HOW ENTERTAINMENT MEDIA SHAPES PERCEPTIONS OF CYBERSECURITY

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How do people make security relevant decisions?

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- Fictional media influences their mental models. (https://www.youtube.com/watch?v=u8qgehH3kEQ)
- Representations span the spectrum of accuracy
- Need to understand what exactly users are taking away from these portrayals.
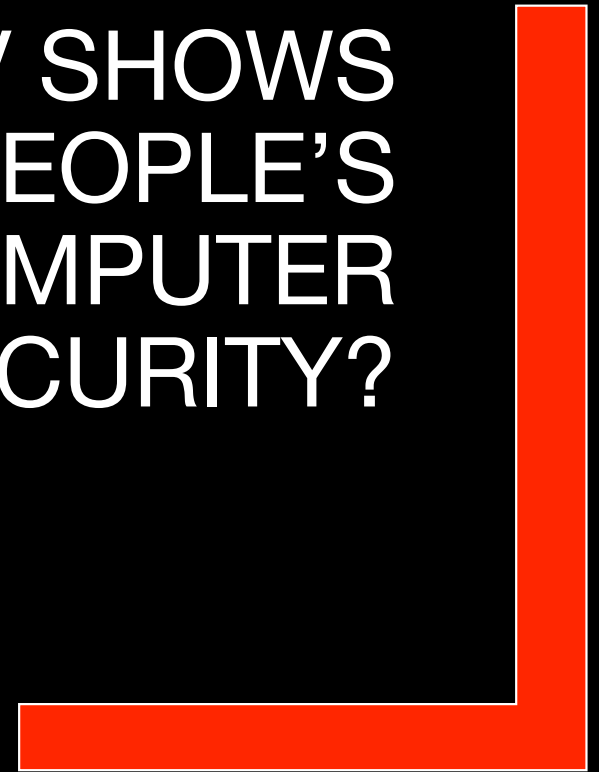
Research questions

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- Why do people learn these particular concepts? For example, why do they find certain portrayals more believable or compelling?

Study Setup

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    - *Background section*
    - *Clips and follow-up questions*
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- Open and axial coding for themes

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Do people really learn security concepts from fictional media?

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http://collider.com/ally-sheedy-wargames-remake-interview/

"I'm thinking of Matthew Broderick in WarGames"

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> "sometimes when I'm watching movies or tv… that makes me think of a lot of stuff that I don't really question.. Or I just accept those representations."

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- **This suggests that fictional portrayals may be influencing mental models for people who claim to know better!**

Our results suggest a kind of feedback loop: people learn mental models of security – sometimes from fictional media – and then these models are reaffirmed when they appear in other media later.
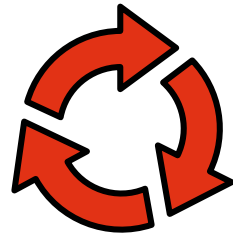
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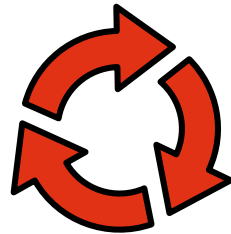
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- Suspicious emails can be dangerous

Only specific/important targets

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- Hackers only choose important targets

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"I'm not a rich person so my finances aren't worth anyone stealing…. So… I guess they probably left me alone"

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> "Something that I found realistic was the things that they were breaking the codes to were very high security"

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- Hackers always target a specific person or entity

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Target = "Someone that you have a personal grudge against"

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Targeting one person at NSA instead of whole agency = "pretty realistic"

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- Hackers always target a specific person or entity
- **They don't need to protect themselves because hackers only target specific/ important people instead of making widespread attacks!**

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https://giphy.com/explore/skyfall

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"I feel like imagery of like being hacked where like all the screens flash and stuff… in my mind that is like hacking is happening"

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Attacks and unsafe situations are obvious

- Active intrusion that triggers anomalous behavior
- Sometimes including a deliberate signature from the attacker
- **That an obvious indicator of a security problem will appear.**

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"Have no limitations"

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"in our day and age, it's like, in a blink of an eye it's like done, you're not protected"

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- Encryption can be quickly and easily broken by sufficiently talented attackers.

