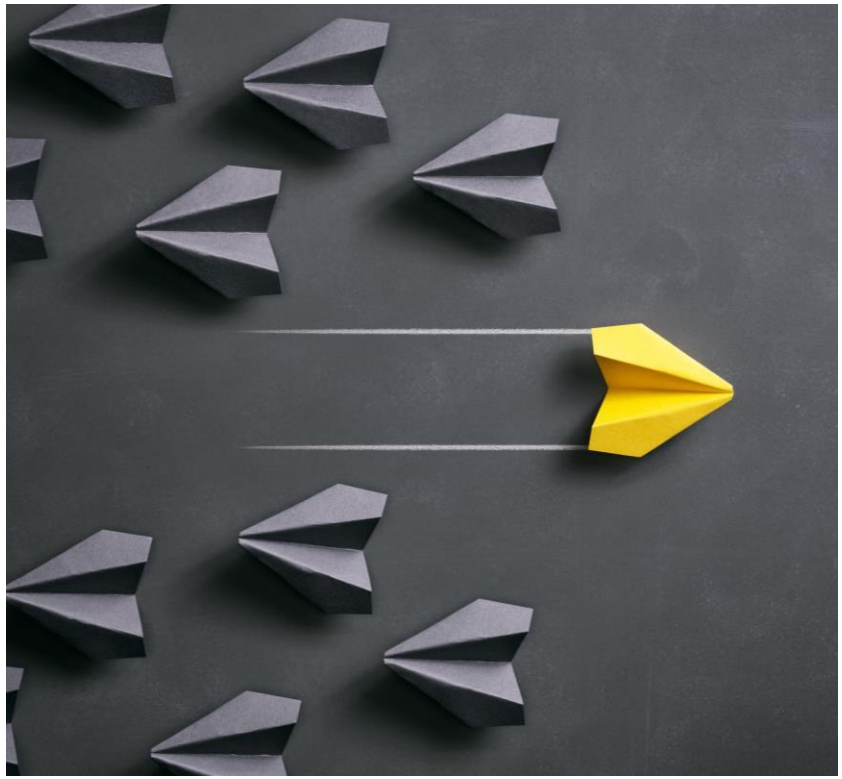
Digital technology: negative impact

Cyberbullying	Pornography	Sharing personal or private information	Computer viruses
Impersonation online	Inappropriate or distressing content	Violent media	Contact with strangers
Websites publishing hate messages	Sexting	Phishing	Trolling

Risk taking behaviours

- Behaviours that balance the chance of a negative outcome such as harm with the chance of a positive outcome.

- Morrongiello and Lasenby-Lessard (2007) developed a theoretical model that recognised risk taking as a multi-determined outcome influenced by the child, parents, and social situational factors.



Knowledge as a concept

Knowledge involves both "subjective" and "objective" components (Brucks, 1985).

Subjective knowledge - what individuals perceive they know

Objective knowledge - what individuals actually know

Han (2019) notes research has frequently reported small to modest correlations.

Differences can emerge if children do not correctly reflect on their perceived and actual knowledge (i.e., how little or how much they really know).

Perceived safety

- Online perceived safety reflects **how safe young people think they are** online
- Perceived safety **related to wellbeing** in offline contexts (e.g., Boulton et al., 2012; Dallago et al., 2009; Davison & Lawson, 2006)

- **Similarities** between offline and online social behaviour (Ivcevic & Ambady, 2013)

- Sex differences
  - Boys are known to be **less risk-averse** than girls generally (Fogel & Nehmad, 2009)
  - Boys also spend **more time online** and engage in riskier online communication behaviour (Leung & Lee, 2012)

Aims

To what extent do children: (i) believe, and (ii) show objective evidence, that they know of the risks of using the internet and what to do to stay safe online,

To what extent do children: (i) feel (un)safe on the internet, and (ii) hold positive attitudes towards formal e-safety education?

To what extent can objective and subjective knowledge about online risks/safety predict (i) levels of perceived safety online and (ii) attitudes towards formal e-safety education?

Are there gender differences in all of the above?

Method: participants & procedure

- The sample consisted of **329 children** from Year 4 (n = 175, 89 girls and 86 boys) and Year 6 (n = 154, 78 girls and 76 boys), aged between **8-11 years**, drawn from **five primary schools in the UK**.

- A **number of steps** were taken to **encourage honest and considered responses**, especially important for our measure of objective knowledge.

- In order to provide **test-retest reliability data**, a sub-set of the sample was asked to complete the questionnaire again two weeks after the first administration.

