AUGMENTED

REALITY

Sewer Invert 53.64M
1.27 Below GL

Easement A DP 5123
(in gross) Foul Sewer
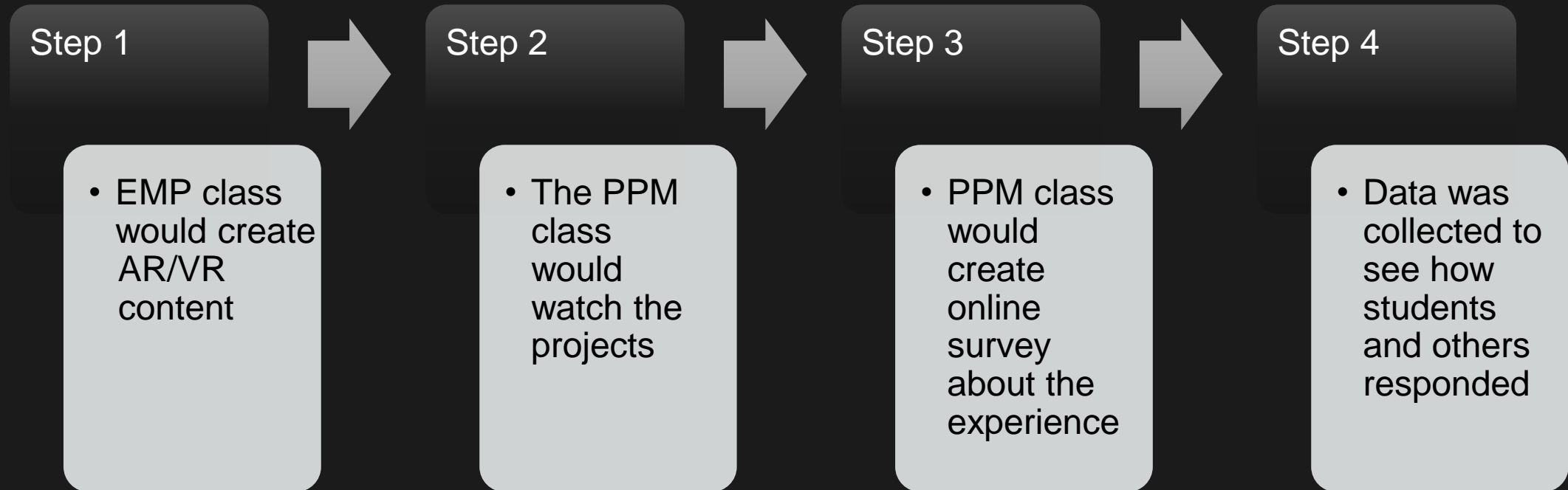Wellington City Council

Psychological Processing of Media Research Questionnaire Results

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Project Overview

- This semester, our Psychological Processing of Media class had the opportunity to collaborate with the Emergent Media class. The Emergent Media Production class had the task of creating 360 videos and Augmented Reality projects.

- The goal was to research how students interact with and respond to new forms of media, specifically AR and VR, **and whether or not the students experienced presence.**

- To find the results we implemented surveys to gather data.

- The projects included in the surveys were chosen based on their ability to highlight the different uses of VR and AR.

Procedure

Step 1

- EMP class would create AR/VR content

Step 2

- The PPM class would watch the projects

Step 3

- PPM class would create online survey about the experience

Step 4

- Data was collected to see how students and others responded

Variables

Independent	Independent	Dependent
• 360 VR medium used for viewing videos. • Augmented reality projects via app on phone.	• Genre of video. • Characteristics of viewer. • Characteristics of viewing context.	• Strength of the feeling of presence. • Enjoyment. • Opinions about medium.

(Tele) Presence

A psychological state or subjective perception in which even though part or all of an individual's current experience is generated by and/or filtered through human-made technology, part or all of the individual's perception fails to accurately acknowledge the role of the technology in the experience. [ISPR 2000]

The user feels present in or connected to the people or things in the media experience.
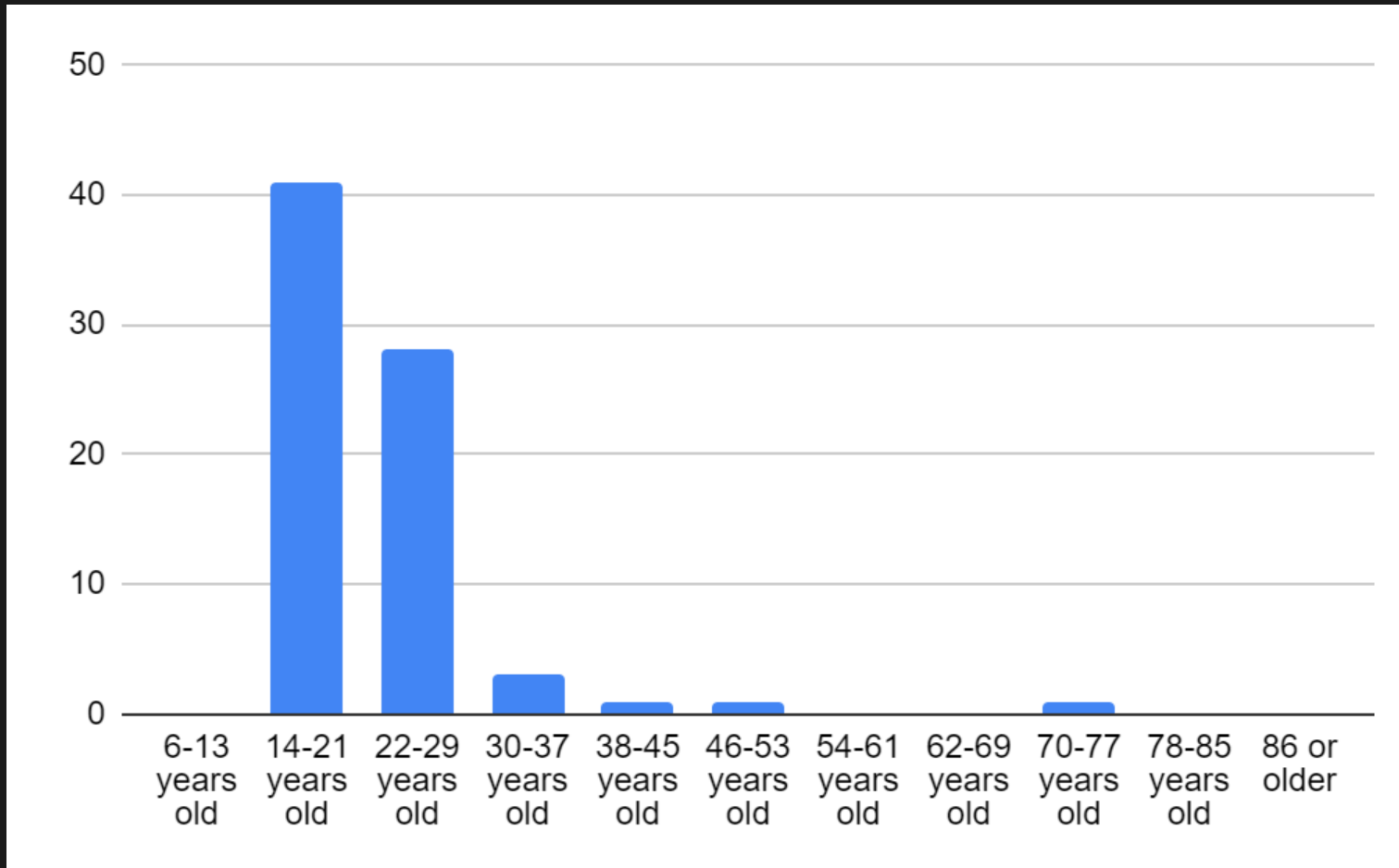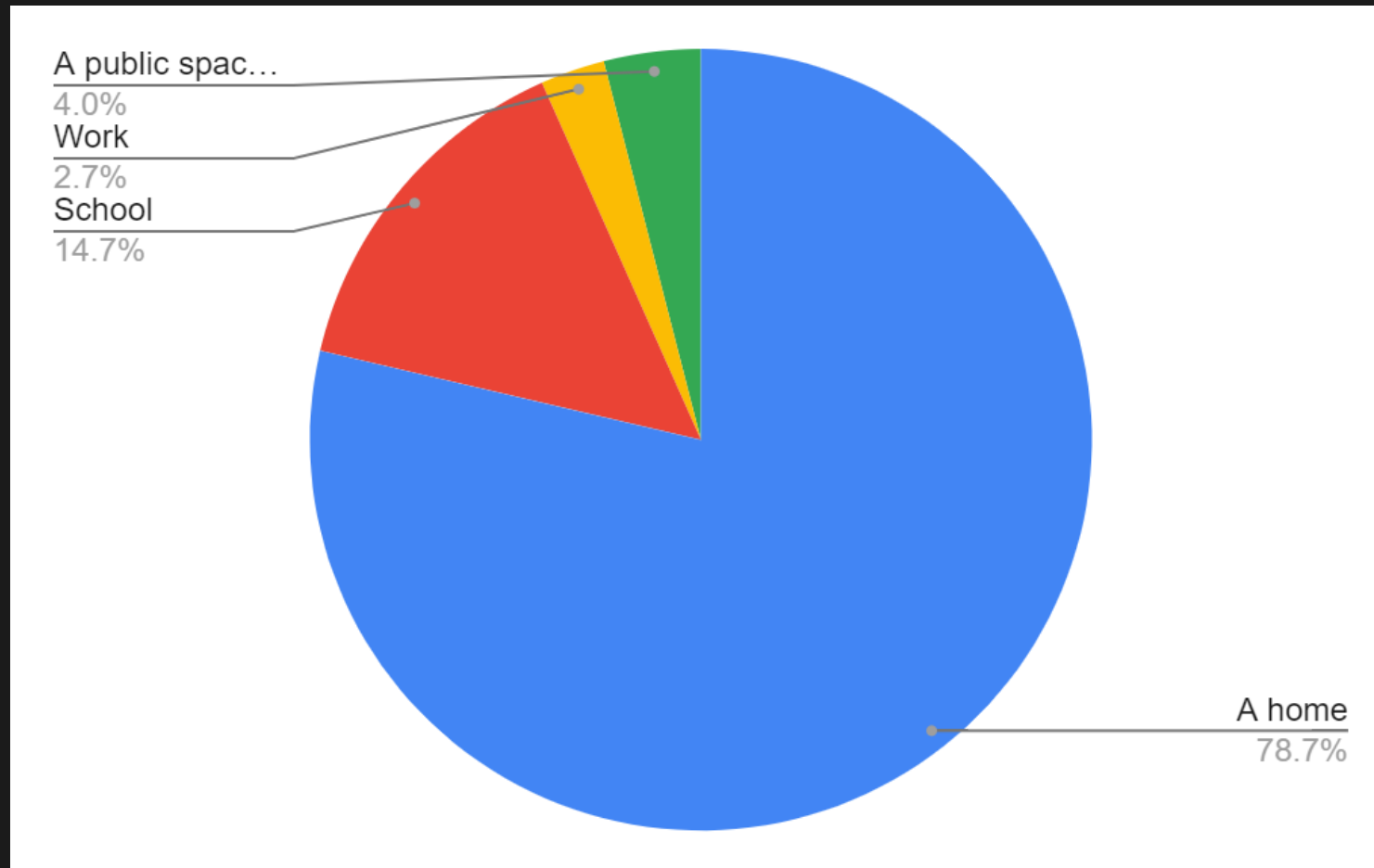
360 Video Projects
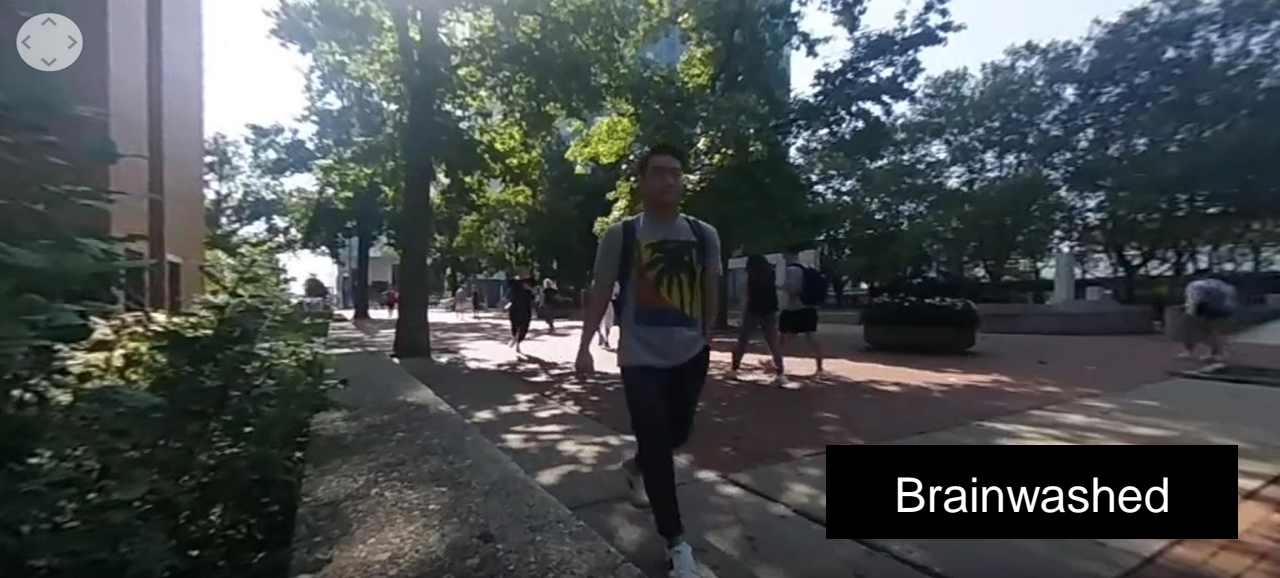
360 video experience (n=75)
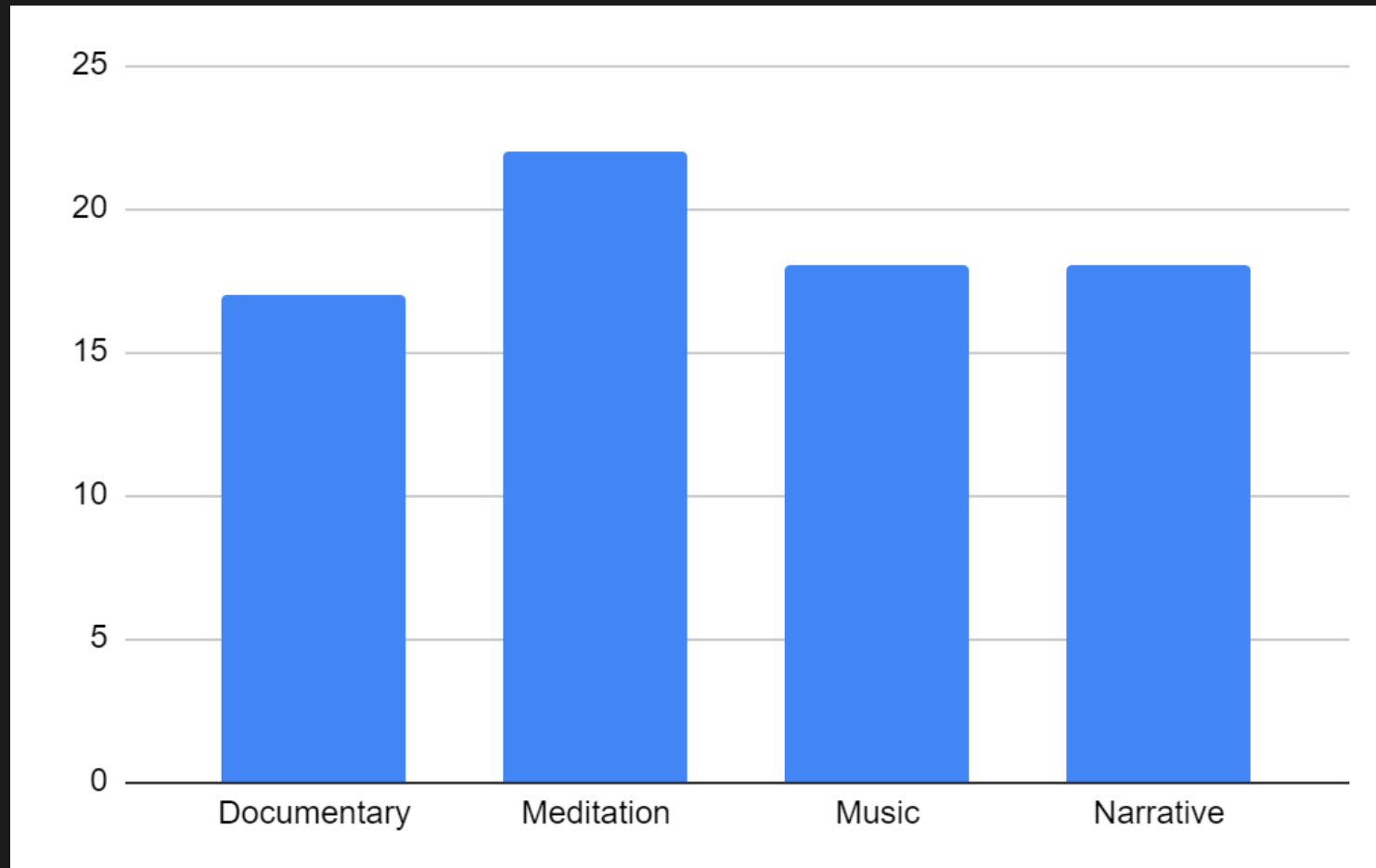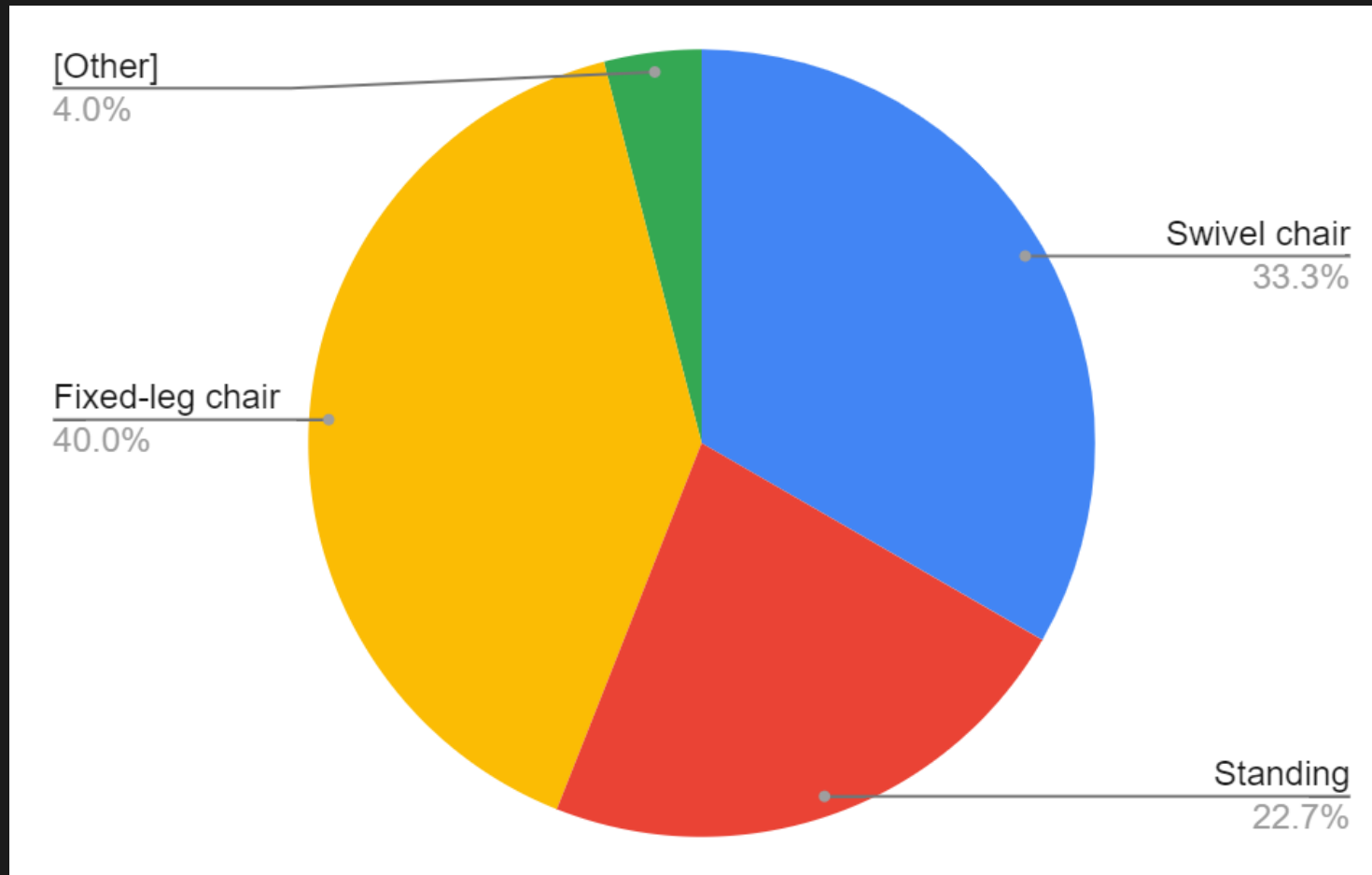
What is your gender? (n=75)
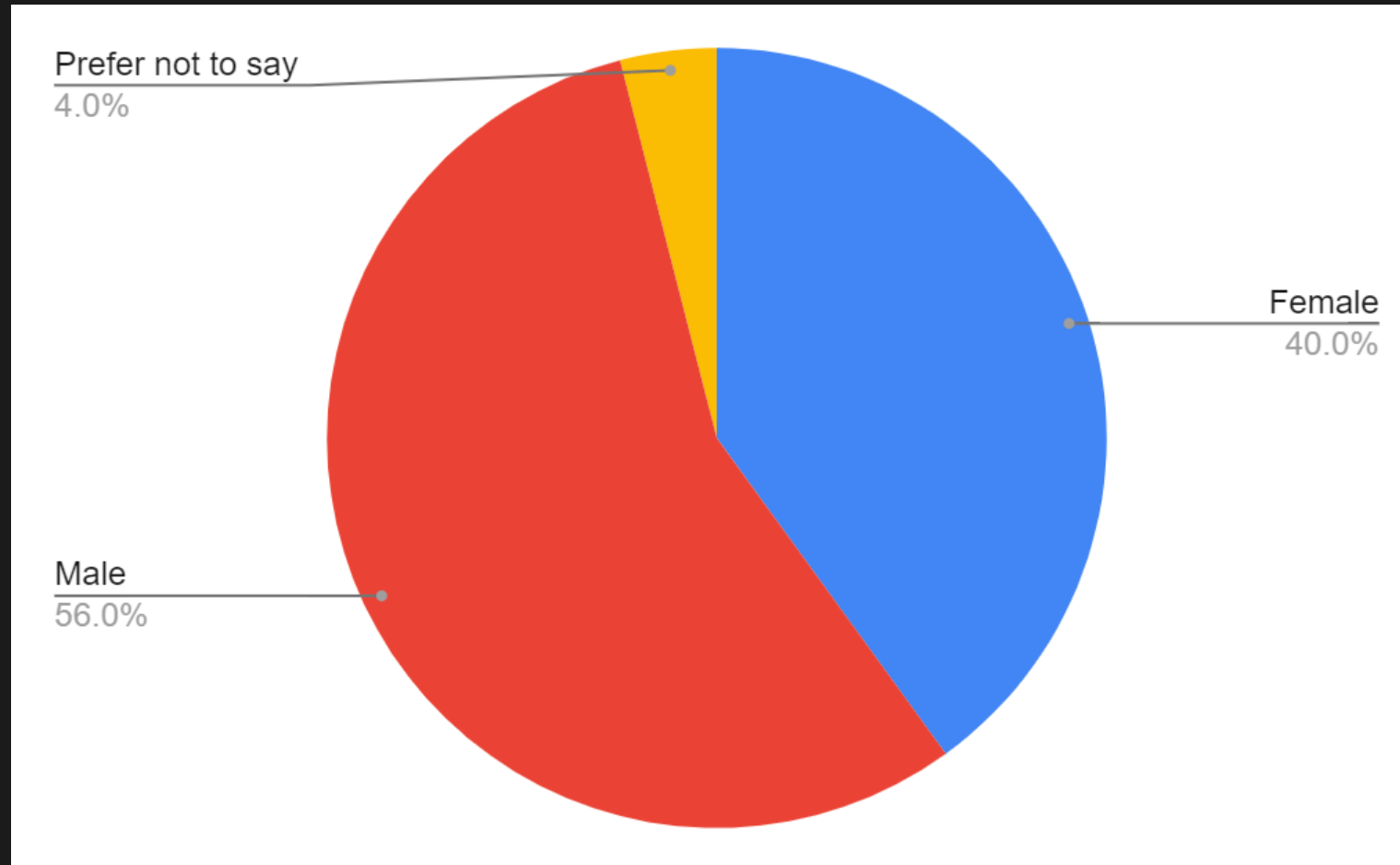
What is your age? (n=75)

