Identifying AI Images

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Topic and Hypothesis

MY TOPIC IS IDENTIFYING AI IMAGES. MY PURPOSE IS TO SEE FIRST IF PEOPLE CAN IDENTIFY AI AND HOW THE PROGRESSION OF AI AFFECTS THOSE ANSWERS. I ALSO SAW WHICH AGE GROUP WOULD DO THE BEST.
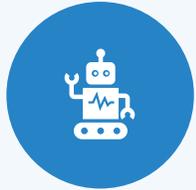
WOULD PEOPLE BE ABLE TO TELL THE DIFFERENCE? WOULD SOME AGE GROUPS BE ABLE TO TELL THE DIFFERENCES EASIER THAN OTHER AGE GROUPS? HOW CAN THIS INFORMATION AFFECT THE FUTURE?
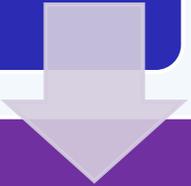
MY HYPOTHESIS IS, IF I LAY OUT A SET OF AI PHOTOS AMONG REAL ONES, THEN PEOPLE WOULD NOT BE ABLE TO IDENTIFY THEM BECAUSE AI'S TECHNOLOGY IS VERY ADVANCED.

Experimental Method

I used 2 AI images or paintings from AARON, GANs, chatGPT-4, and Sora 2.

Then I used 4 real photos or paintings from the same time the generator was created.

I made slide shows with the photos labeling them 1-6 and for one slide 1-7.

I created a graph with the data. The independent variable is the people's age groups. There are 4 groups: 12-25, 26-45, 46-60 and 61 and older.

I asked 4 people in each age group to look at the photos. They could be in the same room but could not talk to each other.
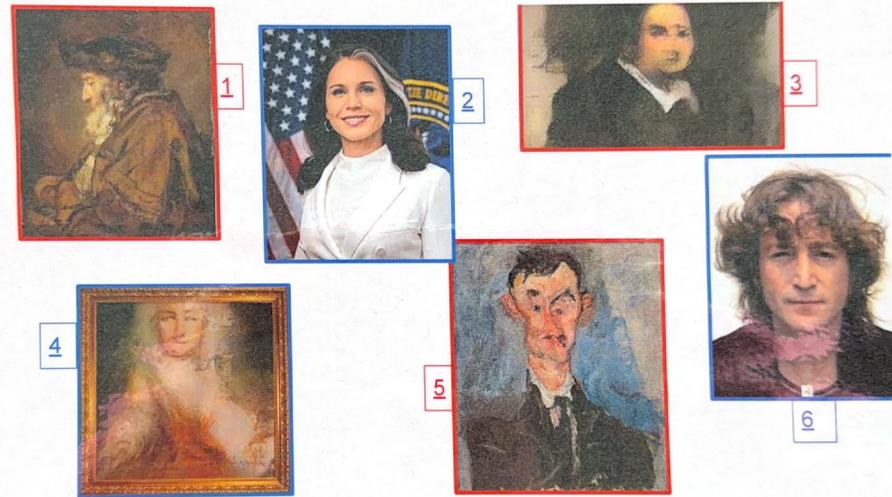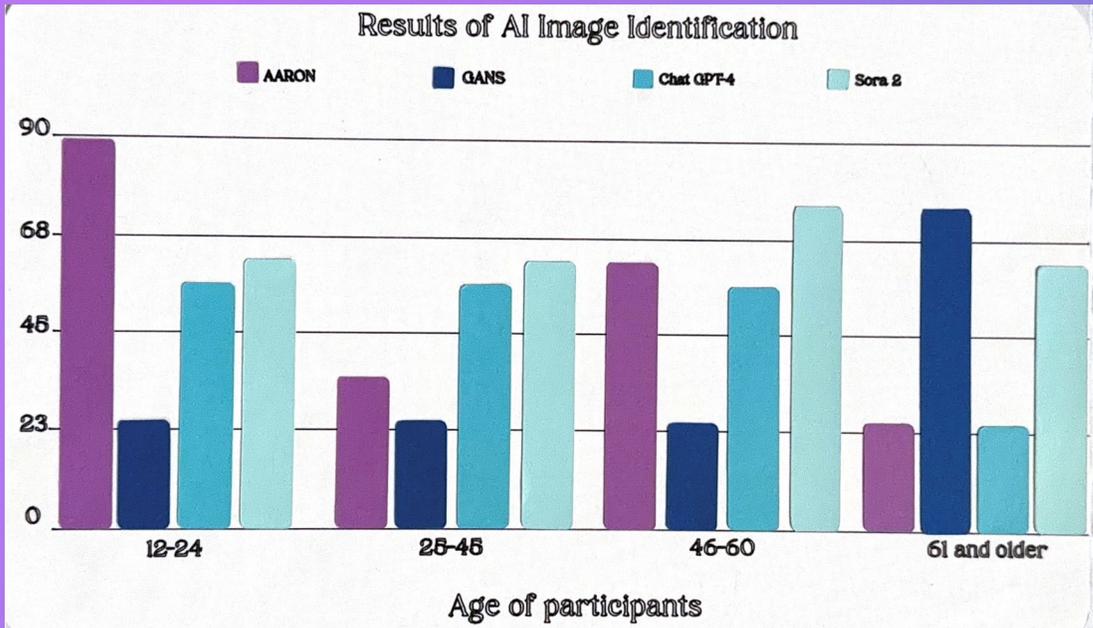
Once complete, I showed them the correct answers and how they could in the future. I asked about the difficulty and if they thought it increased throughout the slideshow. I also discussed how realistic they believed each generator was.