Method: measures

Perceived online safety	• Five items (e.g., I feel scared when I am on the internet)
Subjective knowledge	• Two items (e.g., I know what to do to stay safe on the internet)
Objective knowledge	• Two open questions (e.g., What things might put someone in danger of harm, or make them feel upset, when they use the internet?)
E-safety	• Four items (e.g., I think it is important that young people are taught how to stay safe on the internet)

Results: Zero order correlations between variables

	2	3	4	5	6
Perceived online safety (1)	**.24***	.07	-.11	**.21***	**.17***
Subjective knowledge (2)		**.20***	-.01	.09	**.21***
Objective Knowledge (3)			.13*	**-.22***	**.17***
Attitudes to e-safety (4)				-.09	-.09
Sex (5)					
Age (6)					

*Note: *p<.001*

Results: Perceived online safety

- Sex and age significantly predicted perceived online safety such that **males and older participants had higher levels of perceived online safety**

- While **subjective knowledge was a significant unique predictor of perceived online safety** ($p < .001$), objective knowledge was not ($p > .05$).

Results: Sex and age differences

- **Perceived online safety**
  - Girls (M = 2.82, SD = .58) felt significantly less safe than boys (M = 3.09, SD = .63), t (319) = 3.88, p < .001, with a .62 effect size
  - Younger children (M = 2.85, SD = .66) felt significantly less safe than older children (M = 3.07, SD = .55), t (319) = 3.15, p = .002, with a .57 effect size

- **Attitudes towards e-safety education**
  - Participants expressed strong positive attitudes towards e-safety education, with no significant sex difference, t (317) = 1.52, or age difference t (317) = 1.60, evident

Results: Sex and age differences

- **Subjective knowledge**
  - No difference between boys and girls
  - Older children (M = 3.59, SD = .57) had significantly higher subjective knowledge scores than younger children (M = 3.30, SD = .78), t (326) = 3.79, p < .001, with a .42 effect size

- **Objective knowledge**
  - Boys (M = 1.95, SD = 1.08) had significantly lower objective knowledge scores than girls (M = 2.47, SD = 1.19), t (327) = 4.11, p < .001, with a .5 effect size
  - Younger children (M = 2.03, SD = 1.03) also had significantly lower objective knowledge scores than older children (M = 2.42, SD = 1.17), t (326) = 3.09, p = .002, with a .35 effect size

Discussion

- **What children *think* they know** about online dangers/how to stay safe online **corresponds only weakly** with what they can **actually articulate** about these things.

- While the overall level of **subjective knowledge** of these issues was **high** (3.44 on a 1-4 scale), participants could **only articulate on average about two distinct responses** to suggest they *actually had that knowledge*.

- Findings suggest that adults who work directly with young people could usefully 'test' for such a mismatch between subjective and objective levels of e-safety knowledge (especially in boys).

Discussion

- Overall levels of **perceived online safety were fairly high**.
- While both **subjective and objective e-safety knowledge** together **significantly predicted perceived safety**, it was only subjective knowledge that did so uniquely.
- This might suggest that **some young people are complacent**, i.e., 'I *think* I know about online dangers and how to avoid them, and so I can feel safe online'.

Limitations and future research

- The sample, while not small, was **drawn from only five schools in the UK** and so cannot be considered representative.
- The **measures were restricted** to scales with relatively few items, but in their favour, they **did yield acceptably reliable data**.
- **Future research** – explore variables proposed in Morrongiello and Lasenby-Lessard (2007) model of risk taking

Summary

- Participants overall, and especially boys, **felt rather safe online** and this might help them gain maximum enjoyment and learning.

- Participants, and especially boys, were **poor at articulating online risks and strategies for staying safe**.

- It was **only subjective knowledge**, and not objective knowledge, **that predicted perceived safety online**.

Thank you, any questions?

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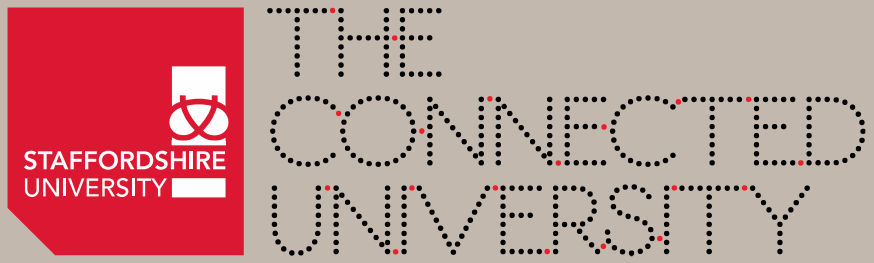
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