The Brian Shackel Award

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Awarded to

Senuri Wijenayake, Jolan Hu, Vassilis Kostakos and Jorge Goncalves

for the refereed paper

Quantifying the Effects of Age-related Stereotypes on Online Social Conformity

International Federation for Information Processing

INTERACT 2021

IFIP TC13 Conference

Technical Committee on Human-Computer Interaction

Quantifying the effects of age-related stereotypes on online social conformity

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Senuri Wijenayake, Jolan Hu, Jorge Goncalves, Vassilis Kostakos

University of Melbourne | Australia

swijenayake@student.unimelb.edu.au

Introduction

What is social conformity?

Social conformity occurs when people adjust their personal opinions and behaviours to agree with an opposing majority's perspectives.

Informational Influences

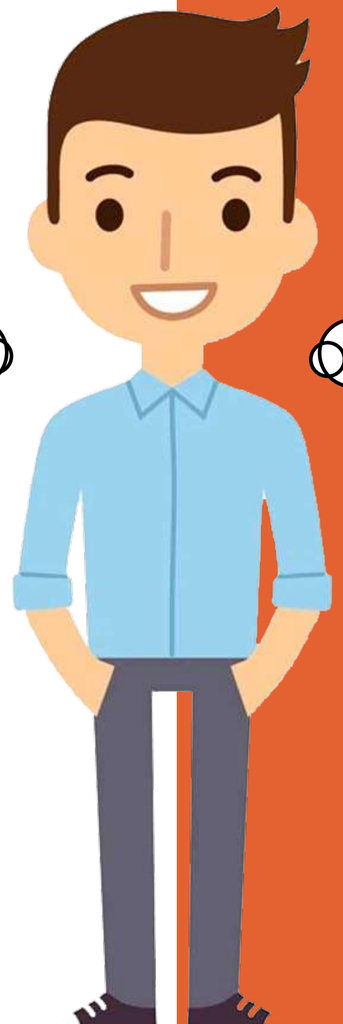
If all of them agree, it has to be the correct answer.

Conforming to be “right”

Normative Influences

I don’t want to be the only one disagreeing with the group.

Conforming to be “liked”



Positive

Support Groups

Enhances a **sense of belonging** and security so that **sensitive** issues can be discussed.

Negative

Learning platforms

Students who conform to majority's answers in quizzes end up getting **more incorrect answers** than those who do not.

Determinants of Social Conformity?

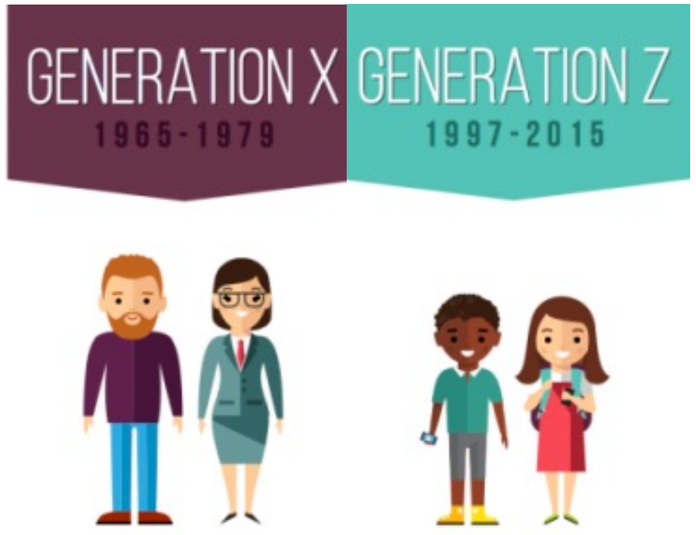
Contextual

- Majority Group Size
- Experimental Task

Personal

- Self-confidence
- Age

What is the impact of user age and age-related stereotypes on online social conformity?



e1p1_1967
e1p2_1975

e2p1_1998
e2p2_2000

What was the top grossing movie of the 1980s?

Which song by "Psy" has been viewed over 2 billion times on YouTube?

What is the largest country in the world (by area)?