I put results into a spreadsheet and determined if people in general could identify AI images based on the results.

Design

Data Analysis

- Results of the AI image identification table shows how different age groups performed when identifying AI. The y-axis shows the average correct answers from each age group. The x-axis shows the age groups that were in the experiment.

Data Analysis

- In this experiment, there were many patterns that occurred. The numbers that frequently showed up were, 58%, 63%, 75%, and 25%. These percentages were common amount the age groups. Some generators such as Sora 2 had common numbers across the age groups. The percentage of 63% commonly appeared for Sora 2. For ChatGBT-4 it was 25%. GANS was 58%. These numbers show the relationship between the different age groups' answers.

12-24

	AARON	GANs	CHAT GPT-4	SORA 2
PERSON 1	2/2	0/2	1/3	1/2
PERSON 2	2/2	2/2	3/3	2/2
PERSON 3	2/2	0/2	2/3	1/2
PERSON 4	1/2	0/2	1/3	1/2
AVERAGE	88%	25%	58%	63%
OVERALL %				58%

25-45

	AARON	GANs	CHAT GPT-4	SORA 2
PERSON 1	1/2	1/2	1/3	1/2
PERSON 2	1/2	1/2	3/3	2/2
PERSON 3	0/2	0/2	2/3	1/2
PERSON 4	1/2	0/2	1/3	1/2
AVERAGE	38%	25%	58%	63%
OVERALL %				47%

46-60

	AARON	GANs	CHAT GPT-4	SORA 2
PERSON 1	0/2	0/2	1/3	1/2
PERSON 2	2/2	2/2	2/3	2/2
PERSON 3	2/2	2/2	3/3	2/2
PERSON 4	1/2	0/2	1/3	1/2
AVERAGE	63%	25%	58%	75%
OVERALL %				61%