Where will the viewing take place? (n=75)

A public spac…
4.0%
Work
2.7%
School
14.7%
A home
78.7%

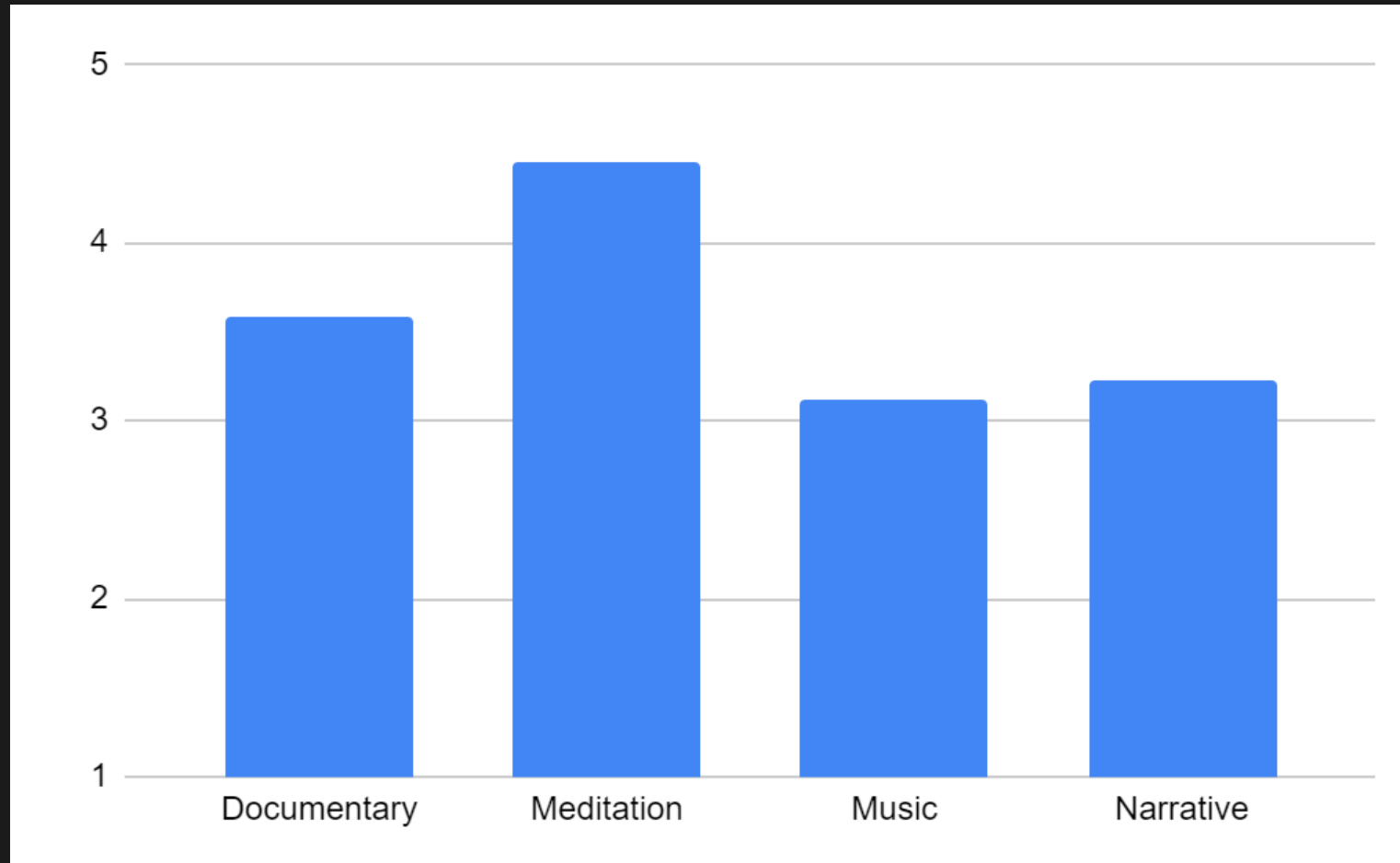# Audio source for VR headset? (n=75)
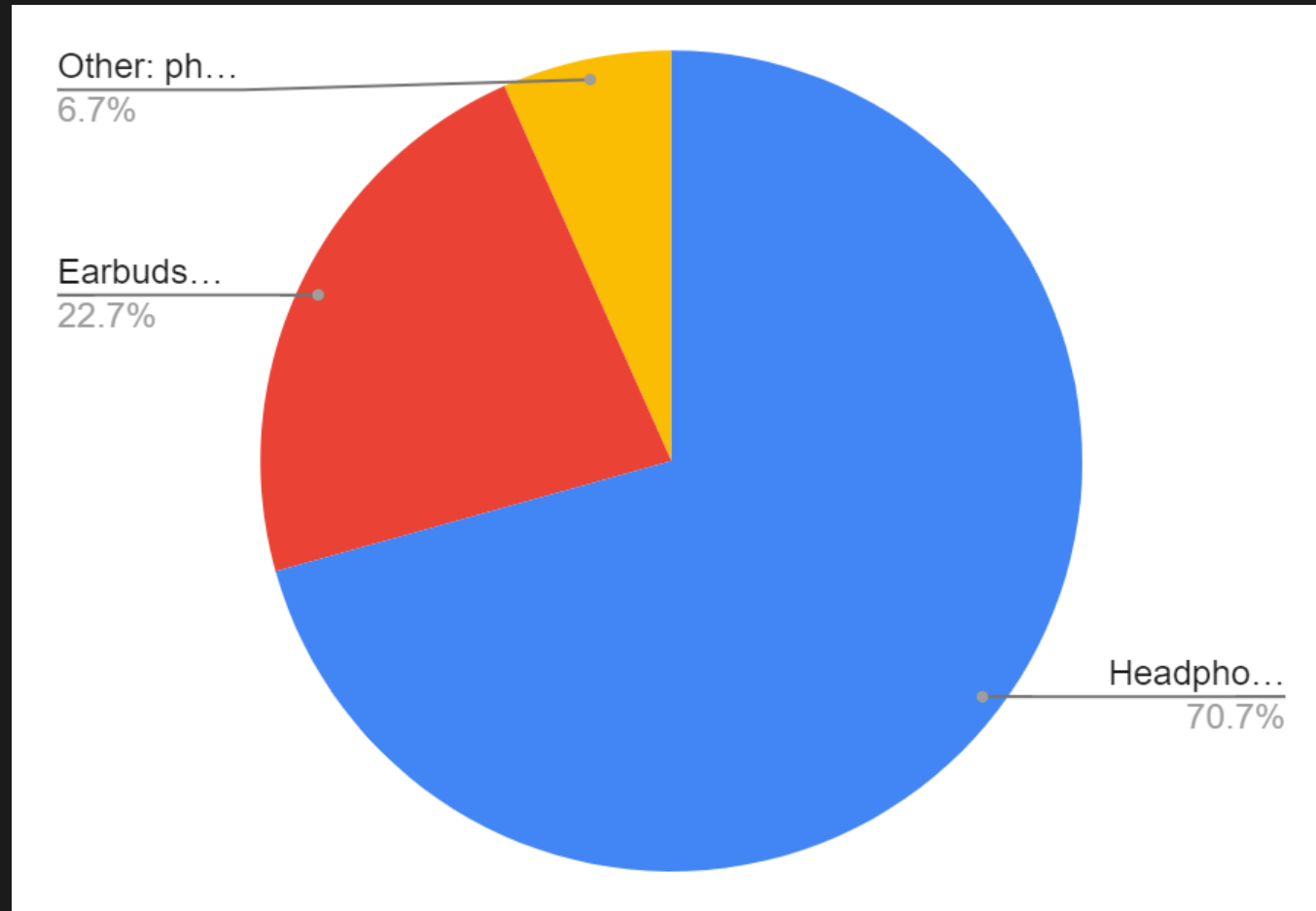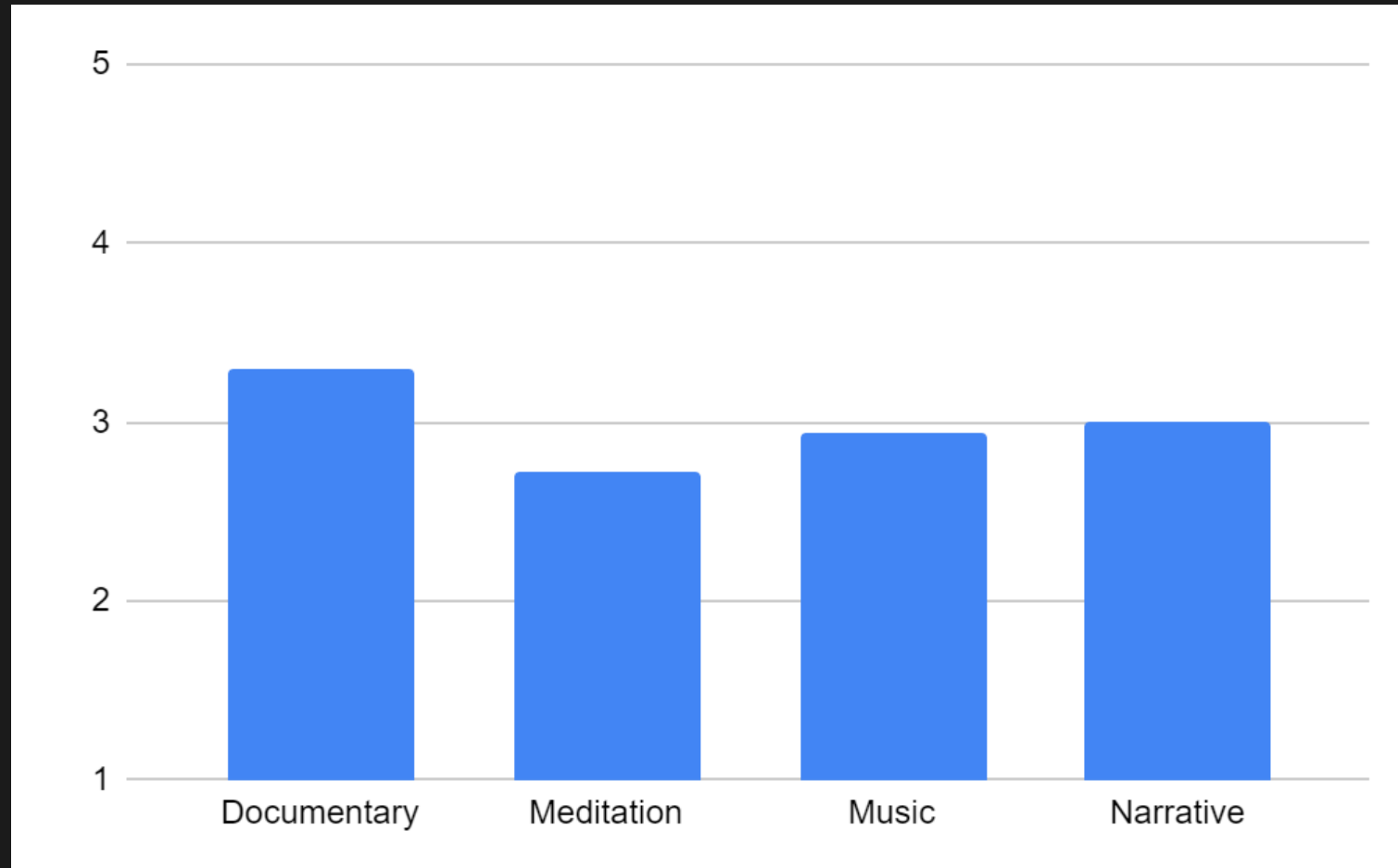
Standing/sitting for VR headset? (n=75)
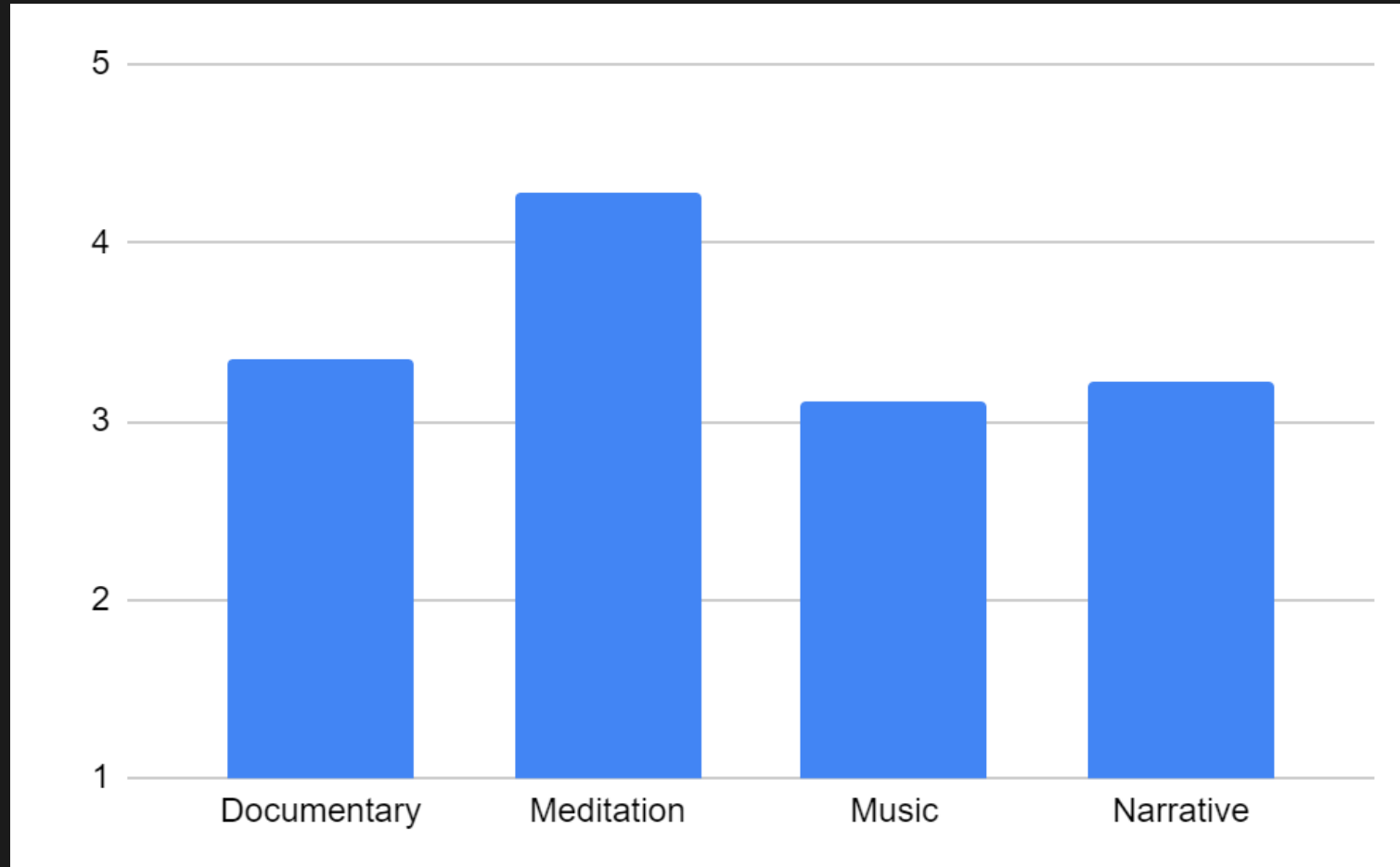
Presence Responses