- **They shouldn't trust any security measures because they're just going to get hacked anyway.**

Unplugging the computer and other simple solutions

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"But what actually seemed real was when like the dude unplugged it all - cause you know back when I had viruses the first thing I'd do is unplug it and see if it worked again"

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- **Simple solutions can solve potentially serious problems.**

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- Suspicious email = way to get hacked

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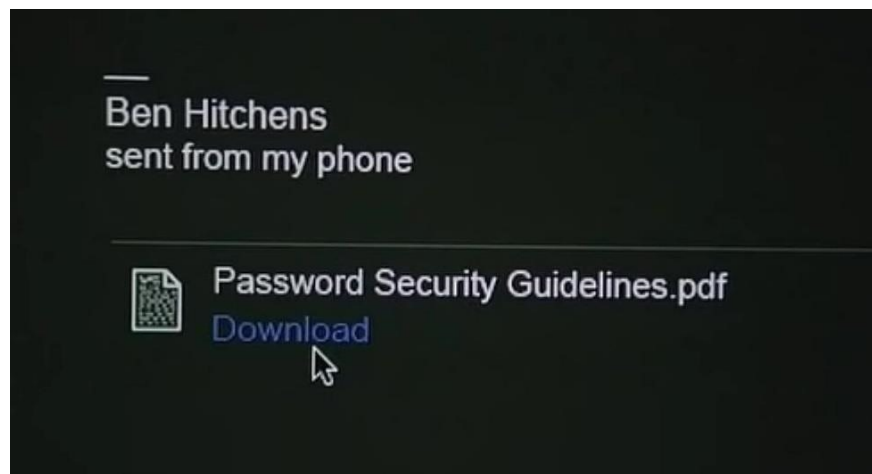
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https://null-byte.wonderhowto.com/news/hacking-blackhat-movie-0162849/

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Ben Hitchens
sent from my phone

Password Security Guidelines.pdf
Download

https://null-byte.wonderhowto.com/news/hacking-blackhat-movie-0162849/

"You always hear about viruses that can attach something so that's why you never open attachments unless you know who sent it to you"

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- Suspicious email = way to get hacked
- **Suspicious emails are dangerous!**

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    - Cinematic aspects

Technical knowledge

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> "What she said was realistic… it's like a foreign language to my ears, like when it's a doctor and you have no knowledge of what they talk about."

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"It may have been someone pulling a lot of technical terms and throwing them into a paragraph."

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Technical knowledge

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  - But not always
- Too fast or easy implies it's not realistic

Non-technical background

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Non-technical background

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> "He used a keylogger to find out his password from a email and a download… I had a weird thing where my stepdad put a keylogger on my computer to see if I had a Facebook. So I know that this is possible."

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- Relatability implies realism

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"I probably would've fallen victim to it too. Anybody else would, it seems like a credible thing referencing an email the way it did."

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Compliance with existing folk models

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"She was showing off, and she enjoyed showing off. . . . If you're good at it there's inclination to want to be very good at it, to show 'em who you are"

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Compliance with existing folk models

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- D_____er stereotypes implies a lack
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https://www.biography.com/actor/chris-hemsworth

"how good the actor [Chris Hemsworth] looks, I guess."

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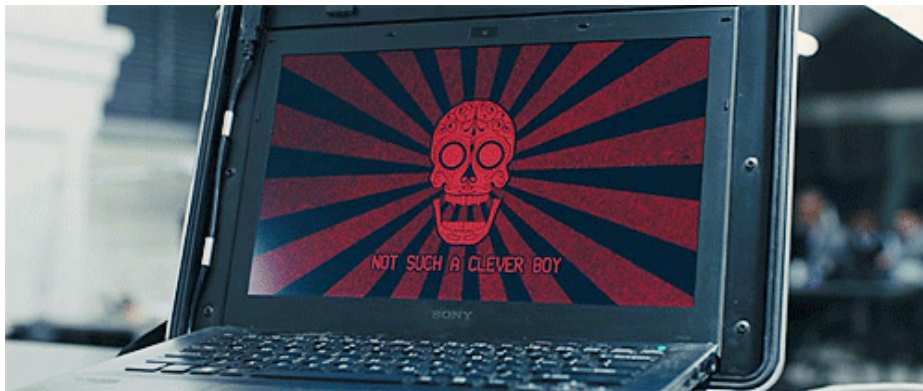- Repeated tropes imply realism

Cinematic aspects

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"everybody just seemed too casual about it. A guy is eating a sandwich and saying what's going on, is this a video game?"

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Cinematic aspects

- Visual and audio cues affect realism
- Character behavior must be realistic
- Incongruity reduces realism

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- Educators can use tropes and entertainment to their advantage

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https://imgur.com/gallery/hPRLsjP