Participant age

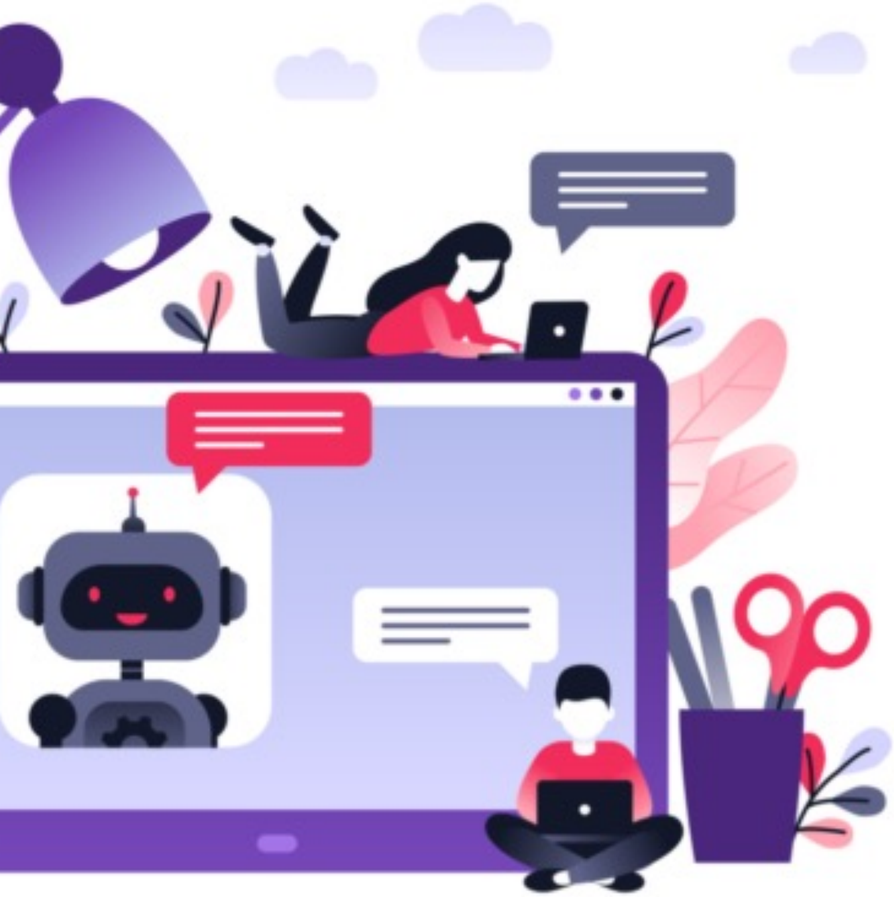
(Gen X vs. Gen Z)

Age of opposing peers

(XX, ZZ, XZ)

Stereotypical tasks

(1980's history, social media and technology, GK)

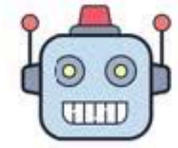


Research Method

Mixed-method user study

- Online quiz (30 MCQs) on Slack (IM platform) + Post-test survey
- 32 participants (16 Gen Z, 16 Gen X)
- **Experimental Task:**
  - 3 users in each group
  - Only one participant per session. Confederates used to simulate group members.
  - Participants were identified using their unique username (e.g., e1p3_2000).
- A bot was used to control the flow of the quiz.

Step 1:
Participant selects answer (private)



SupportBot

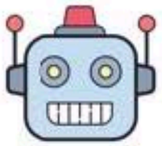
1. What is the largest country in the world (by area)?

Canada | USA | China | Russia

Canada | USA | China | Russia

e1p3_2000

Step 2:
Participant rates confidence (private)



SupportBot

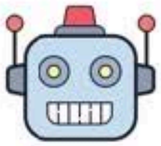
How confident are you of the chosen answer?

1 | 2 | 3 | 4 | 5

1 | 2 | 3 | 4 | 5

e1p3_2000

Step 3:
SupportBot displays group answers (public)



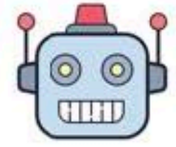
SupportBot

This is how your group members answered this question:

e1p1_1998	Canada
e1p2_1965	Canada
e1p3_2000	Russia

Gen Z
Gen X

Step 4:
Participant selects new answer (private)



SupportBot

You may now attempt the question again.

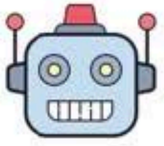
1. What is the largest country in the world (by area)?