How much did it feel like you were in the SPACE OR ENVIRONMENT of the video?
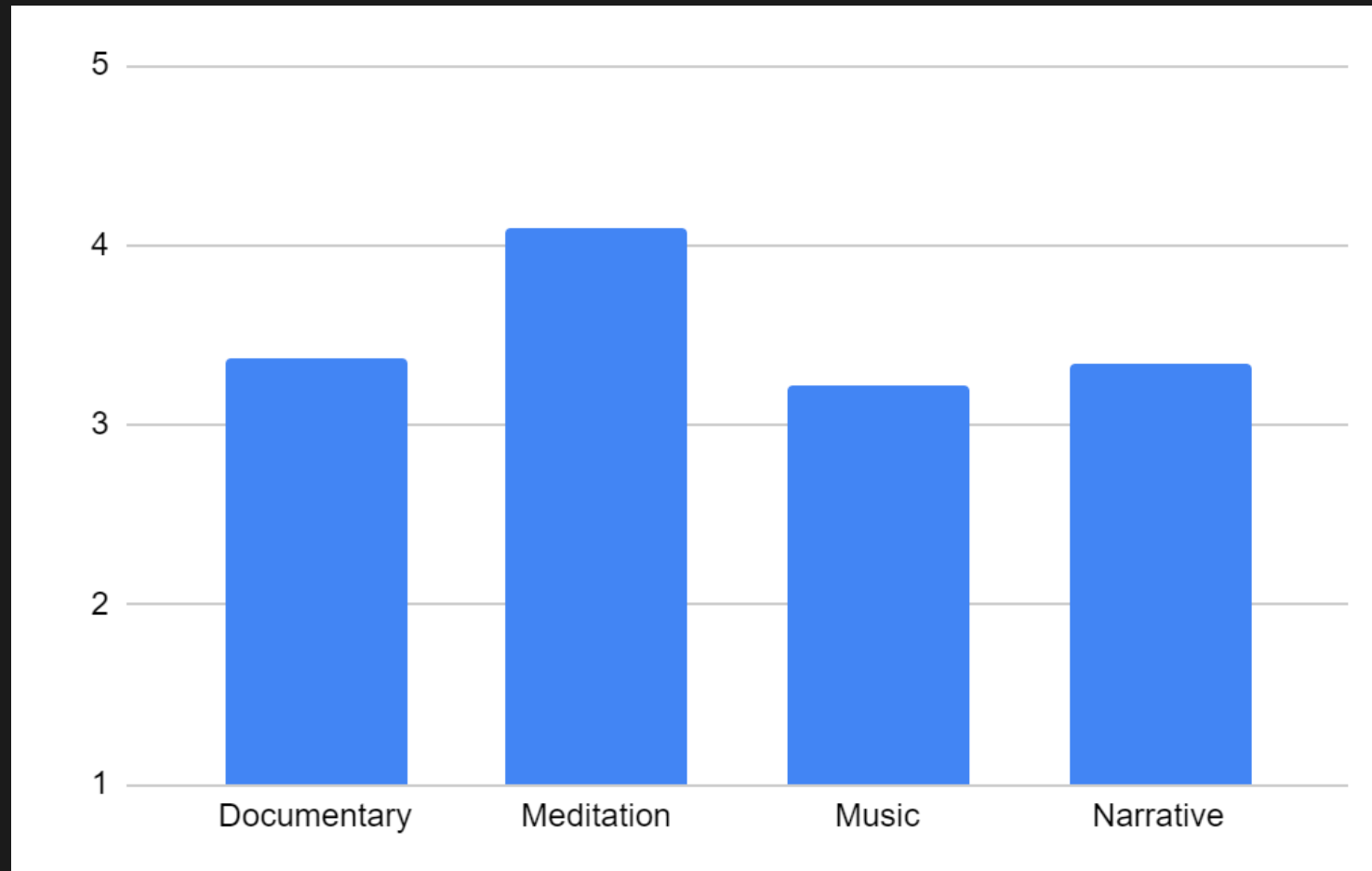
# How much did it feel like you were actually with the PEOPLE who were in the video?

How much did it feel like you WENT somewhere else or the people or things in the video CAME to you?