61 AND OLDER

	AARON	GANs	CHAT GPT-4	SORA 2
PERSON 1	0/2	2/2	2/3	1/2
PERSON 2	0/2	2/2	0/3	1/2
PERSON 3	1/2	2/2	0/3	2/2
PERSON 4	1/2	0/2	1/3	1/2
AVERAGE	25%	75%	25%	63%
OVERALL %				44%
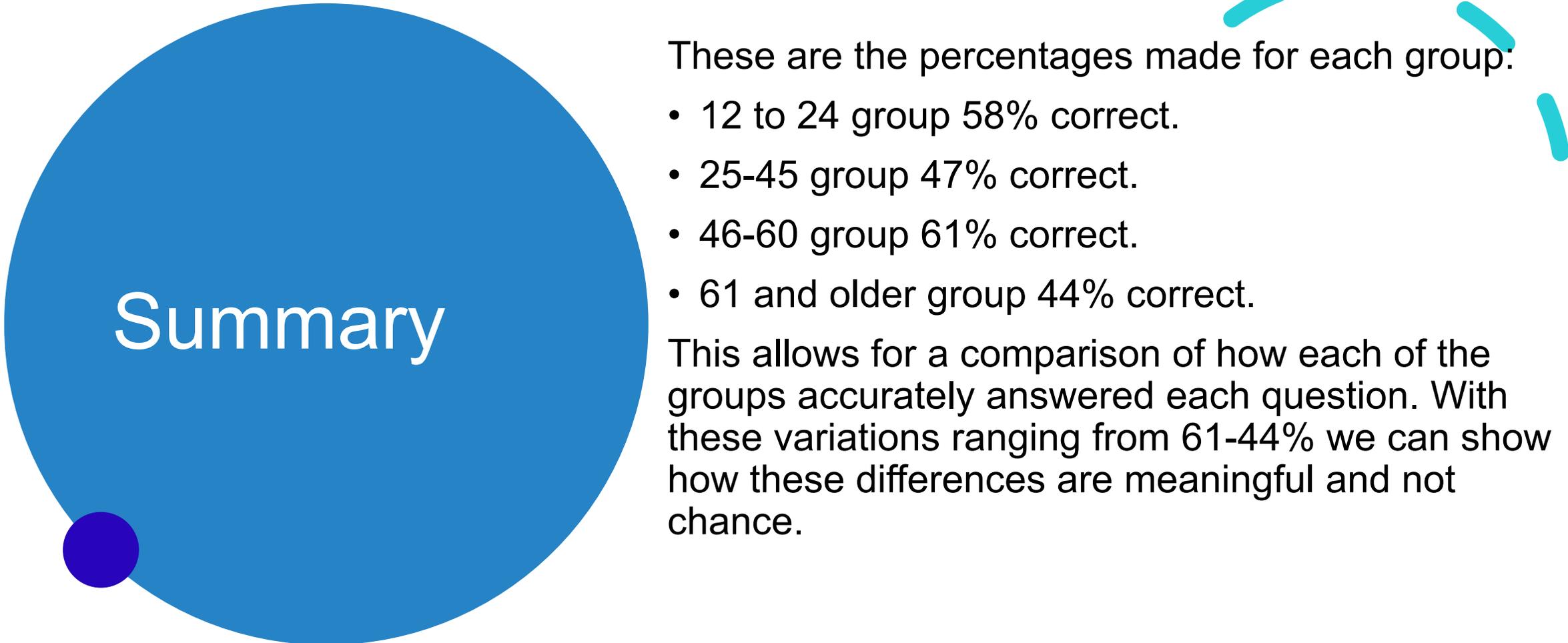
Summary

These are the percentages made for each group:

- 12 to 24 group 58% correct.

- 25-45 group 47% correct.

- 46-60 group 61% correct.

- 61 and older group 44% correct.

This allows for a comparison of how each of the groups accurately answered each question. With these variations ranging from 61-44% we can show how these differences are meaningful and not chance.

Conclusion

- In conclusion, this experiment disproved my hypothesis because 53% of people were able to identify the AI images. Also, the age range that I predicted would do the best was 12–24-year-olds. This was because they have grown up with technology. Only, this age group correctly chose the AI image with 58% accuracy unlike the 46–60-year-olds that did the best, with 61% accuracy. This is likely because they have worked with AI and are constantly seeing it at their work. The only problem I ran into was that sometimes people would choose all the pictures thinking they were AI. In that case, I would count that answer as correct. I learned that with each of the age groups, there would be similar answers and therefore many of the same percentages. If I were to work with this experiment to go in a new direction, I would add more participants and make the age groups smaller. This would help to get more definitive data that could help prove that, on average, people cannot identify AI images. As time moves on, AI will get better and it will be even harder to identify what is real and what is fake. As of now, people are still able to identify AI images, but in the future that might not be possible.

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