Canada | USA | China | Russia

Canada | USA | China | Russia

e1p3_2000

Step 5:
Participant rates confidence in new answer (private)



SupportBot

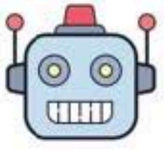
How confident are you of the new answer?

1 | 2 | 3 | 4 | 5

1 | 2 | 3 | 4 | 5

e1p3_2000

Step 6:
SupportBot displays next question



SupportBot

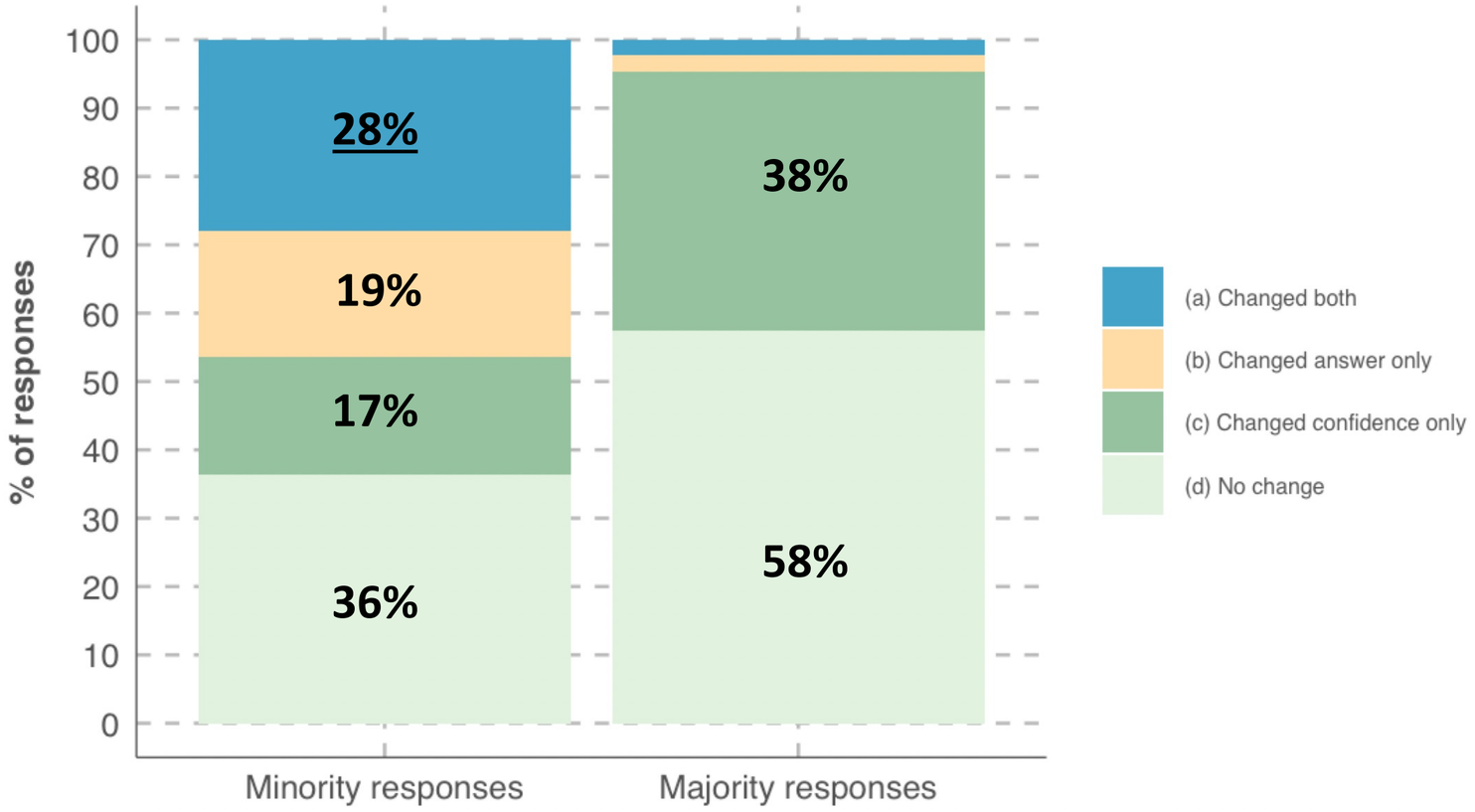
Thank you for your response. Let's move to the next question.