How much did it feel like you were PHYSICALLY IMMERSED, that your senses were completely occupied by the places, people and things in the experience?
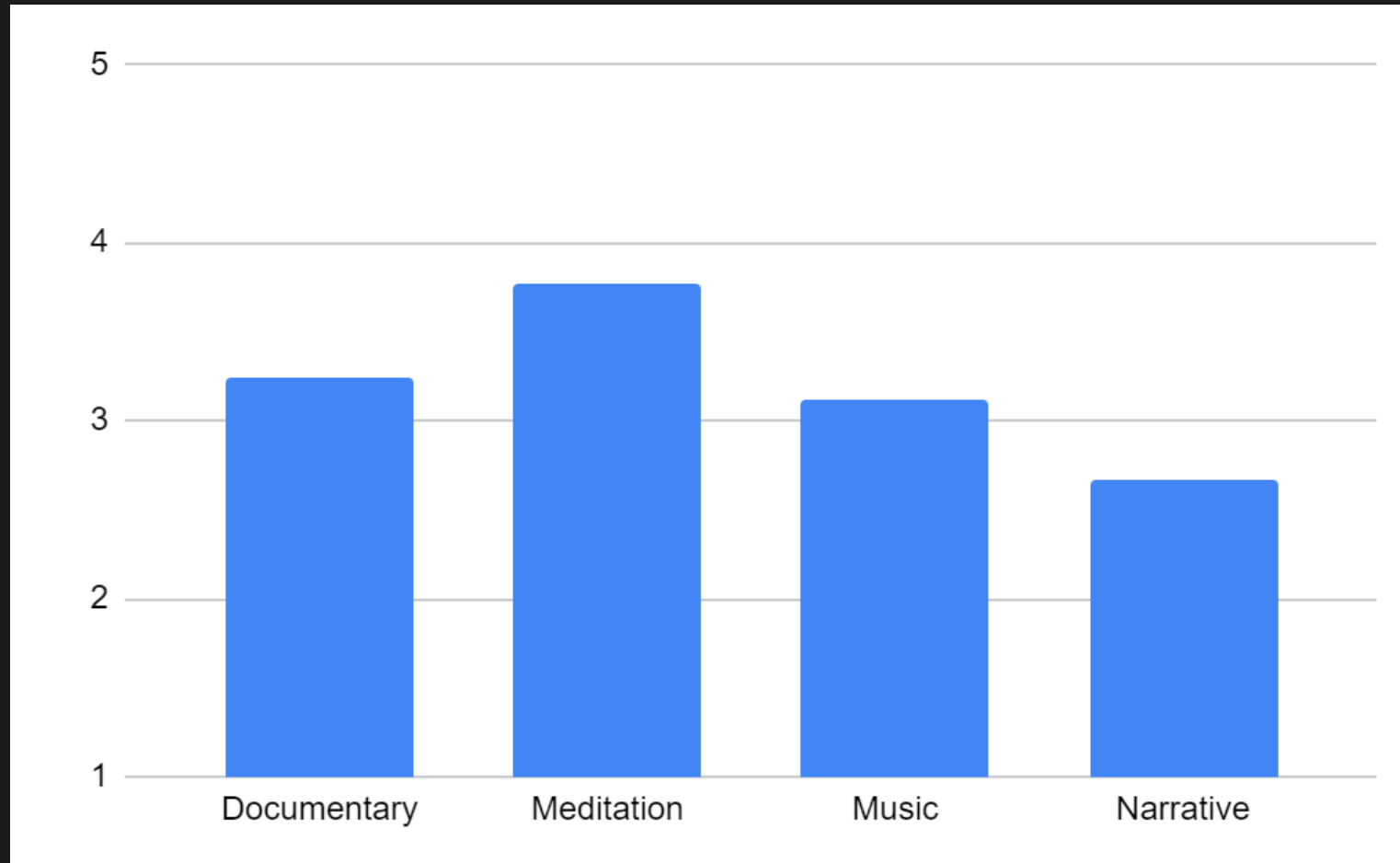
How much did it feel like you were MENTALLY IMMERSED, that your attention and thoughts were completely focused on or absorbed in the experience?
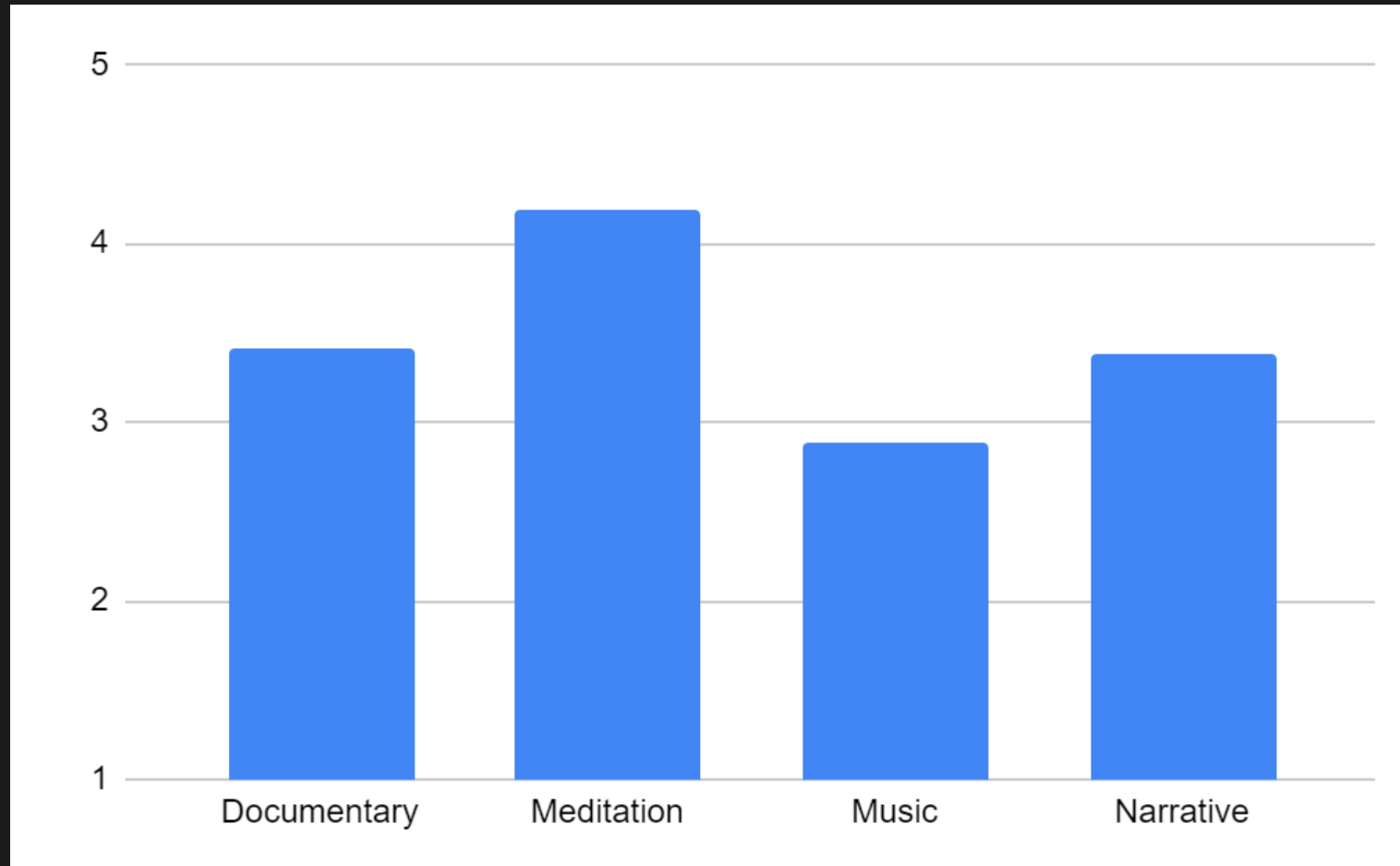
Overall, how much did the things and people in the video LOOK and SOUND like they would if you had experience them directly?
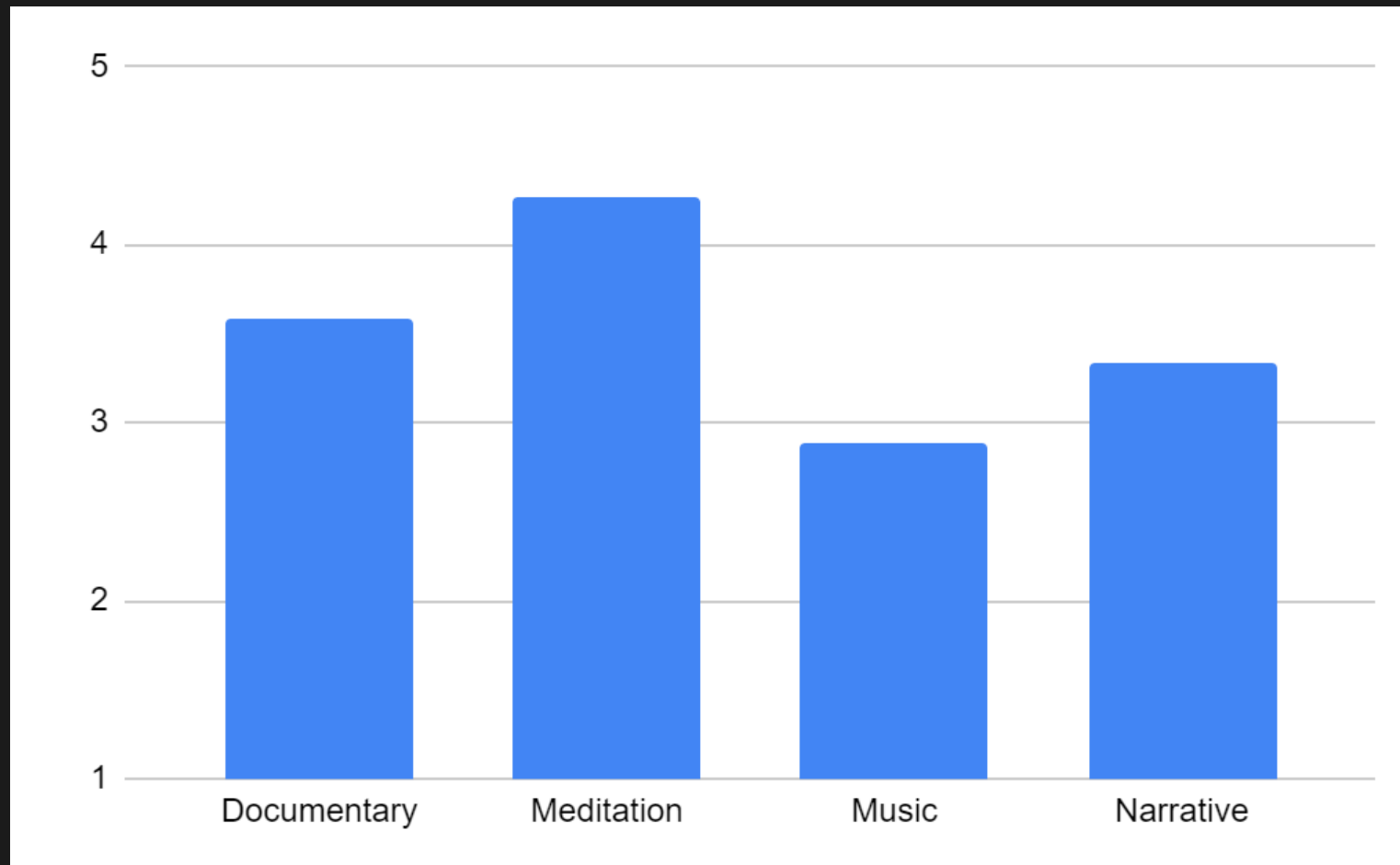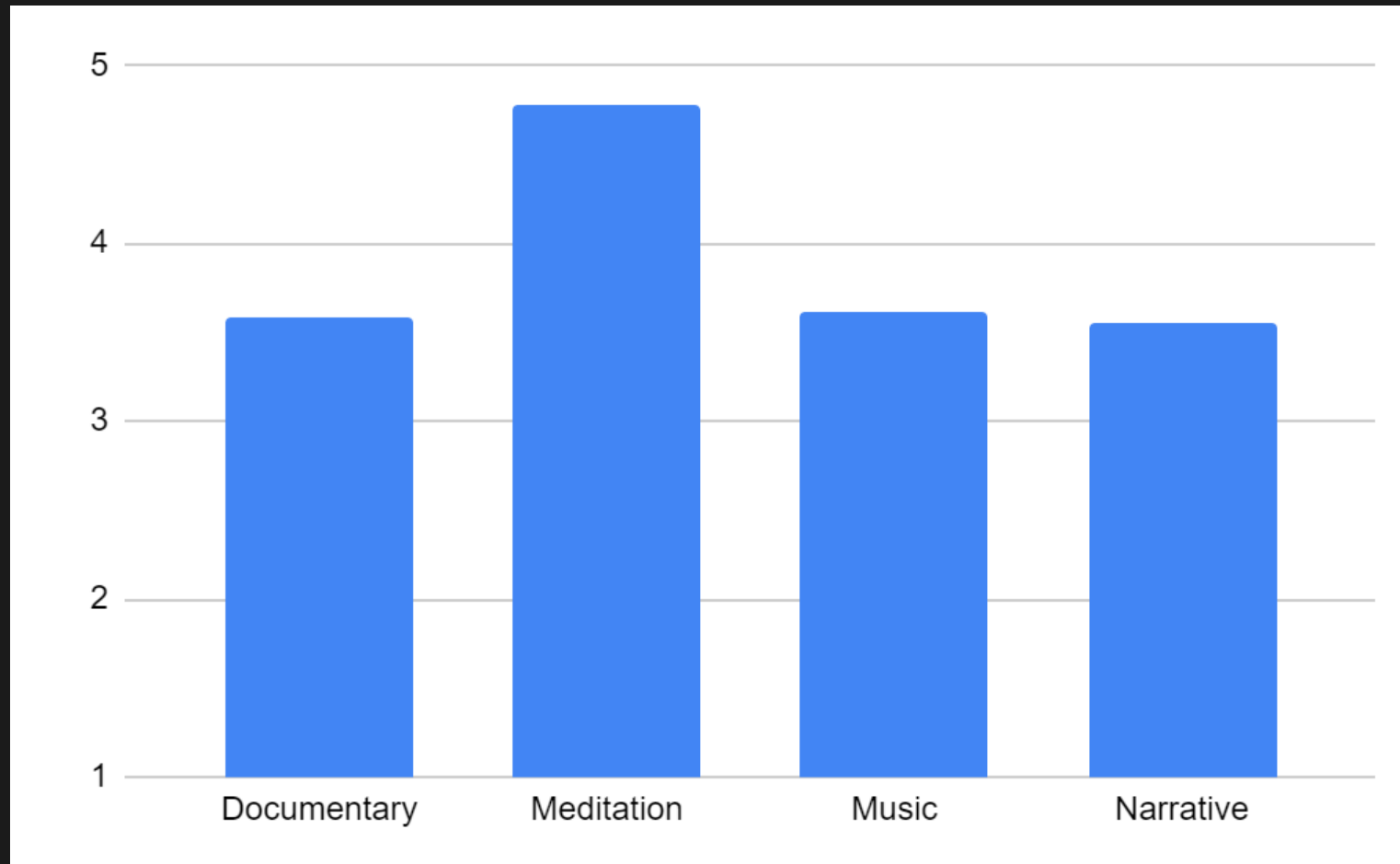
How disconnected from your actual location did you feel while you watched the video?
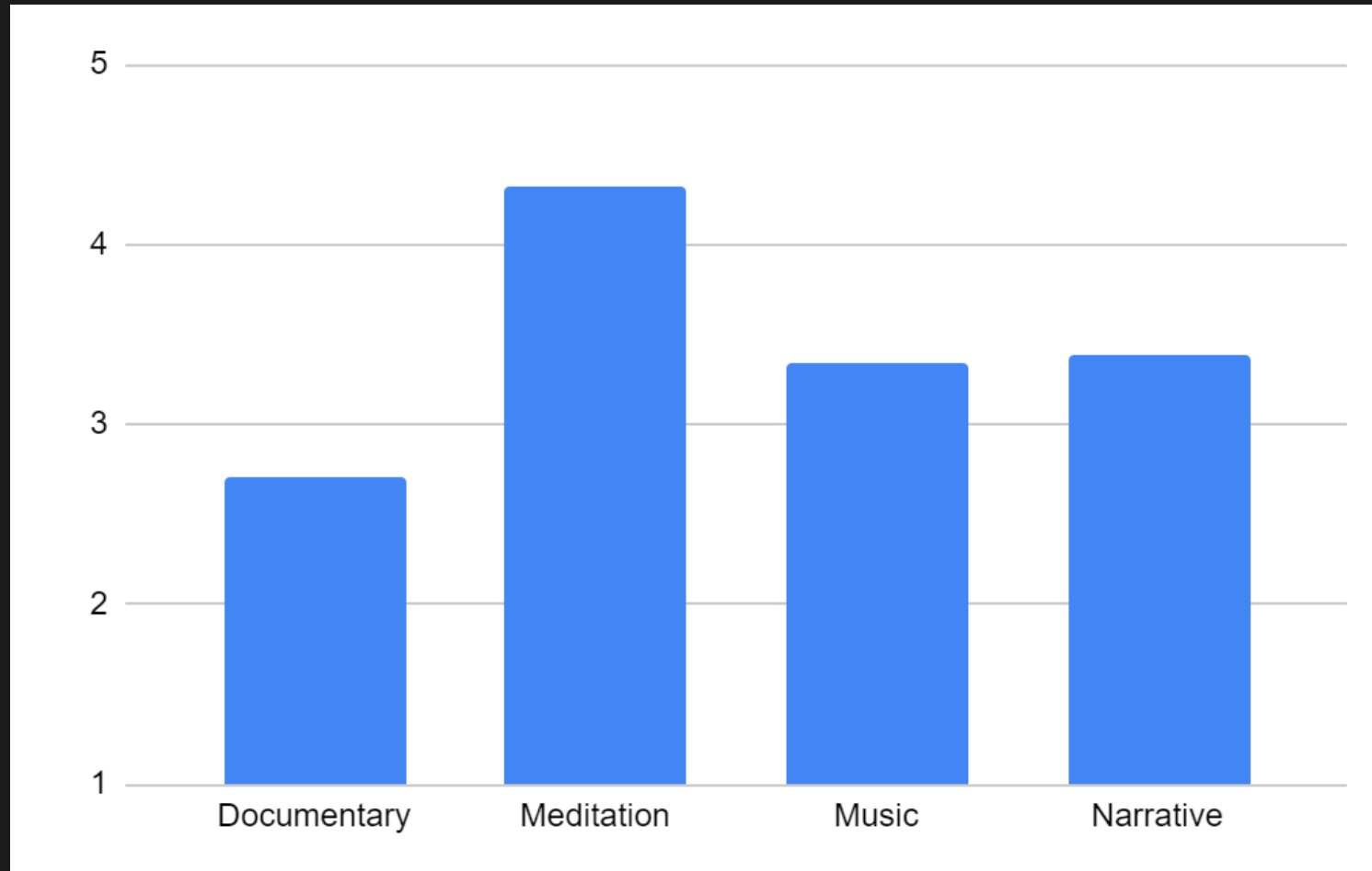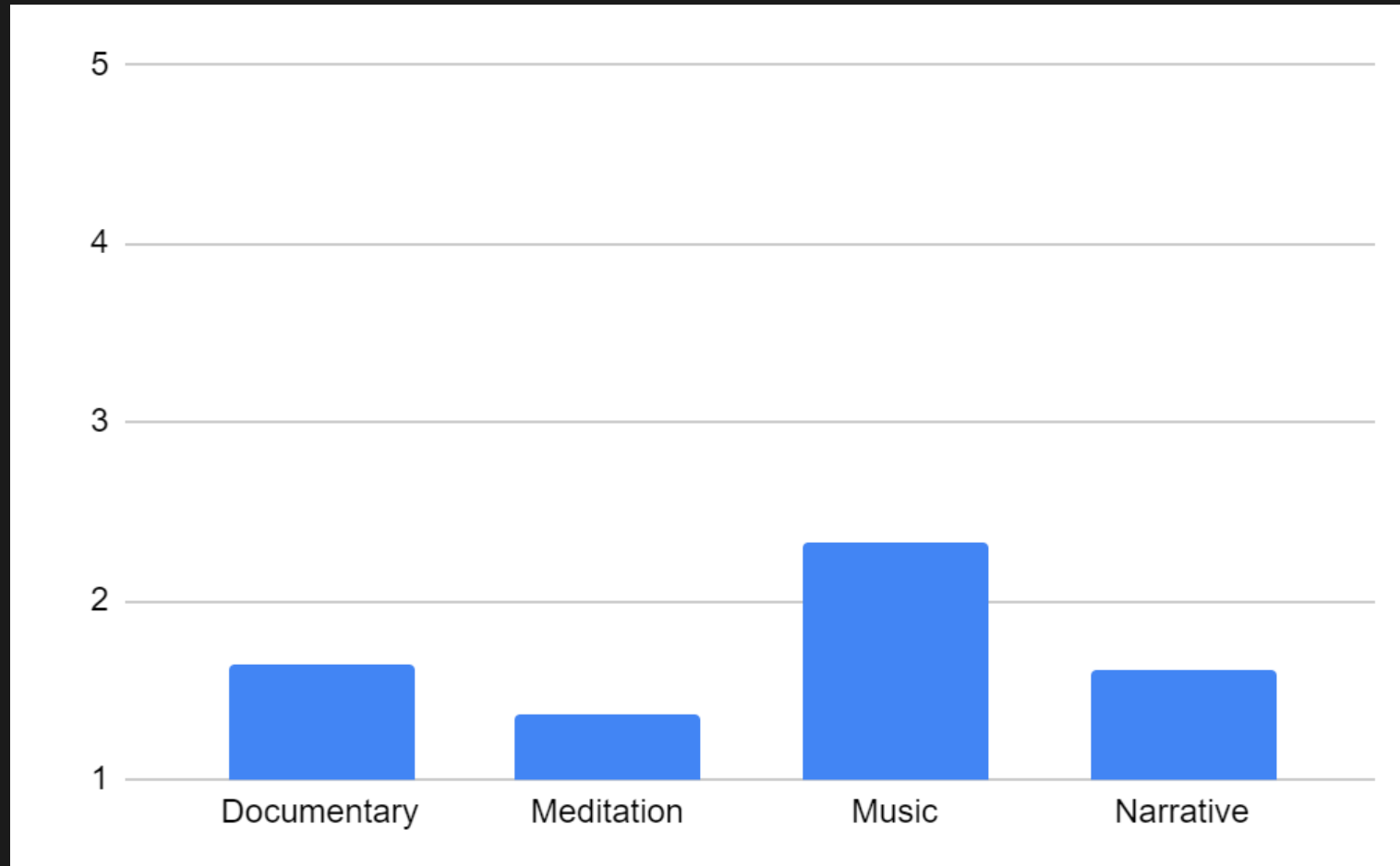
Other Responses
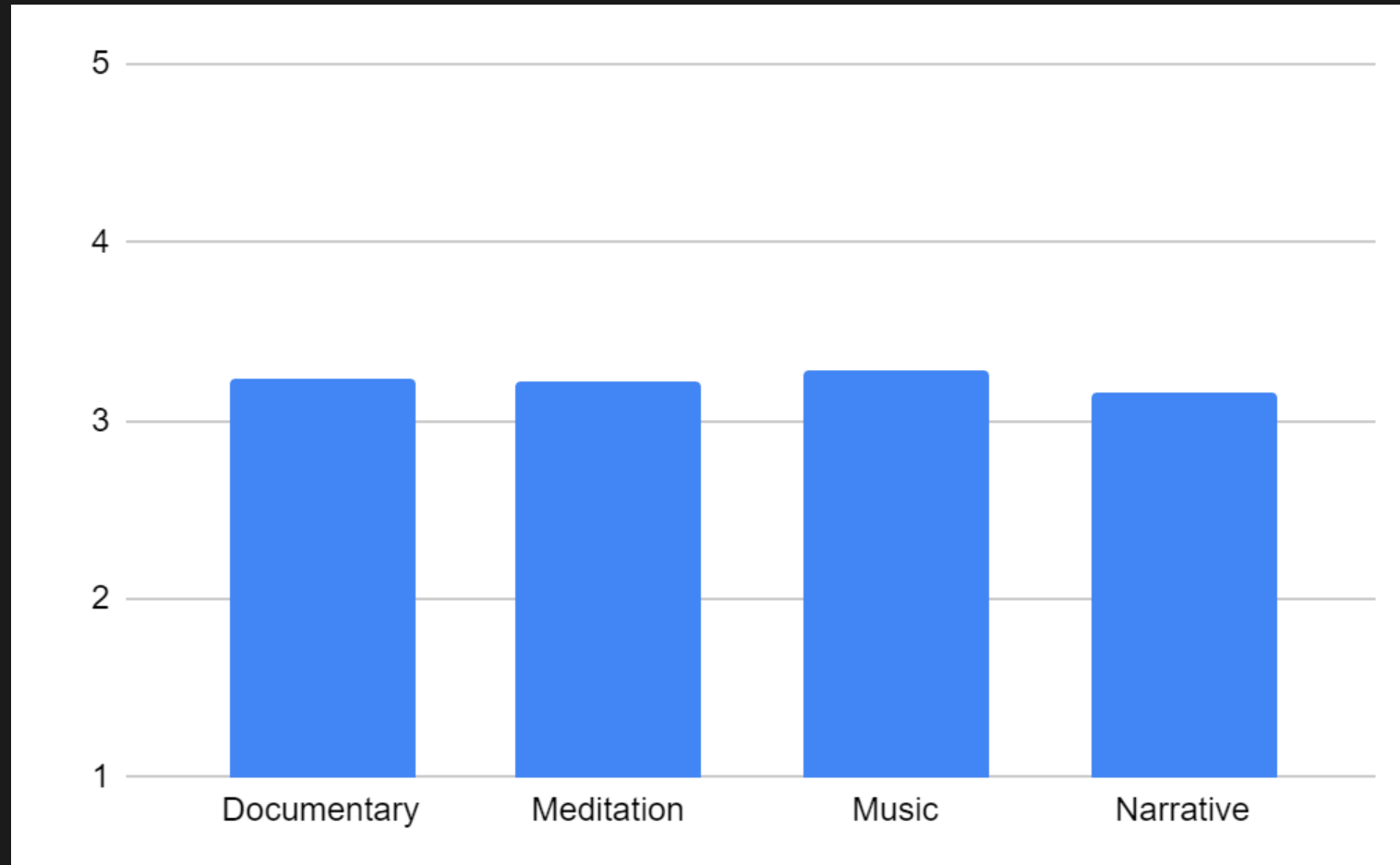
How much did you enjoy watching the video?

