The filter bubble app: how can secondary school students become aware of algorithmic filtering?

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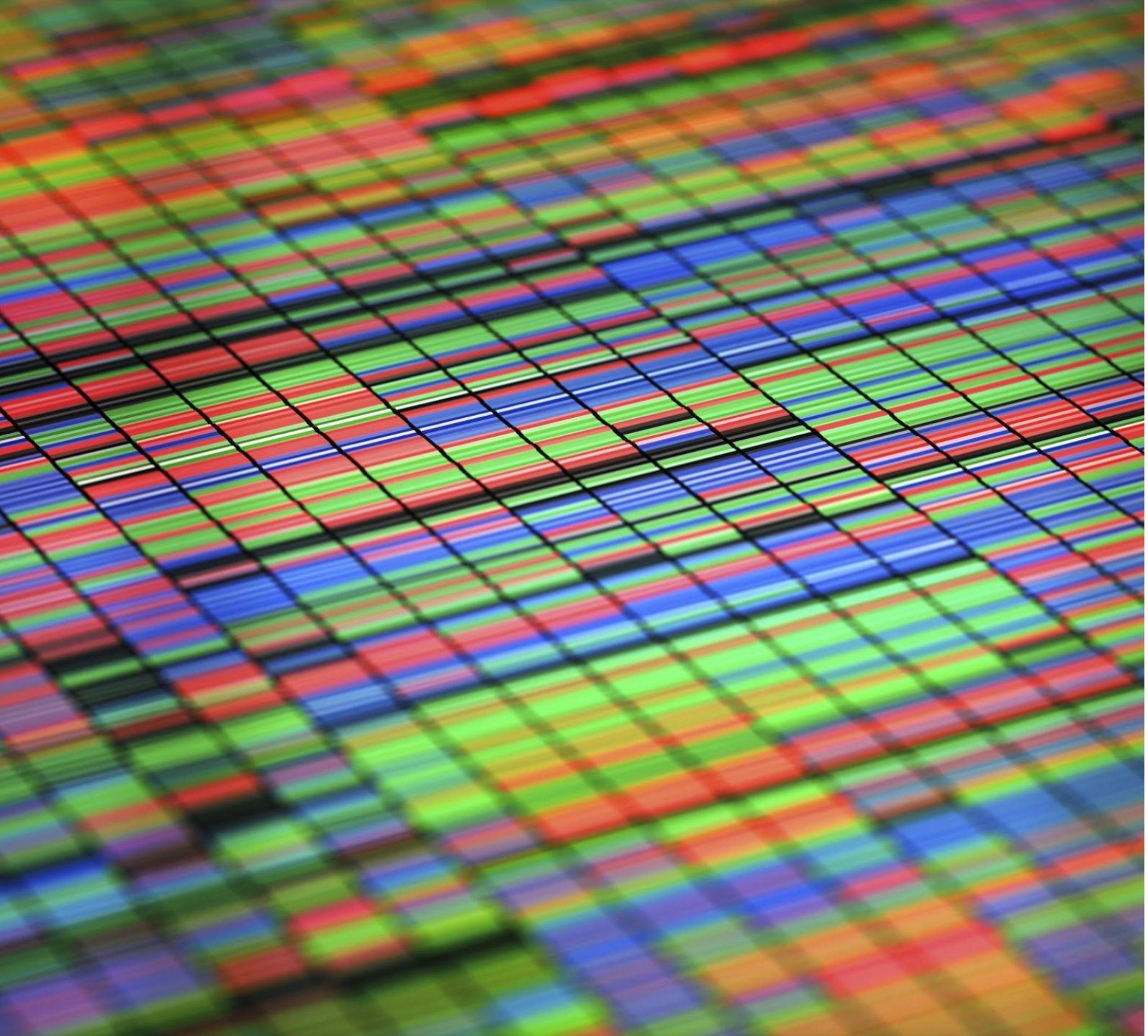
Do you recognize this?

You would like to buy new shoes and after searching for your favorite brand online all of a sudden you are presented with shoes on social media platforms?

Do you recognize this?