2. Which of the following is the most popular social networking site on the internet?

MySpace | Facebook | Twitter | Instagram

Results

Distribution of post-feedback responses

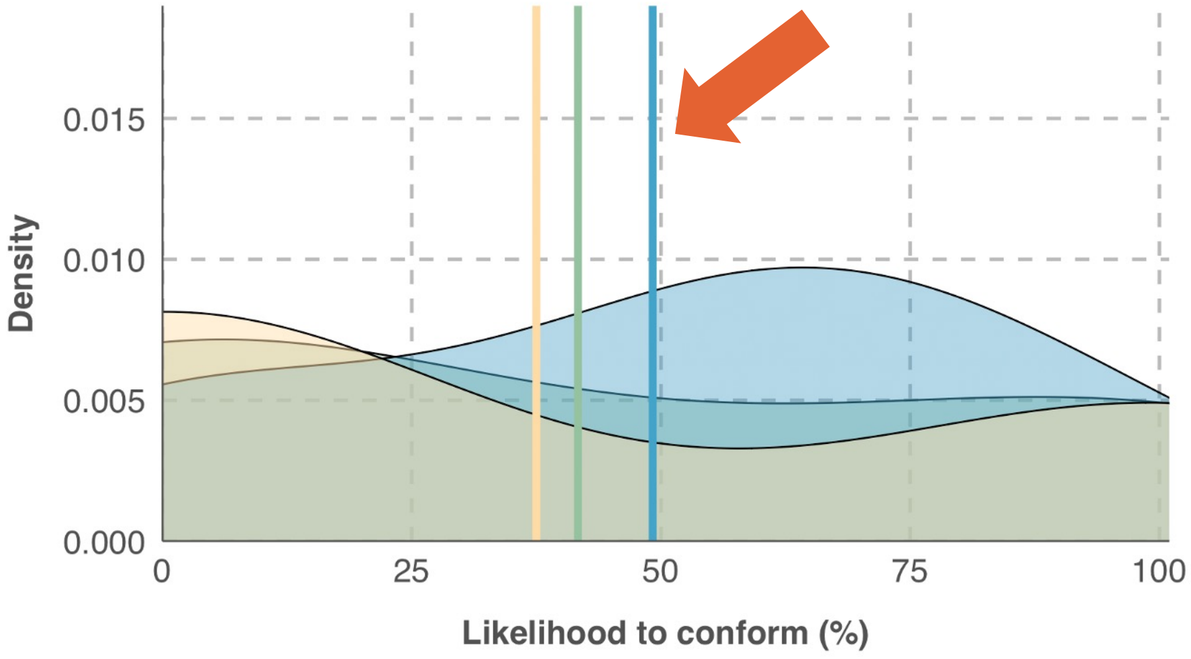


- We had a total of 960 responses (618 majority and 342 minority)
- **28% conformity in minority responses.**
- 91% participants conformed at least once.
- GLMM to analyse effects of self-confidence and the three aspects of age.
- Main effect: Initial Confidence (lower confidence led to higher conformity).