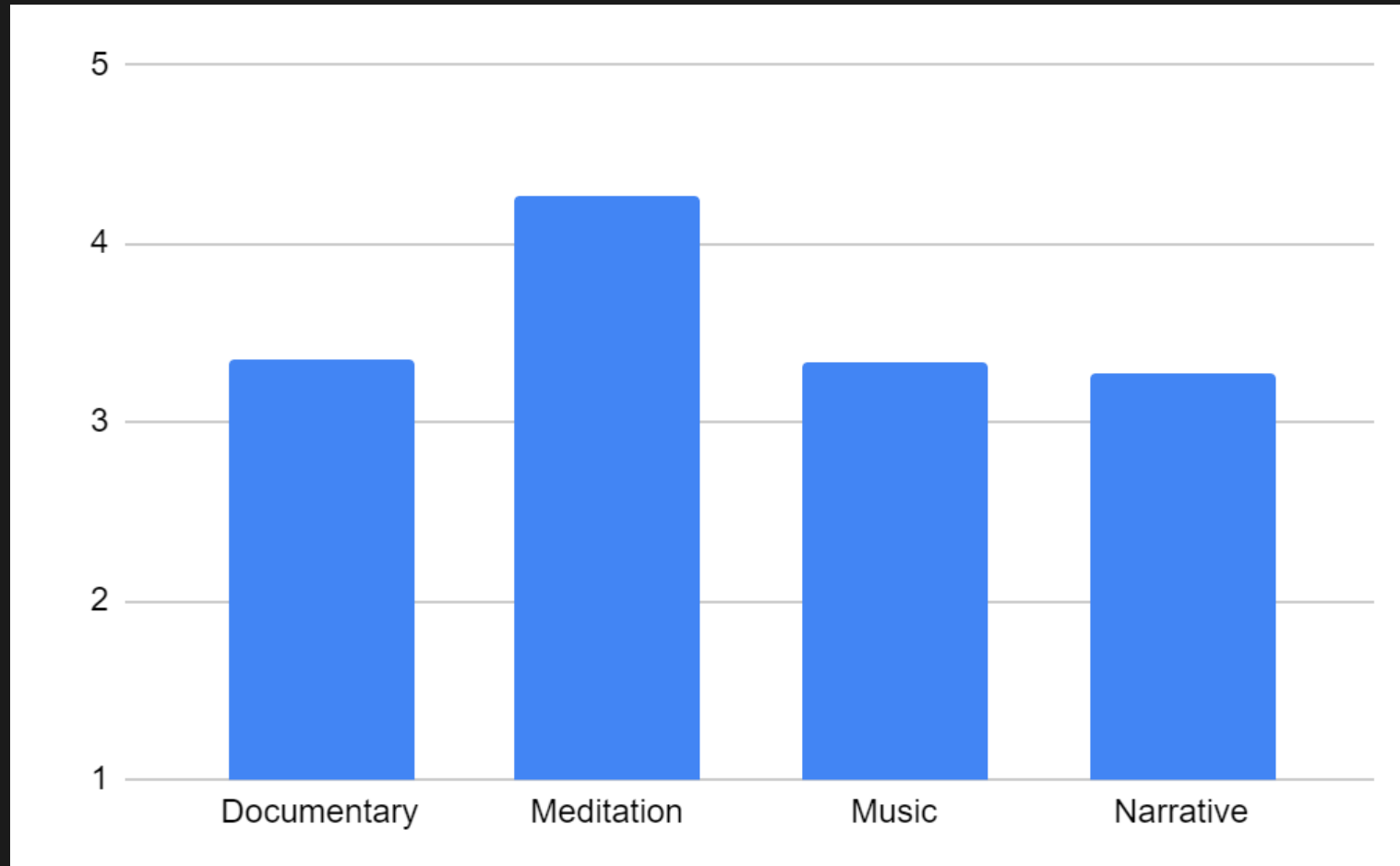# How hard or easy was it to figure out where you should look?

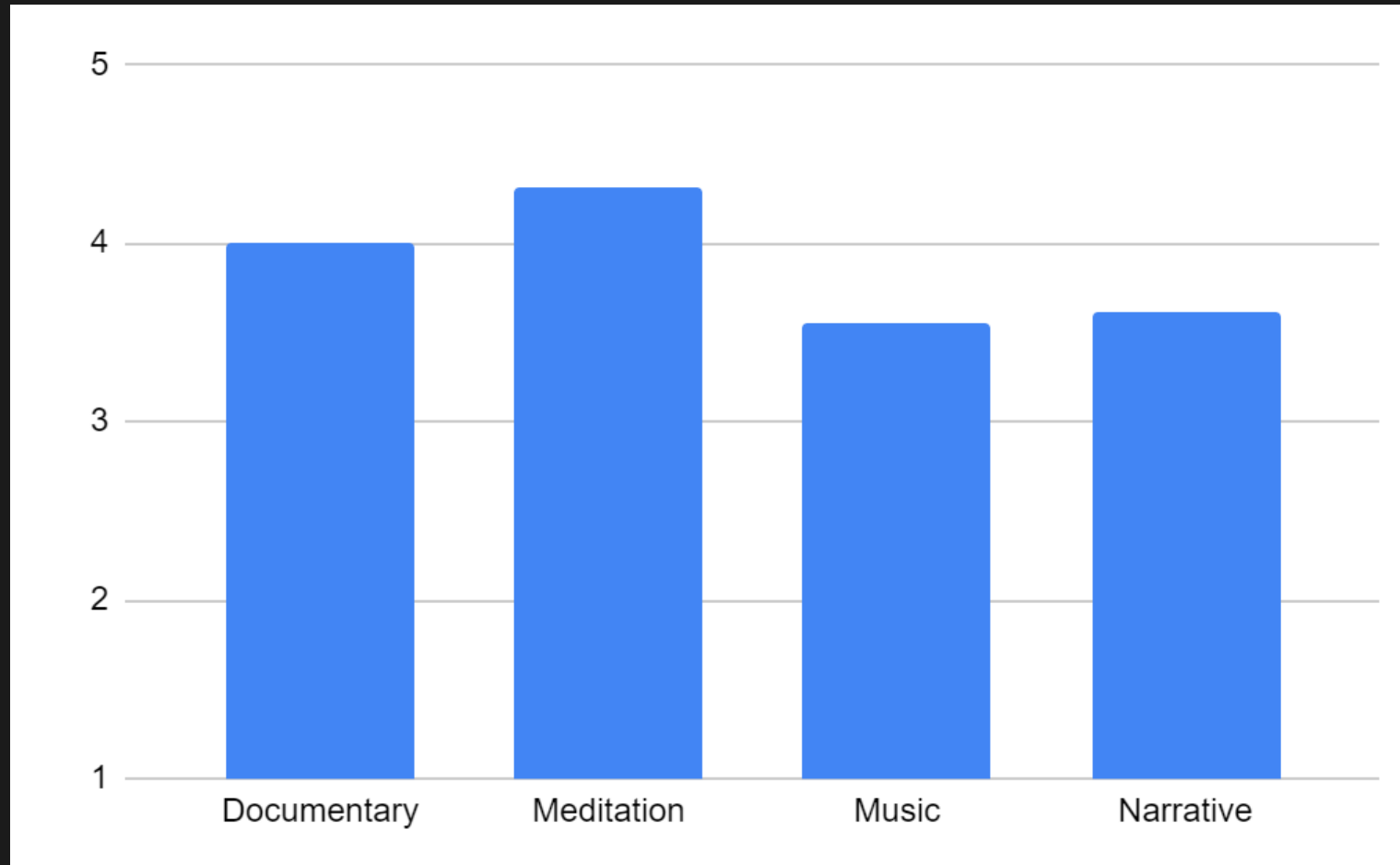# How much motion sickness did you experience?

# How comfortable was it to wear the headset?

How much do you think the use of the 360 degree video format instead of a regular non-360 format for this video made your overall viewing experience worse or better?

How did the 360-degree format affect how much you felt like you were in the space/environment of the video?
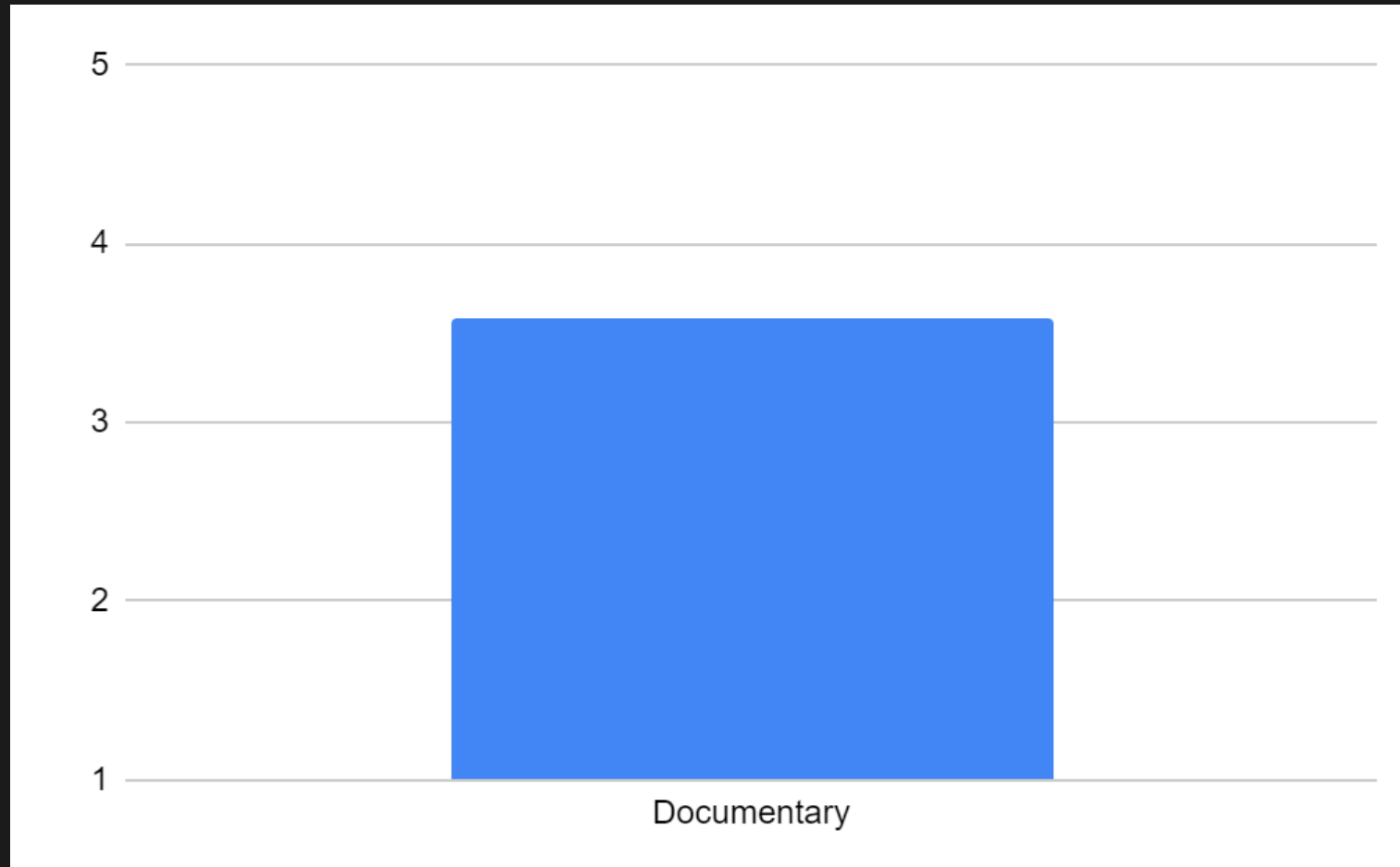
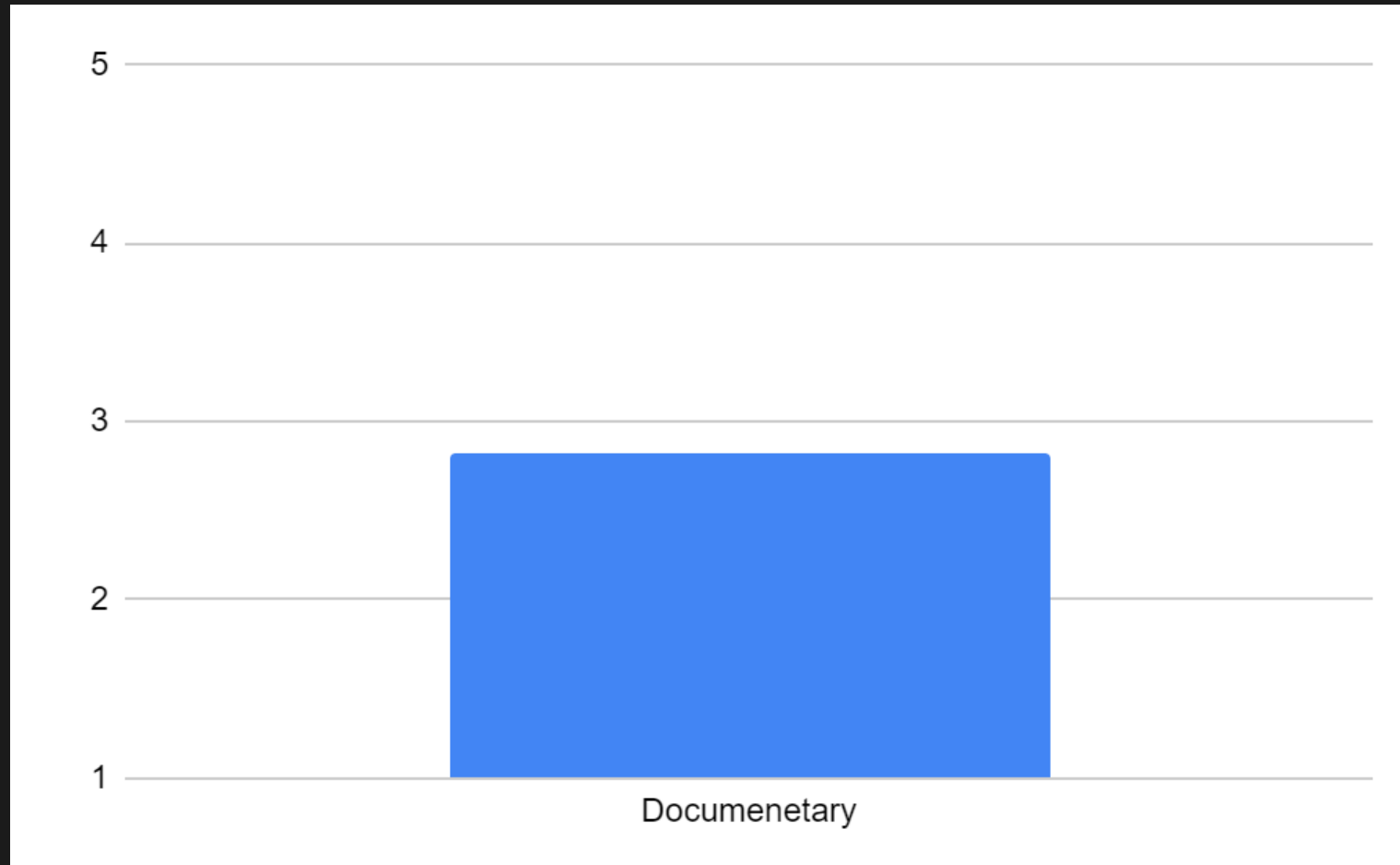# How much would you like to watch more 360-degree videos in the future?
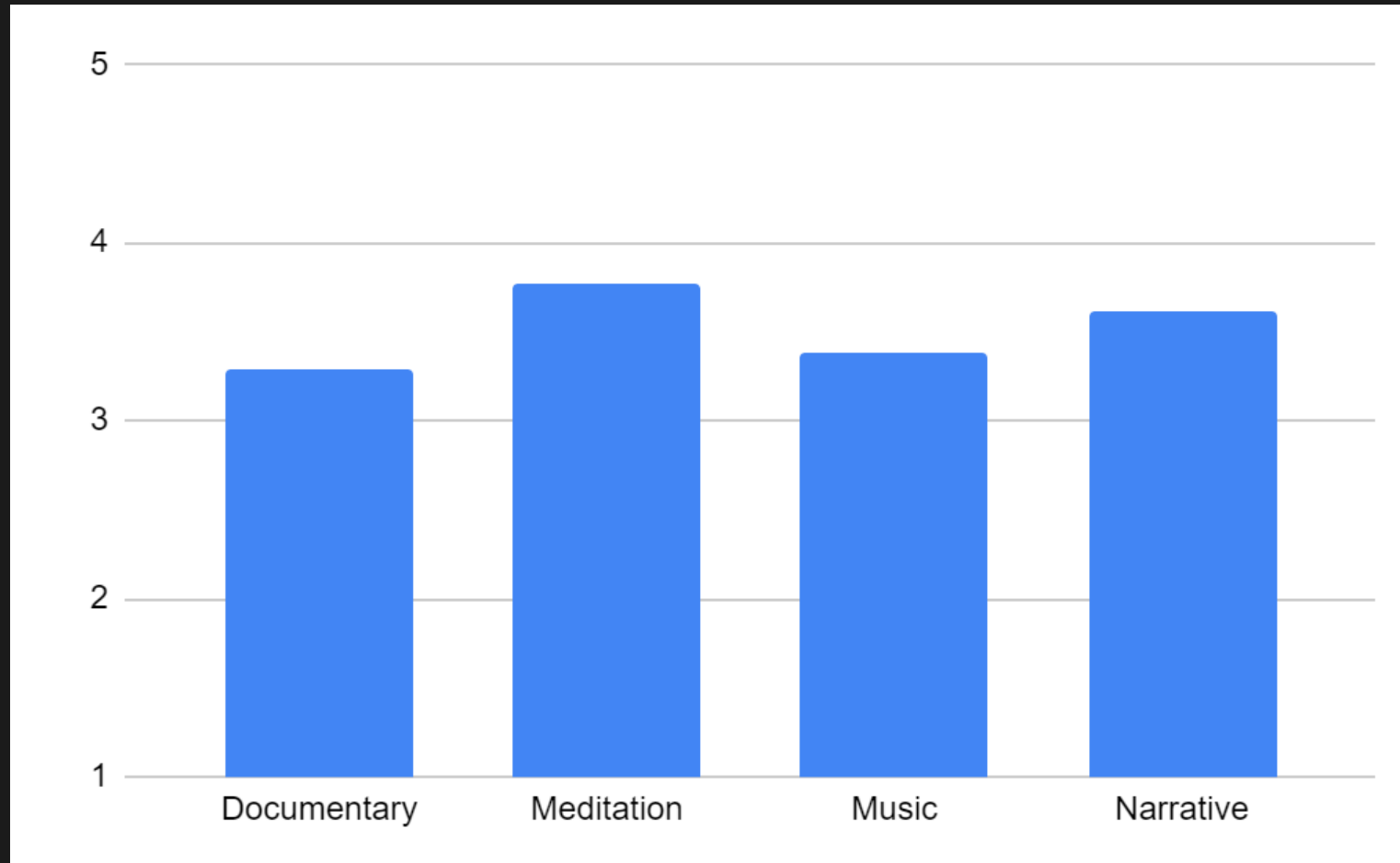
Video-specific Responses

