Pink for Princesses, Blue for superheroes: The Need to Examine Gender Stereotypes in Kids' Products in Search and Recommendations

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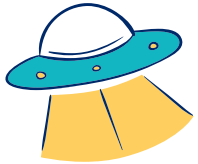
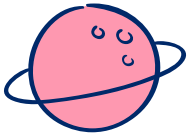
Awards 17-51278, 19-30464

https://sociologyinfocus.com/target-toys-and-gender-how-much-do-words-matter-2/

https://www.lettoysbetoys.org.uk/thats-for-girls-and-thats-for-boys/



Gender stereotypes are common beliefs and social expectations associated with specific genders

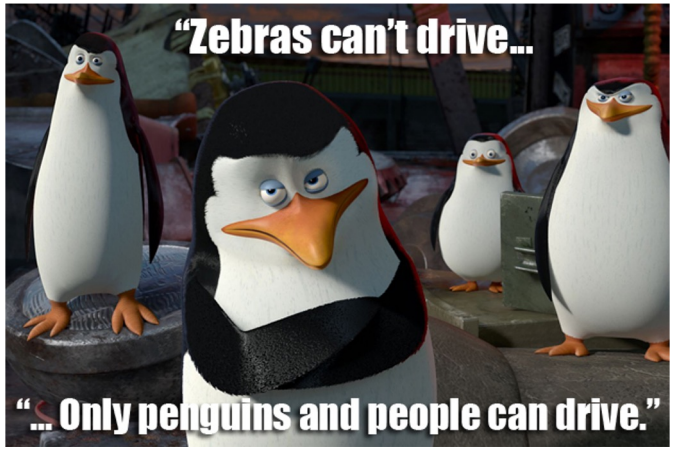


Naomi Ellemers. 2018. Gender stereotypes. Annual review of psychology 69 (2018), 275–298

Impact of early childhood exposure of gender stereotypes

Gender Roles

Behavioral norm



Skills

Gender Stereotypes in Classroom settings

Teachers have roles to play

Perspective

- Aware of gender stereotypes
- Take measure to fight stereotypes
- Practice gender equity in their classrooms

Are we missing something?

amazon

All | pencil box for girls

Google | LEGO for girls

amazon

All | pencil box for boys

Google | LEGO for boys

Unicorn Gifts for Girls Hardtop Pencil Case - Kids Large Colored…

★★★★½ 1,011

20% off

Pencil Case for Girls, EVA Cute Unicorn Pencil Pouch with Compartments for Kids Gift

"Mermaid pencil box" related item recommendations

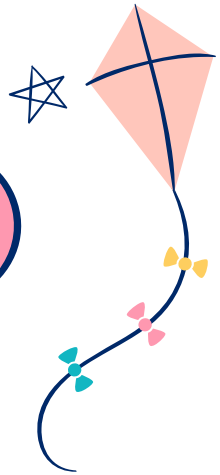
"Spiderman pencil box" related item recommendations

Sports Car Pencil Case, Pencil Case for Boys, Pencil Case for School, Pencil Case for School Boys, 3D Pen Pouch…

Marvel Spiderman Pencil Box Molded Pencil Case for Boys and Kids

Research community needs to consider and address the possibility of search and recommendation systems reinforcing and propagating unnecessary gender stereotypes to children.

Research agenda



01. **Measurement**

Measure the presence

02. **Cause**

Identify the sources

03. **Impact**

Effect on both children and teachers

04. **Mitigation**

Eliminate gender stereotypes

Measurement

(1) Detect gender stereotypes in search and recommendation results

(2) Data to help quantify

(3) Metric to measure

Cause

(1) Item descriptions

(2) User feedback

(3) Language model

(4) ...

Impact

(1) Impact of early childhood exposure of gender stereotypes through search and recommendations on:

- Learning environment
- Children behavior
- Teachers who practice gender equity

(2) Distinguish the impact from parents and society

Mitigation

(1) Design goals

(2) Input data

(3) Algorithms

(4) Teacher's expectations from systems

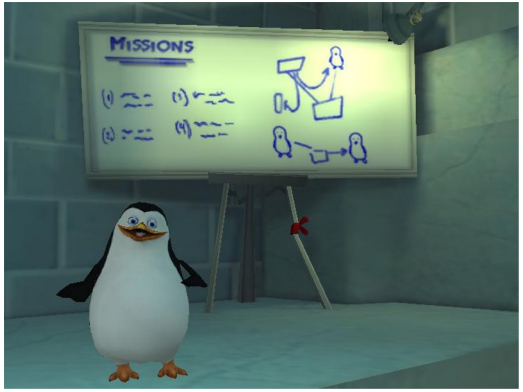
(5) Teachers' role

IR for Children

Bias and Fairness in Recommender systems

Summary

- Need to investigate if and how gender stereotypes manifest in search and recommender systems
- Proposed potential research direction (measure, cause, impact, mitigate)



THANKS!

Real change, enduring change, happens one step at a time.
- Ruth Bader Ginsburg

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