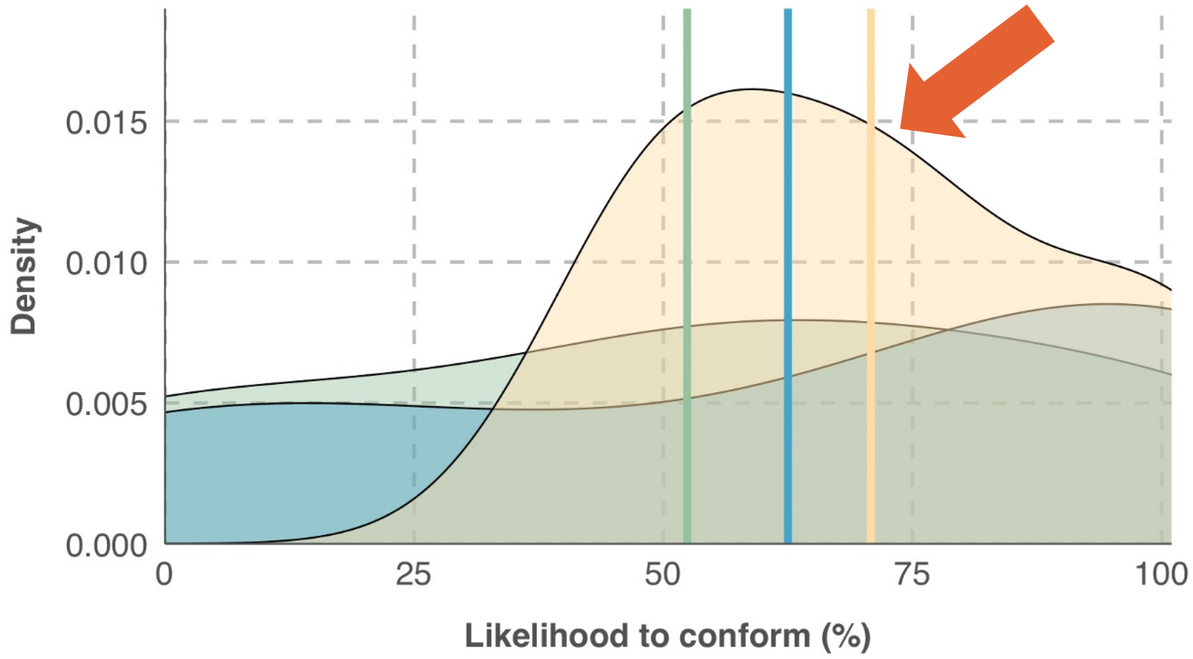
A statistically significant interaction effect between

User's age group x Age group of opposing peers x Stereotypical question type

(a) Gen Z against Gen X peers



(b) Gen X against Gen Z peers



General Knowledge (Neutral)

1980's History (Middle-aged)

Social Media & Technology (Young)

Discussion

What do these results mean?

- Effects of personal determinants of conformity observed
- Inverse relationship between self-confidence and conformity
  - Low susceptibility to informational influences when confident
- Age cues (birth years) led to stereotypical perceptions of peer competency
  - Generation Z: "Digital Natives" → Social media and latest tech
  - Generation X: "Life experience" → 1980's history questions
- Conforming to be "correct" rather than to be "liked"
  - Informational > Normative influences

Age-stereotypes are not true!

Digital literacy of young adults depend on factors other than age (i.e., level of education).

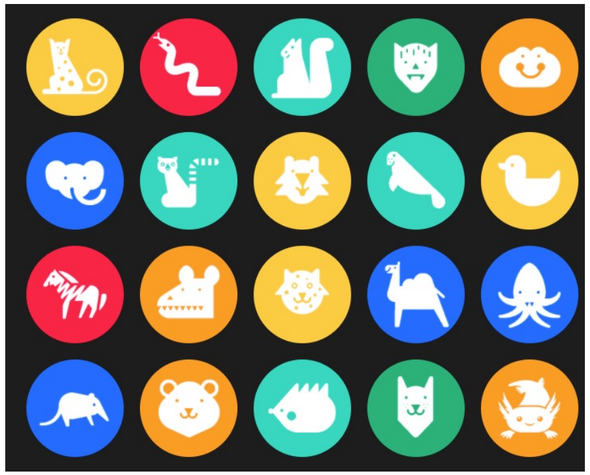
Age-stereotypes often disadvantage older adults ☹

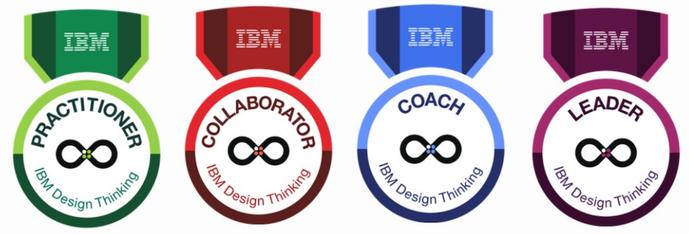
Older adults are perceived as less reliable and trustworthy than their younger counterparts in online groups.

Design Implications & Future Work

Design to minimise stereotypical conformity

- Users are receptive to minimal age cues AND derive stereotypical perceptions based on them.
- Richer age cues (e.g., photographs) can further heighten stereotypical perceptions
- Reconsider including user cues (when is it important?)
- Use cues that are devoid of explicit age-related information
  - e.g., animal avatars
- Explore the use of platform specific indicators to show true competency
  - e.g., skill assessment tests, badges.





Thank you!

Contact us:

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