Including Open-ended Question Responses

# How did watching the video affect your interest in environmental issues?

How did watching the video affect the likelihood that you will take some kind of action on environmental issues?
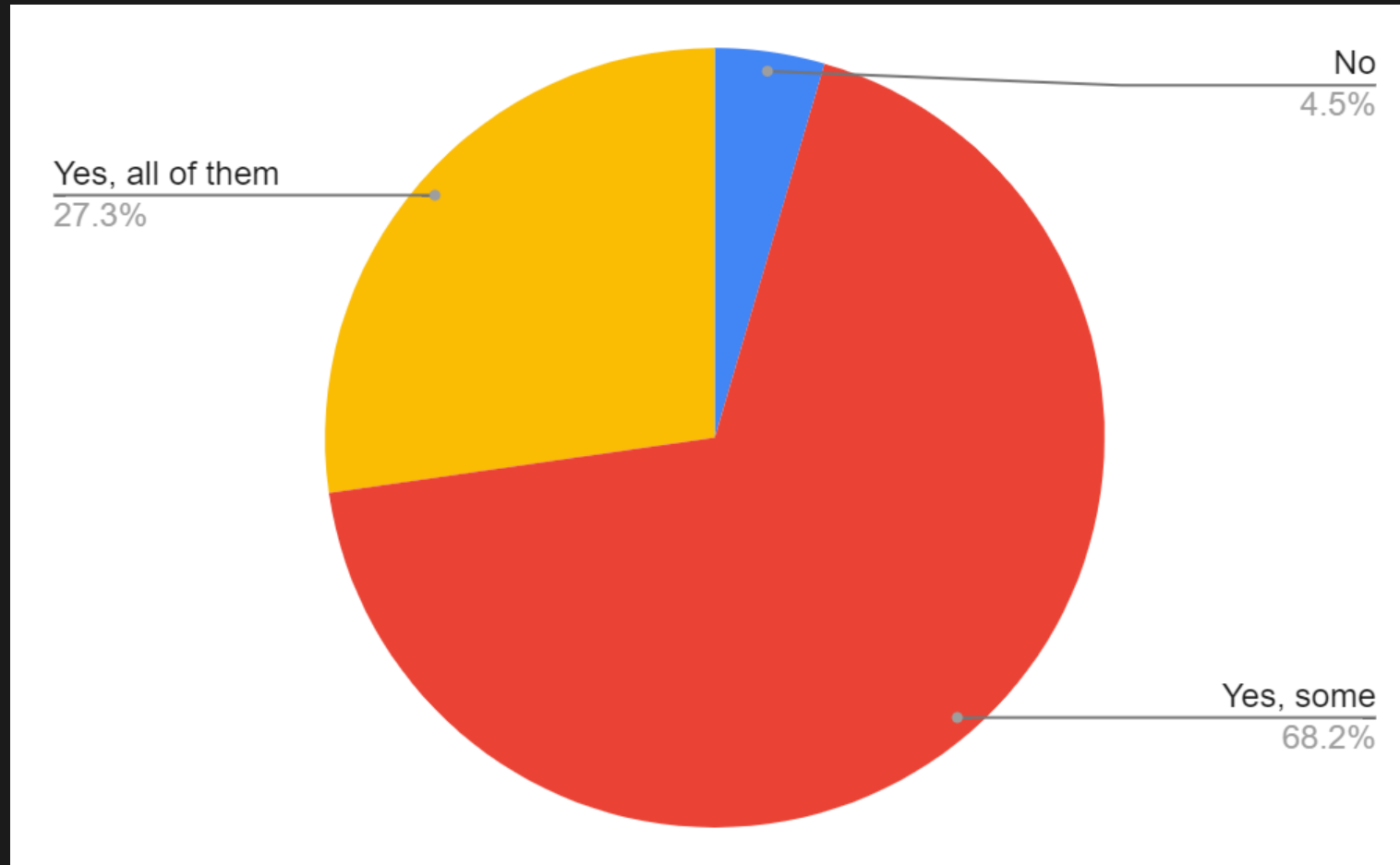
Noteworthy Responses for the Documentary Video:

1. It was interesting but i felt like i was turning around a bunch to see who was talking and to see what else was in the video.

1. I really liked the beginning of the video when the viewer was taken to each location but once the video shifted to just use the google screen and flyers it took me out of the experience.

1. It was an interesting experience, I felt like it was easy to tell where to look even though there was no direction

1. Difficult to know where to look at times, multiple ppl staring at cam idk who to look at

# How stressed or relaxed did you feel after watching the video?
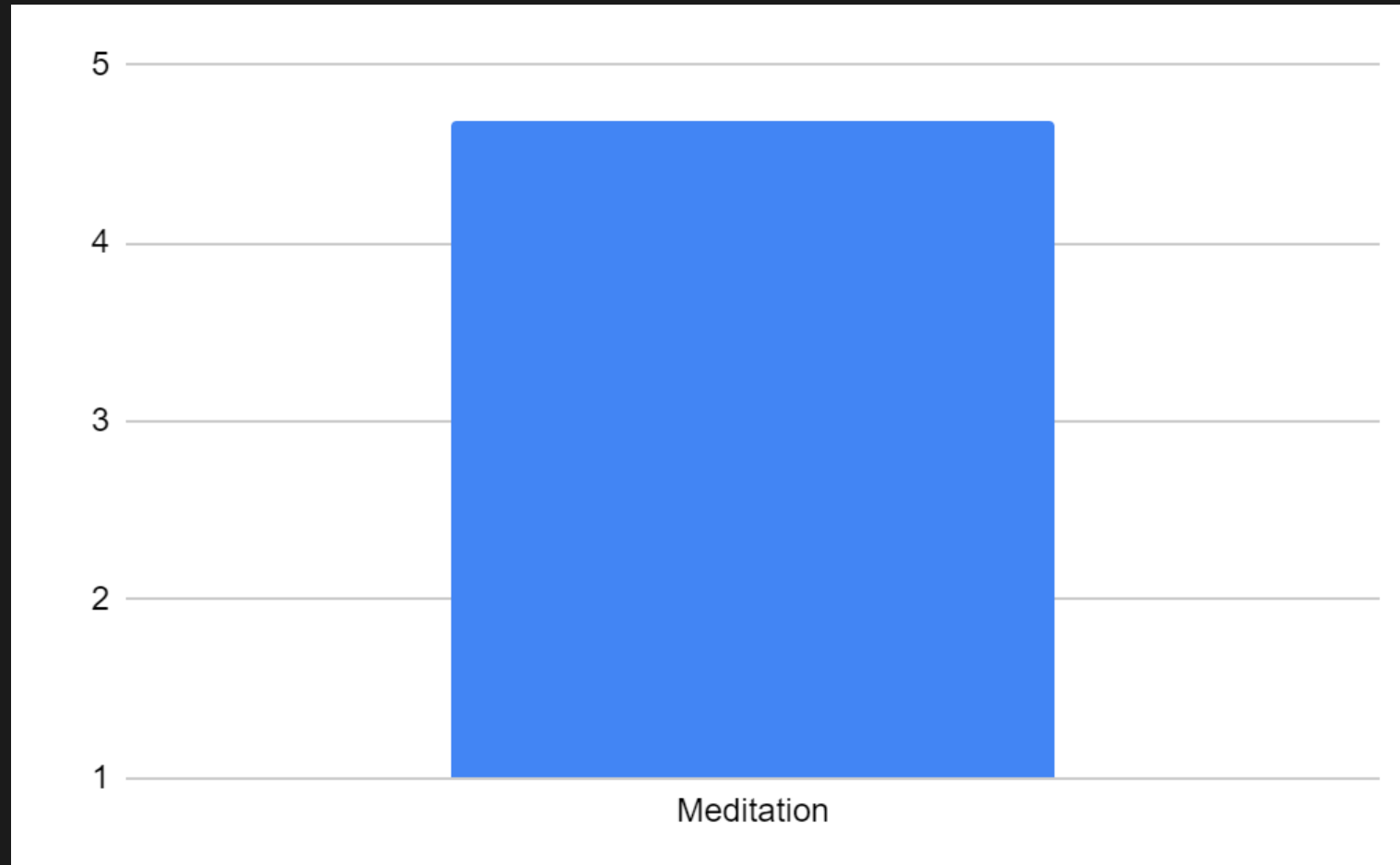
# Did you do any of the relaxation exercises while you watched the video?

Noteworthy Responses for the Meditation Video:

1. The sounds of nature were a nice touch. Flowing water sounds complimented the immersive experience

1. I really enjoyed the view of being plopped right into nature.

1. Scenery worked well as far as aiding relaxation

1. I was stressed over a class project before watching and i calmed down a little more after watching

How much of the time did you spend watching a specific dancer versus exploring the 360 degree setting of the video?
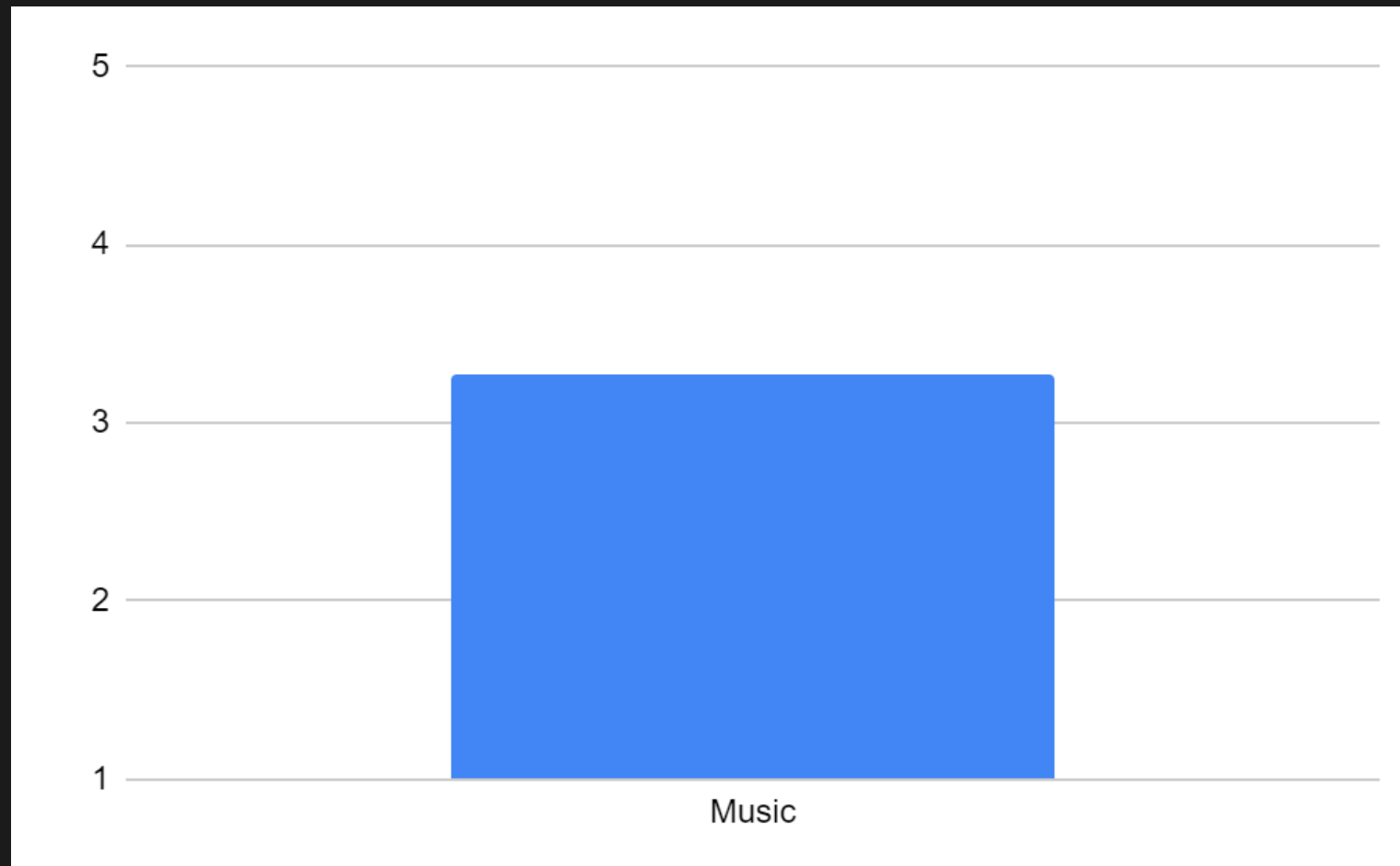
How did the viewpoints provided by the camera affect your enjoyment of the video?
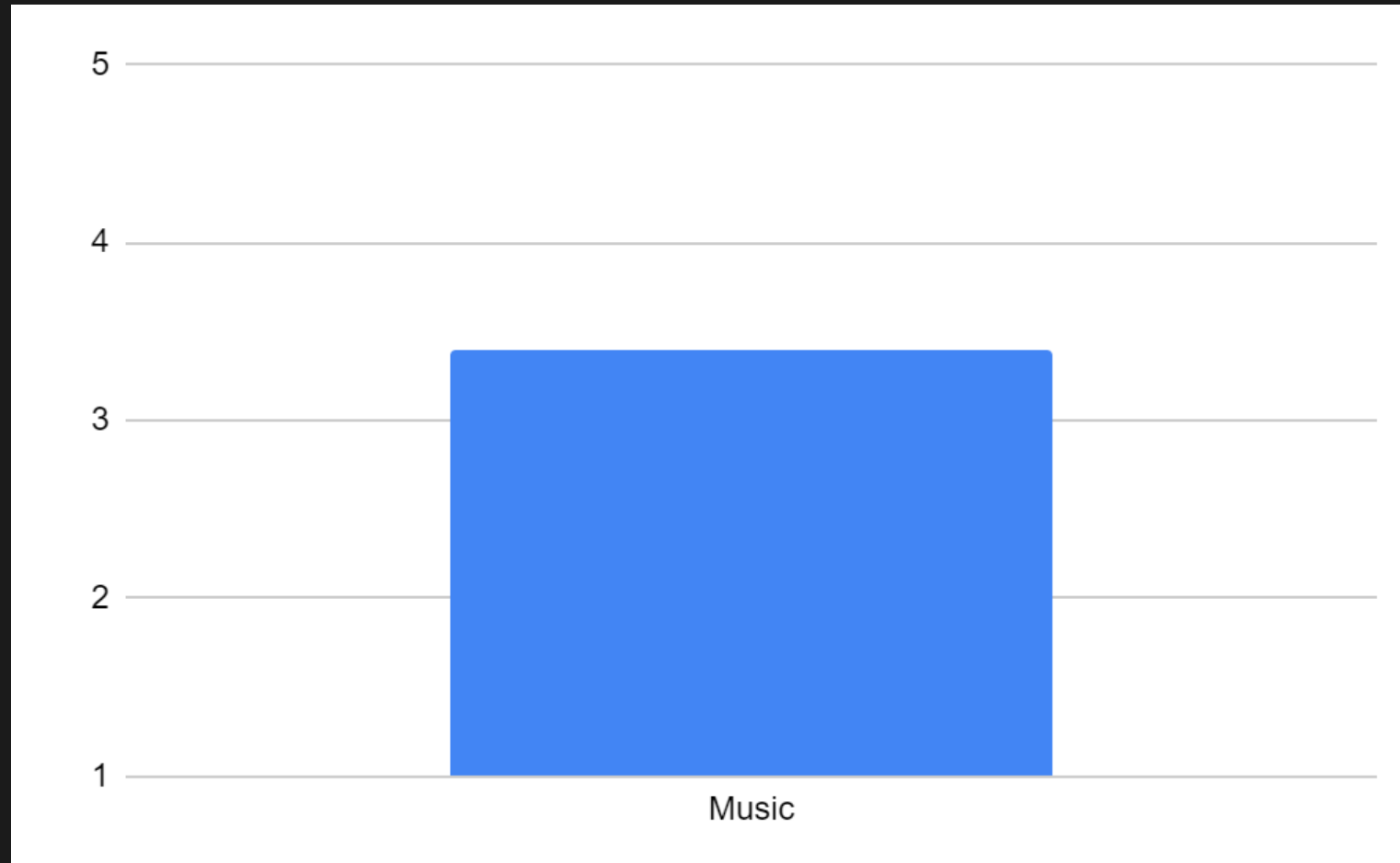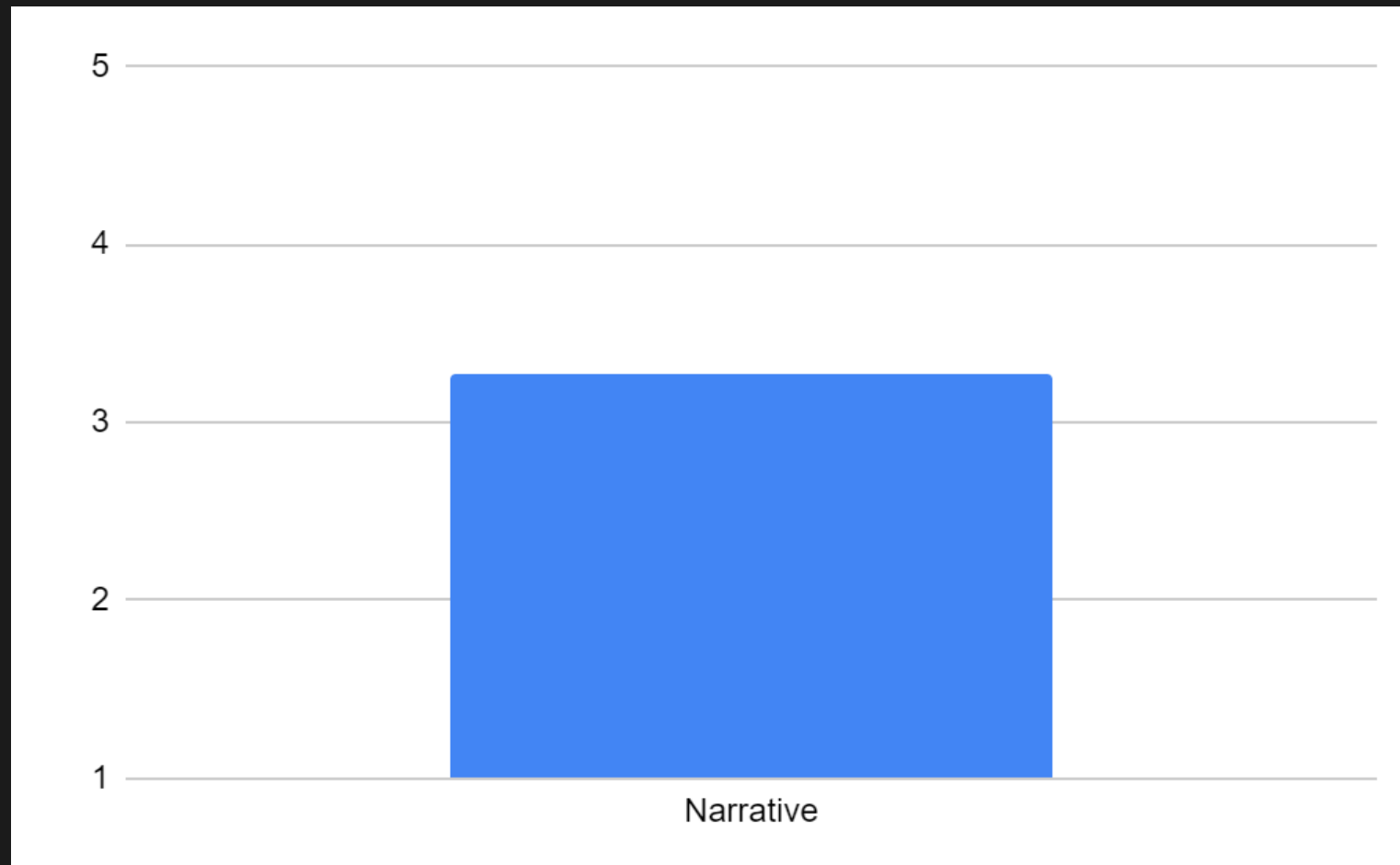
Noteworthy Responses for the Music Video:

1. That was dope. I liked looking around the room and seeing everyone dancing around. it was fun being in charge of what i wanted to watch in a way

1. The only thing I didn't like was when the dancers when over top of the camera it was hard to move my head up and behind to catch them doing their moves.