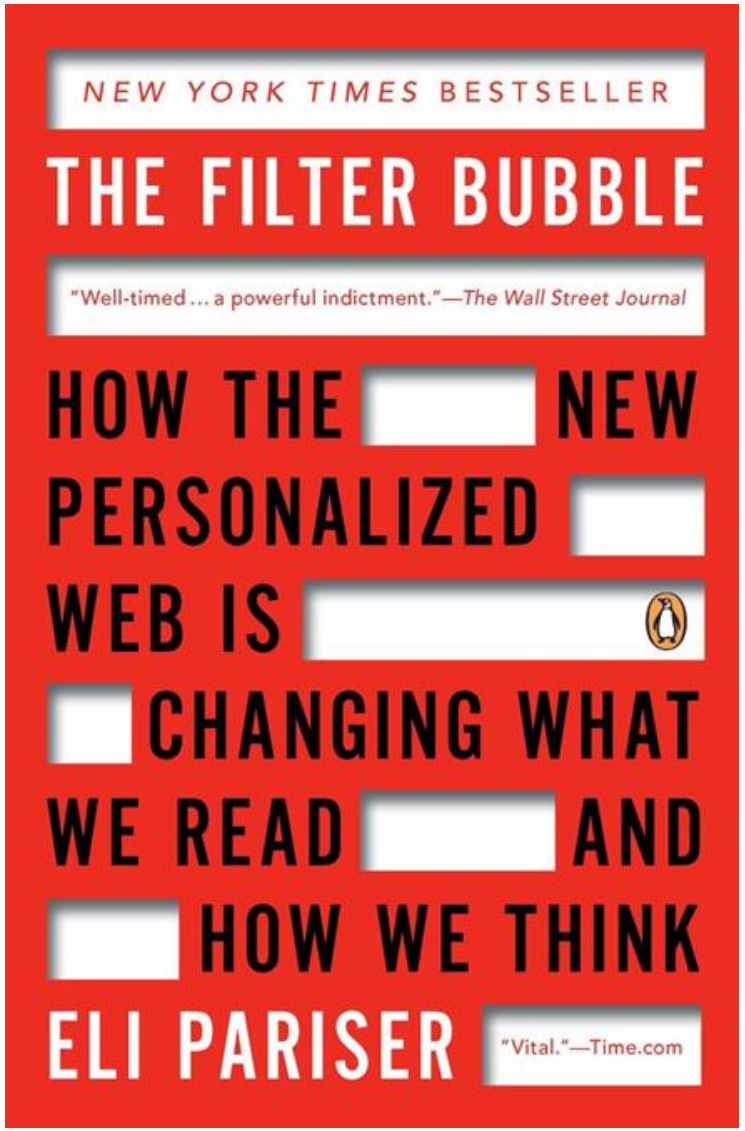
You look up a nice holiday destination and all of a sudden you are bombarded with posts about this place on your social media?