1. The camera was too close to the ground, threw off the viewer's perspective leading to motion sickness, also the dancers should keep distance from the 360 camera, as jumping over it lead to 180 degree head movements, also leading to motion sickness.

1. The music added to the enjoyment/emotional experience (upbeat feeling)

# How well were you able to follow the plot?
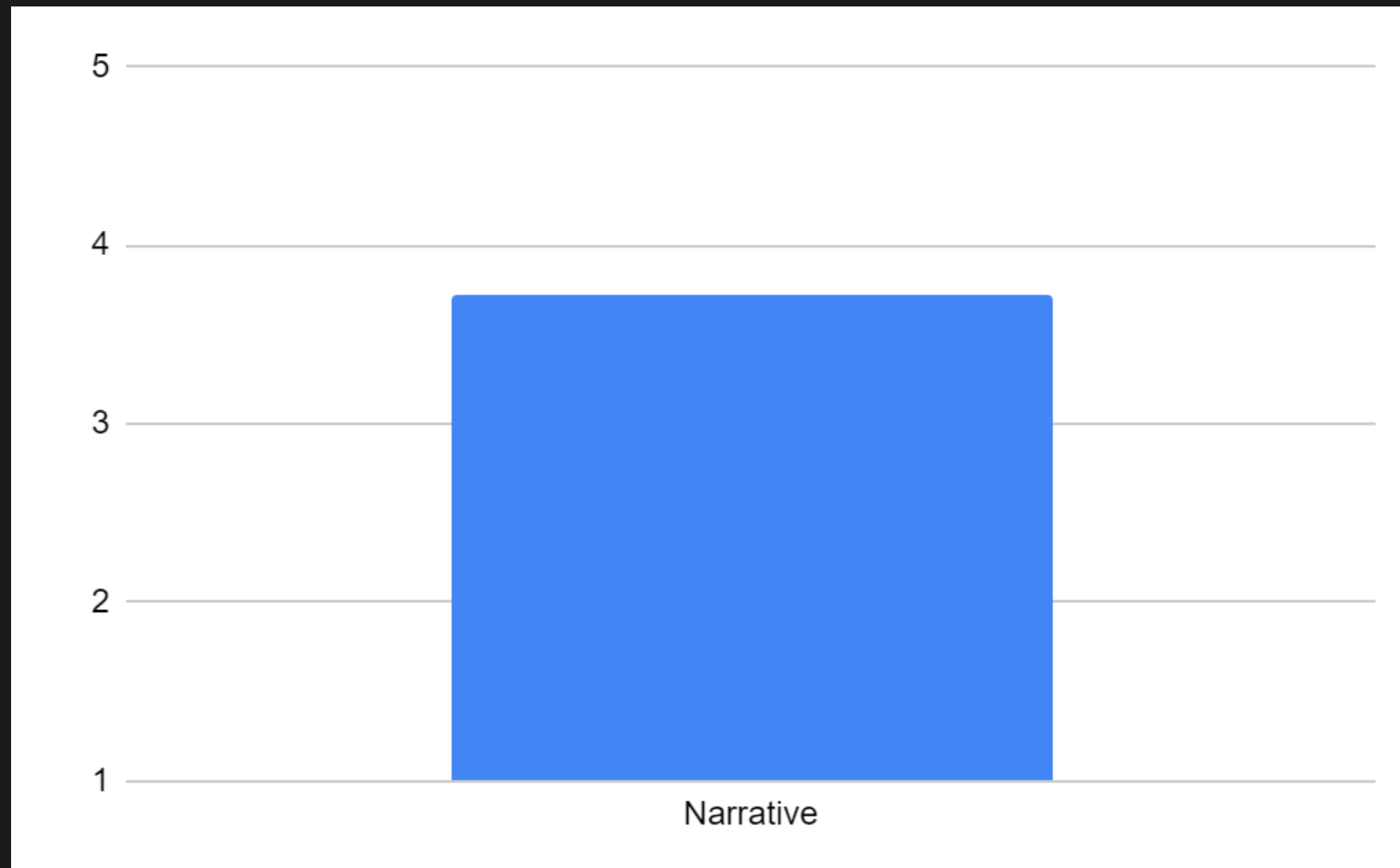
# How much of the time did you spend following the story versus exploring the 360 degree setting of the video?

Noteworthy Responses for the Narrative Video:

1. I felt very small. I was the same size as the liquor bottle

1. The story was good just wish it incorporated the 360 setting a little better.

1. Confused and overwhelmed at times

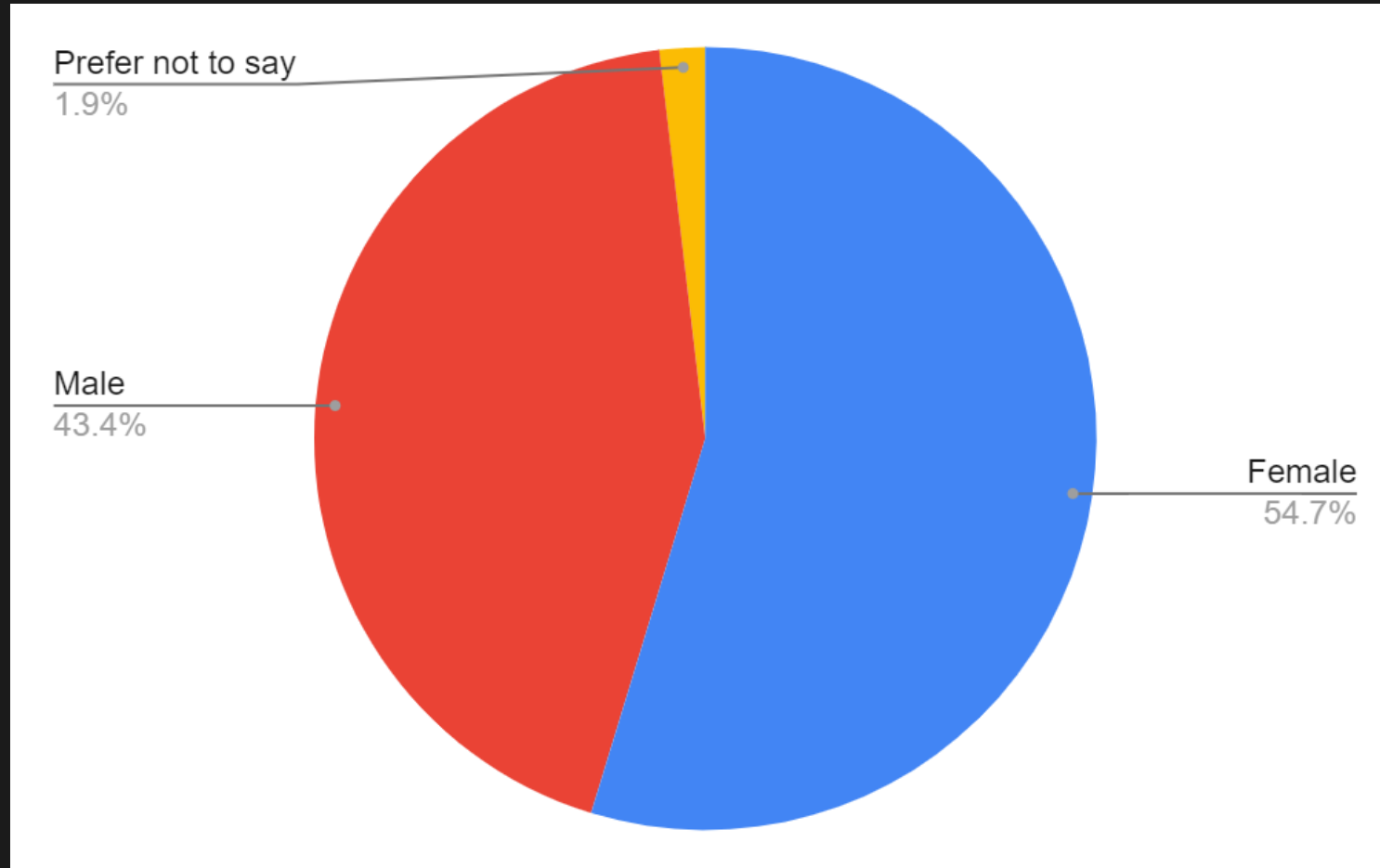1. The most engaging part was when the camera is next to the shot glass when the subject was drinking