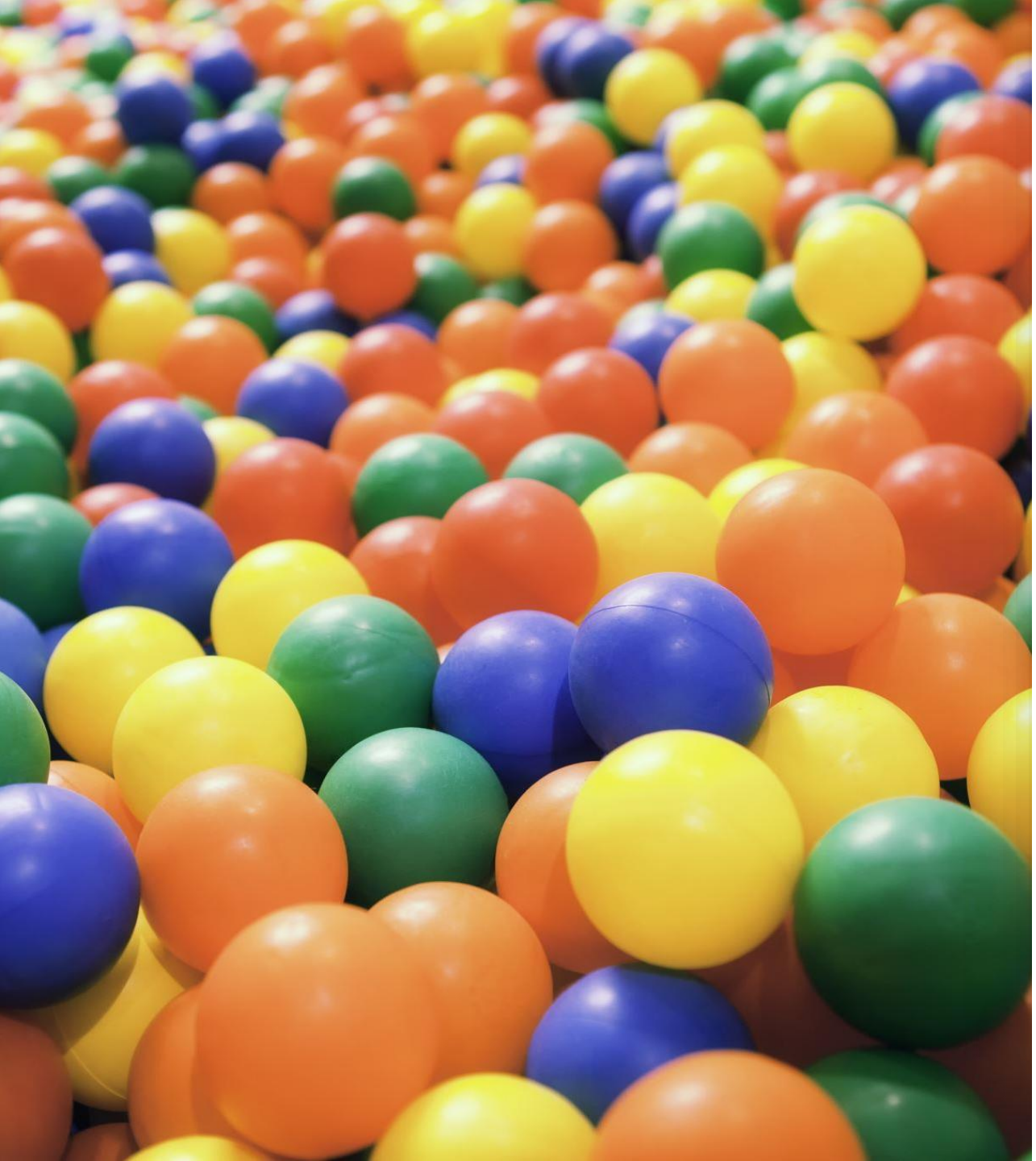


Algorithmic filtering

Filter bubble

Internet filters looks at the things you seem to like – actual things you've done, or the things people like you like – and tries to extrapolate. They are prediction engines, constantly creating and refining a theory of who you are and what you'll do and want next. Together, these engines create a unique universe of information for each of us – what I've come to call a filter bubble. (Pariser, 2011: 9)





Echo chamber

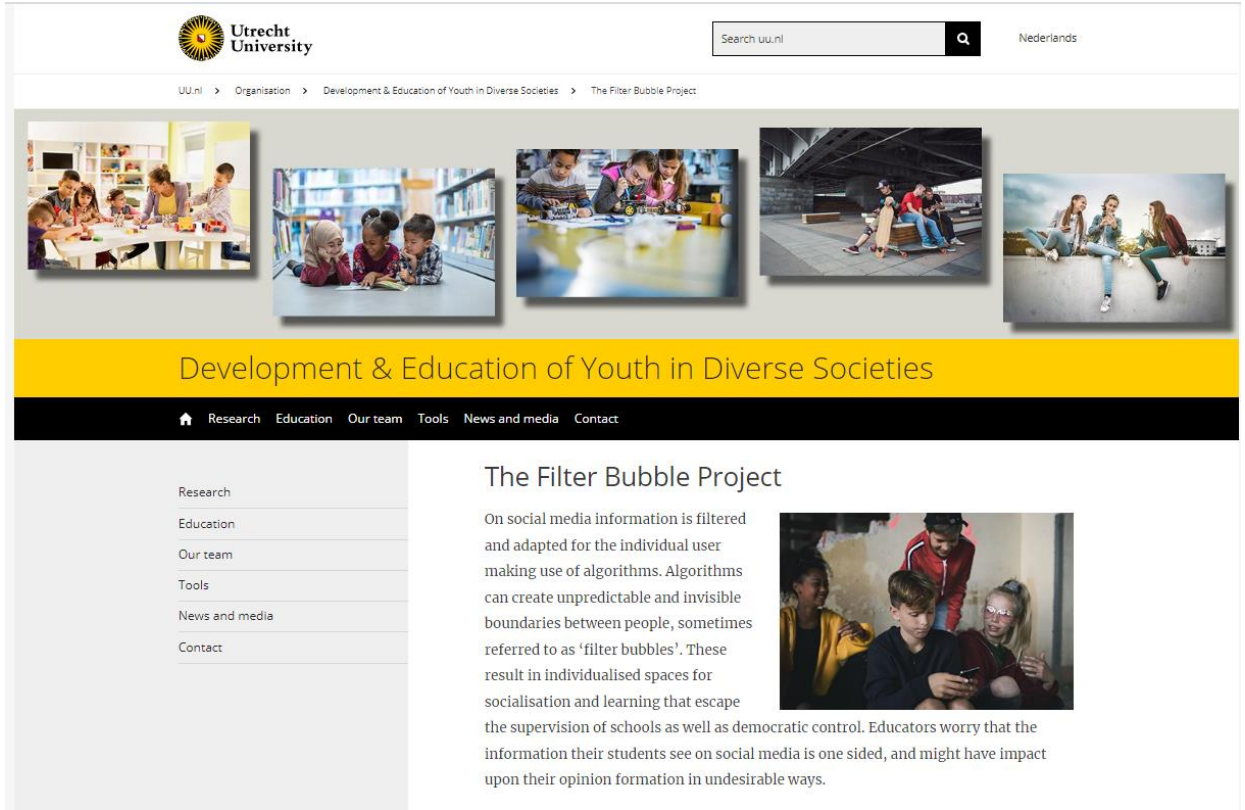
A need for research

- Scientific relevance: New new media ontology (Beer, 2009)

→ reform in critical media literacy

- Societal relevance: Worries of teachers in Utrecht

The filterbubble project



Key concepts

Before designing an intervention, we should first understand what young people already know about the working of algorithms and what literacy processes they develop in interaction with platforms and their algorithmic functions (Koenig, 2020).

Key concepts

- Algorithmic imagination
- Critical evaluation
- Algorithmic power

Algorithmic imagination

‘the way in which people imagine, perceive and experience algorithms and what these imaginations make possible’ (Bucher 2017, p 31).

Critical evaluation

Critical evaluation of the influence algorithms over us as individuals, as well as what impact they have on our society

Algorithmic power

How users actively influence the algorithmic workings of platforms to engage in conscious, instrumental interactions with algorithms, or in other words, how they ‘game the system (Cotter, 2019)

Methods

- Design based research project
- Sample: 18 secondary school students
- Duo interviews
  - Walk through exercise
  - Vignette

Results – Algorithmic imagination

Learning from experience:

‘*Ehh, for example, if you like a video about Israel or Palestine, you immediately get a whole ‘For You Page’ with Israel and Palestine.*’

Algorithmic imagination

Doubts about algorithmic filtering:

“Ehh, people who ehh, mostly support (my opinion), that's what I encounter most, but, I think that is because, that's more what I want to see, I don't know why I only encounter that.”

Algorithmic imagination

Algorithmic imagination is situational:

- Perception that all users see the same online content
- No recognition of an echo-chamber
- Perception that content online is "what all people think"

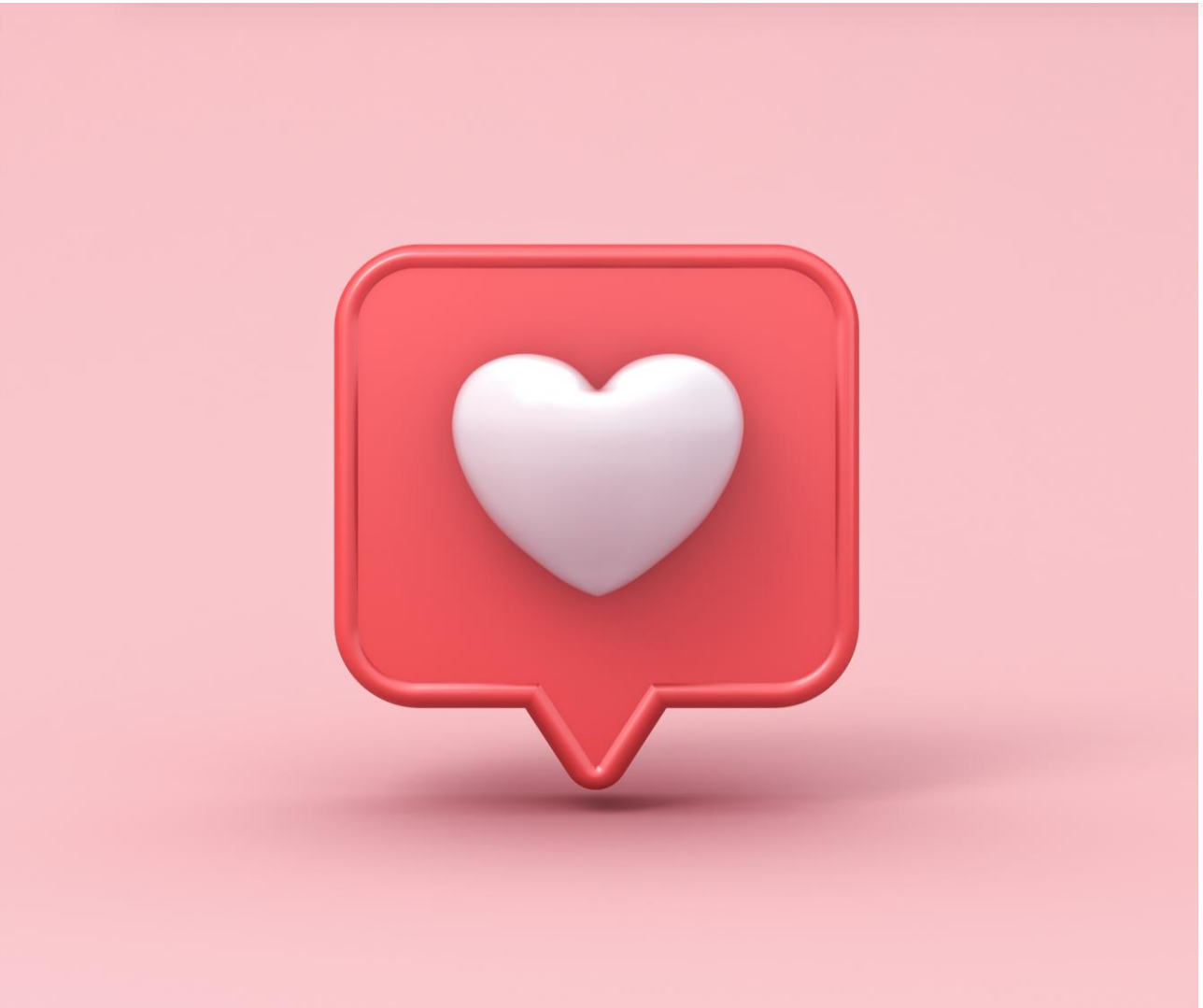
Interviewer: But do you ever get messages from people who are more for Israel, do you sometimes see that too?

Muzna: No, because not much happens in Israel.

Critical evaluation

"Yes, I find it (algorithmic filtering by the platform) useful. Now I do not have to put effort in looking things up myself."

Algorithmic power



‘I would not like to change it (the algorithm) because I just have a sort of power to change it by ‘liking’ things, so…’.

Discussion

- Imagination is limited
  - Experiential
  - Situational
- Critical evaluation: are youth in control?
  - A result of limited understanding?
  - A result of the deliberate design by platform developers to create a sense of agency/power?

What is the influence on algorithmic awareness of growing up with a 'for you' page?

Implications

- Experiential knowledge is not enough →
  - Learning how algorithmic filtering works (up to some extend)
  - Critically analyzing interaction with the system
  - Considering societal consequences
  - Gaining agency/power through knowing how to act

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For discussion:

- Do you think there is a difference between youth's awareness of algorithmic filtering and other age categories?
- What do you recognize yourselves when hearing about youth's algorithmic imagination, critical evaluation and algorithmic power?

Research questions:

- Are secondary school students aware of the algorithmic workings of their social media apps and how do they imagine such workings? (algorithmic imagination)
- How do they evaluate and reflect upon the (ethical) effects of such algorithmic workings? (critical evaluation).
- What do they do to influence, resist or work around such algorithmic workings? (algorithmic power)