Augmented Reality Projects
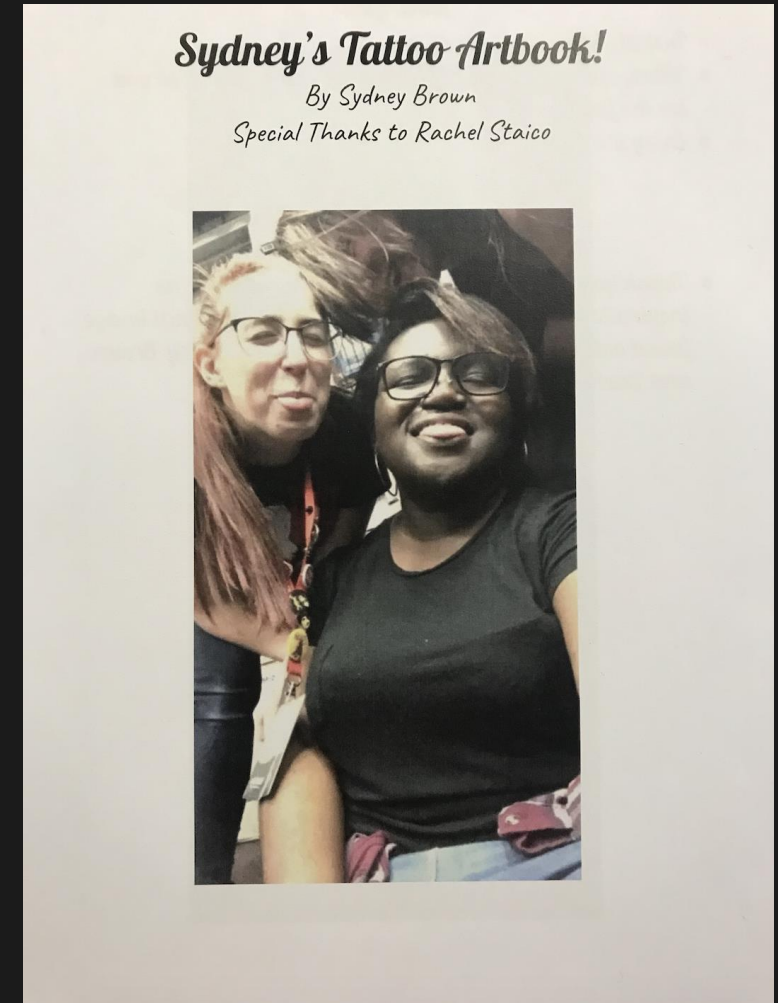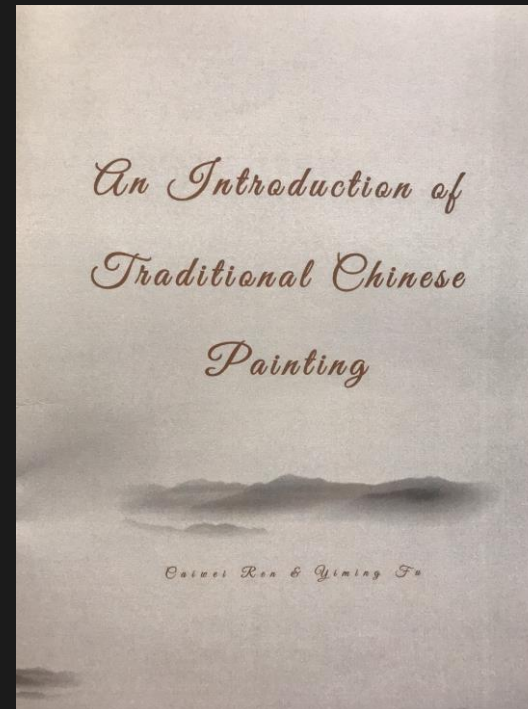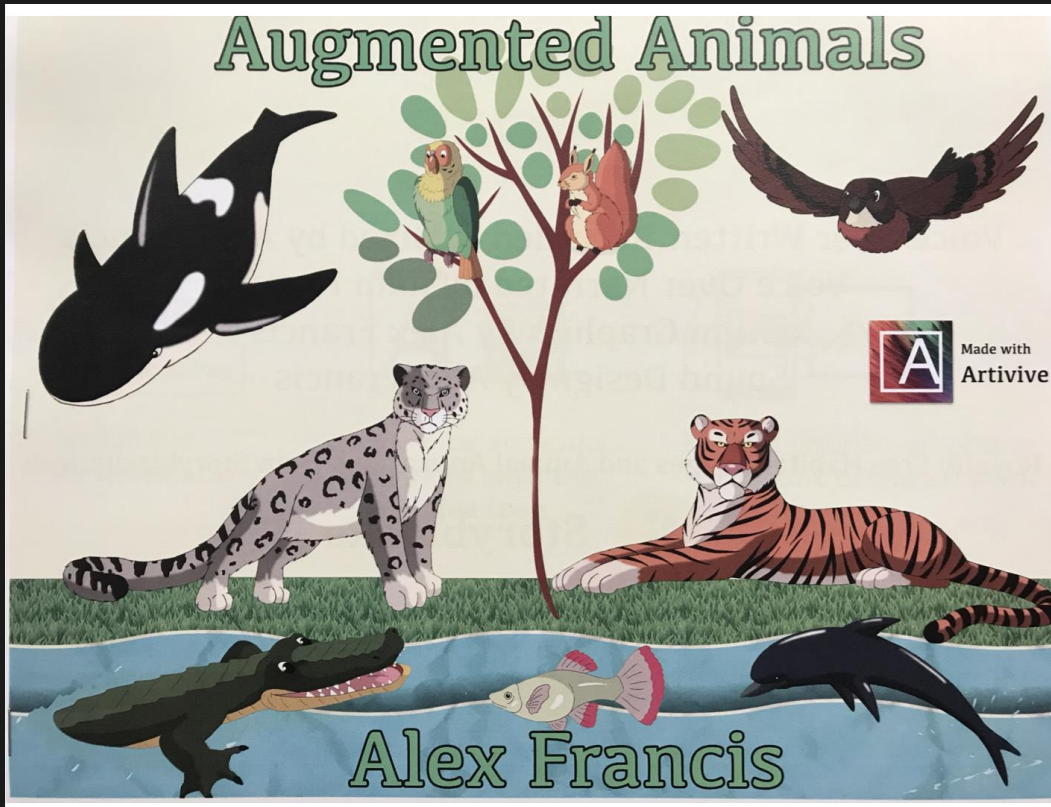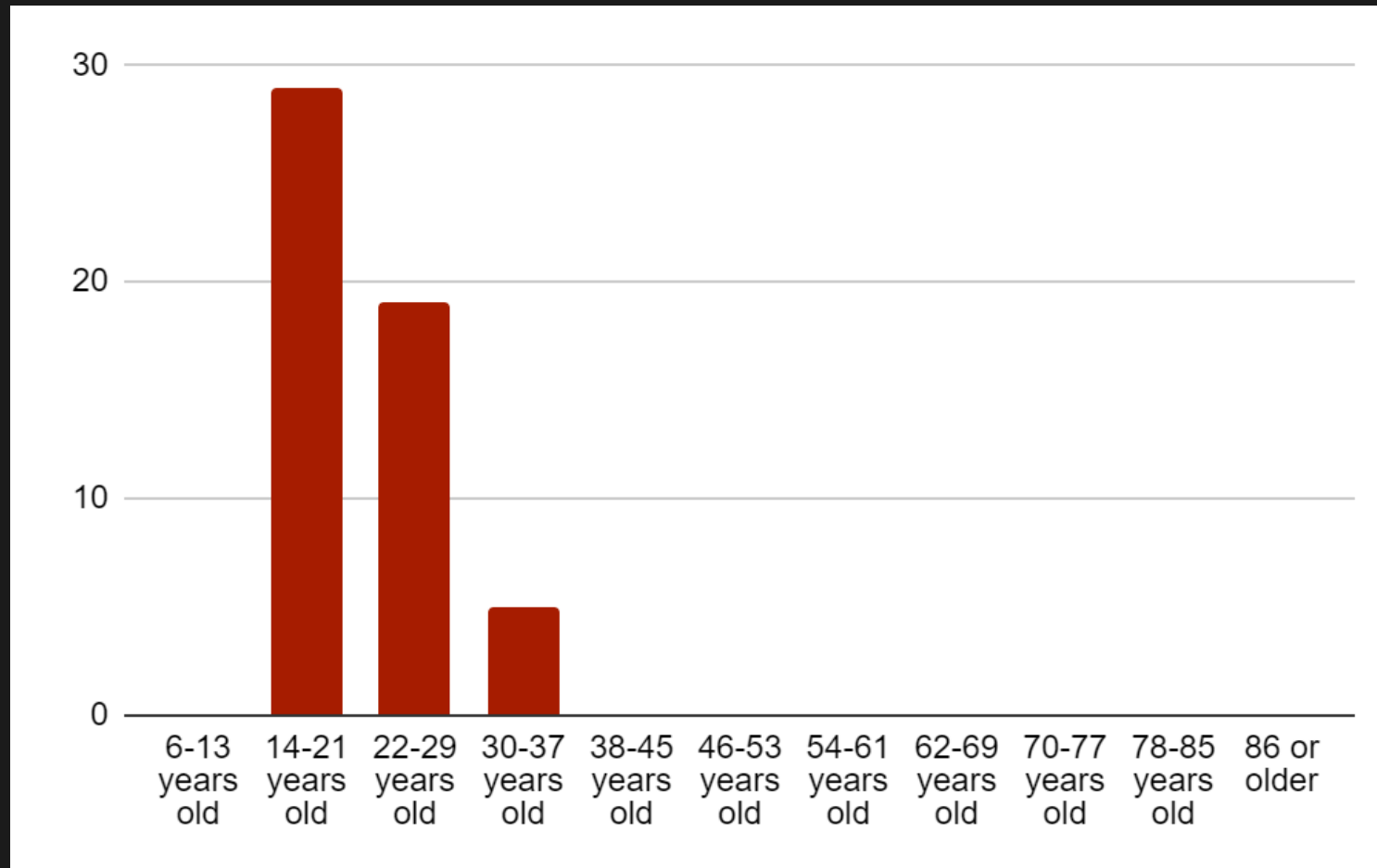
AR experience (n=53, including PPM students)
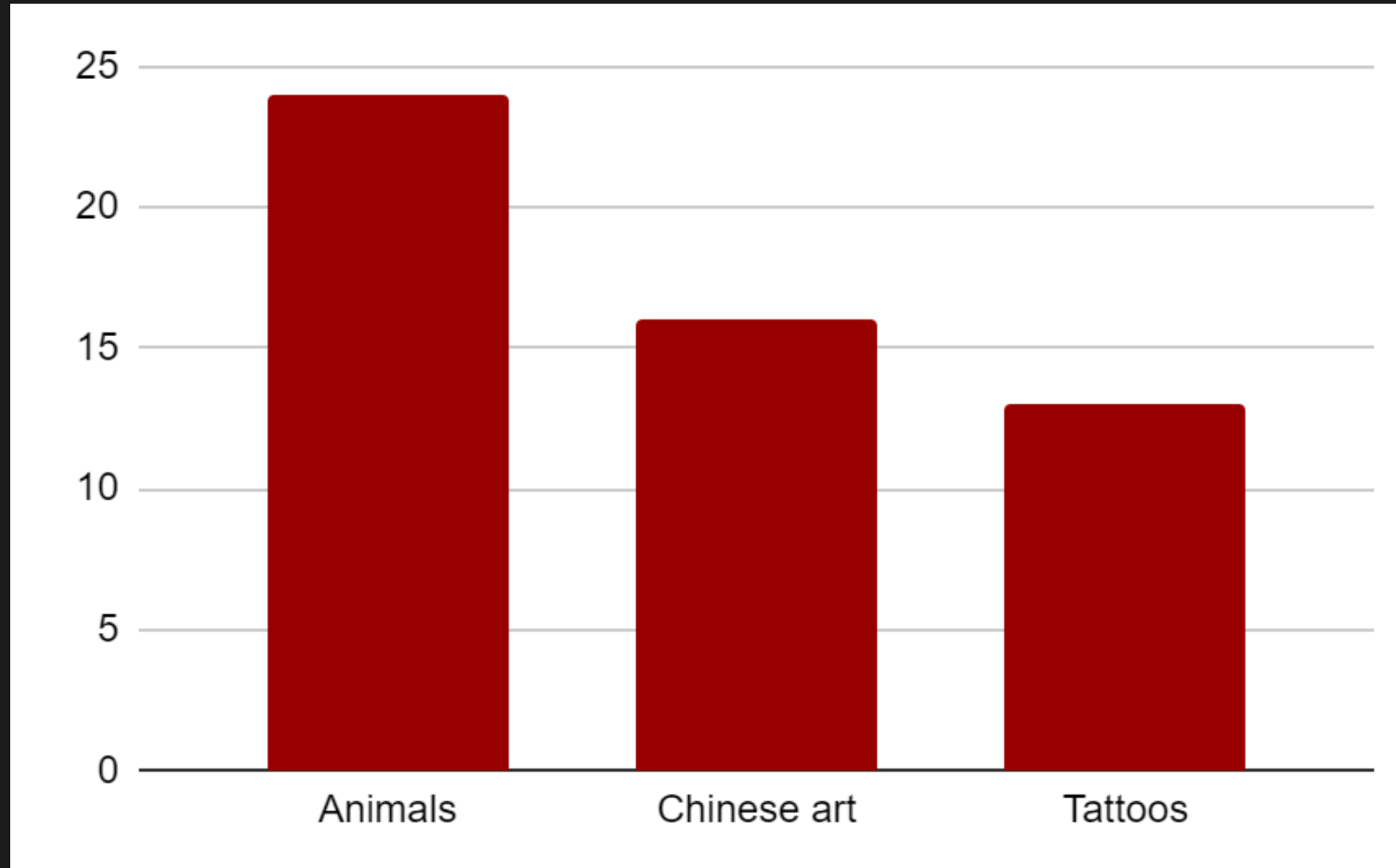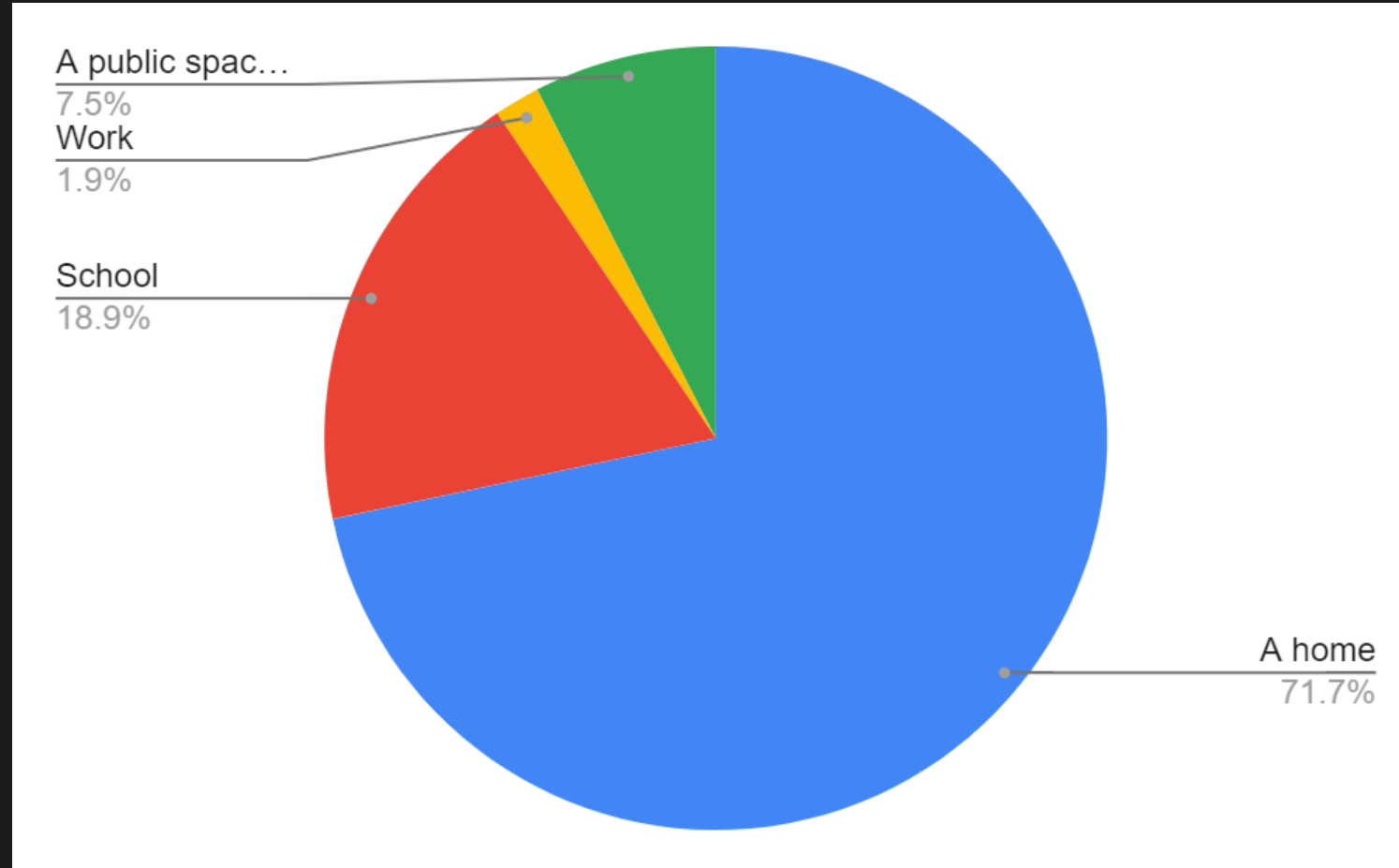
What is your gender? (n=53)

What is your age? (n=53)

Where will the AR viewing take place? (n=53)

When you used the AR were you standing or sitting? (n=53)
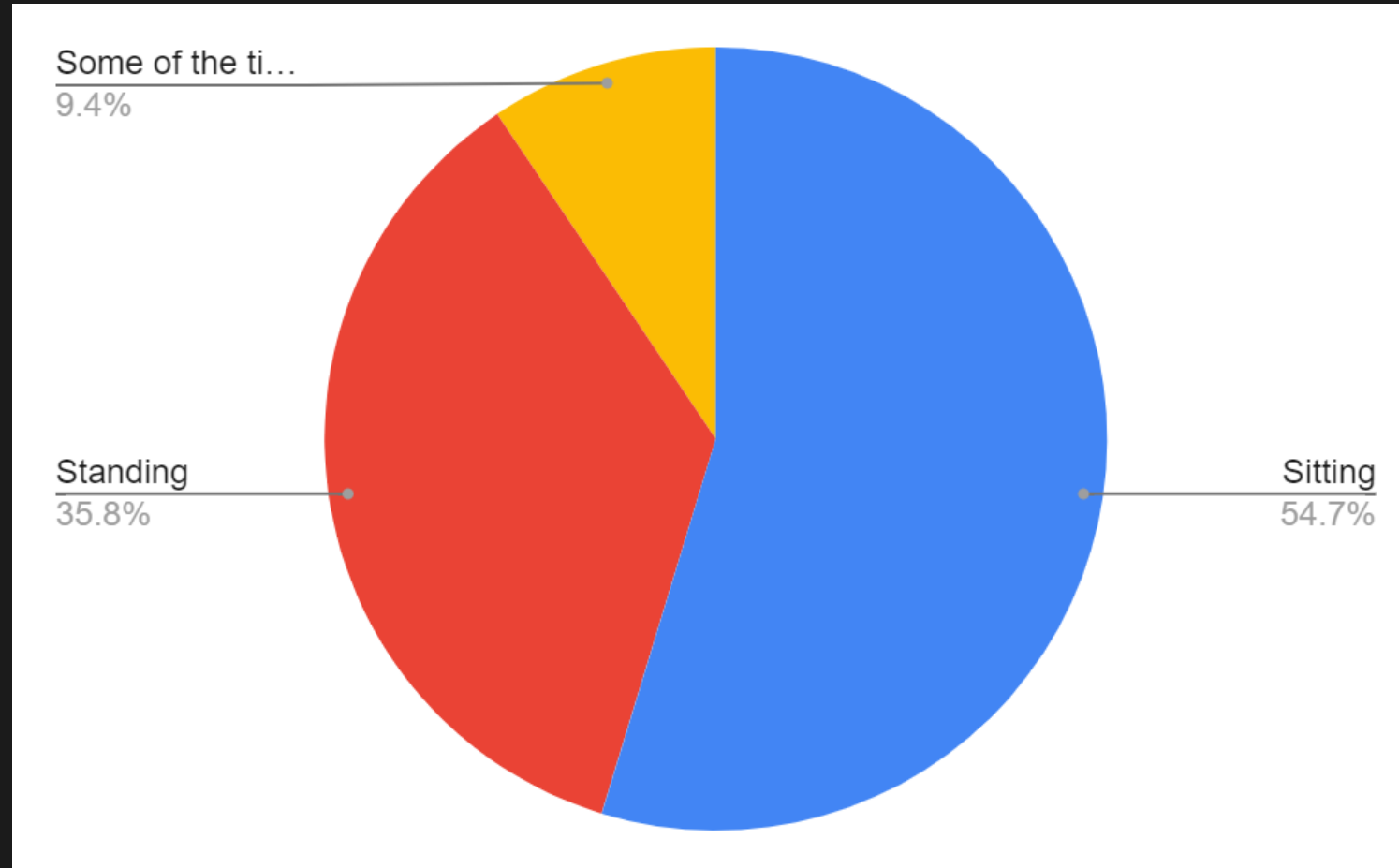
Presence Responses

How much did it seem like the effects added by the AR were part of the actual environment you viewed through the phone?

How much did it feel like the people or things in the AR CAME to you?
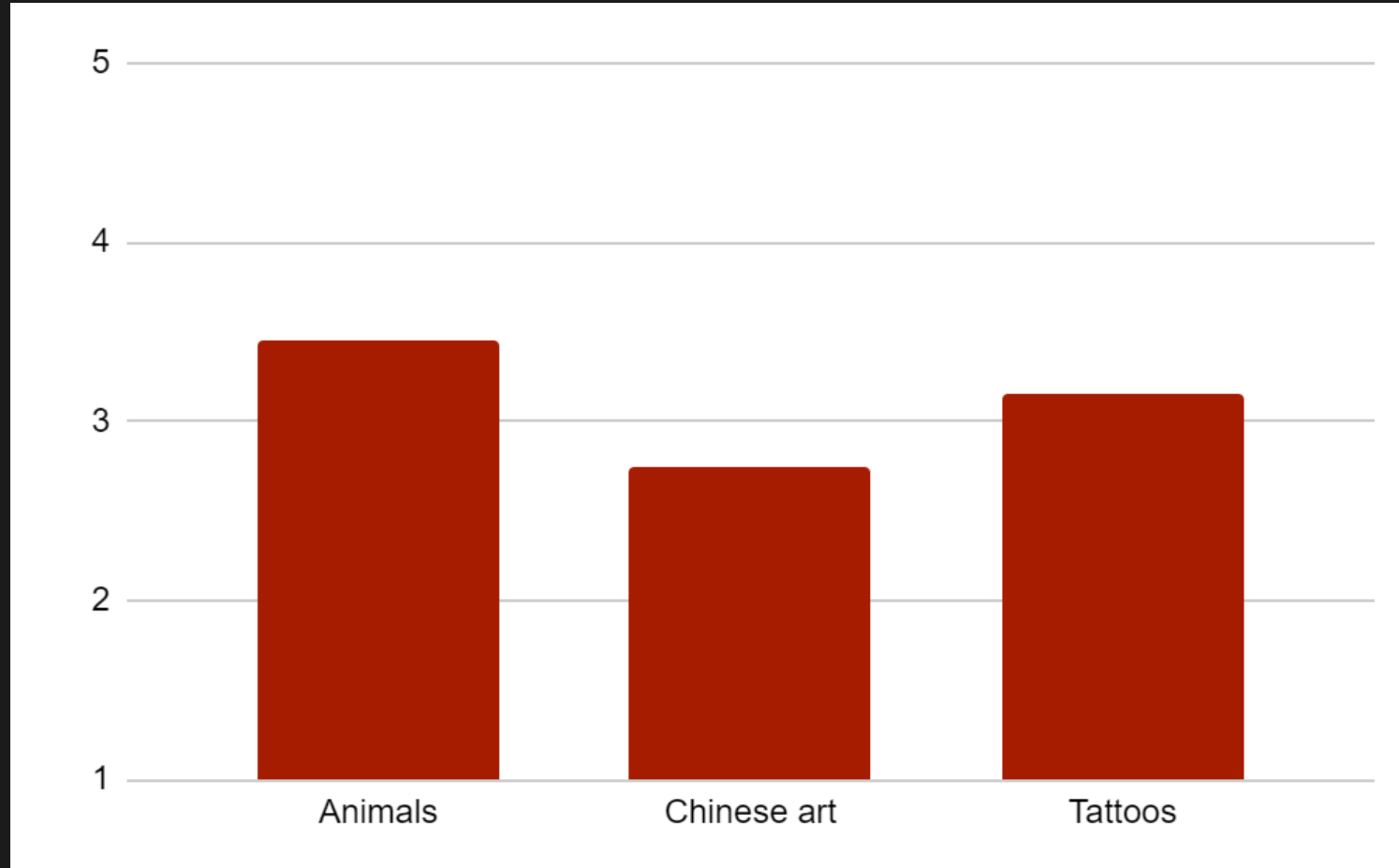
How much did it feel like you were PHYSICALLY IMMERSED, that your senses were completely occupied by the places, people and things in the experience?

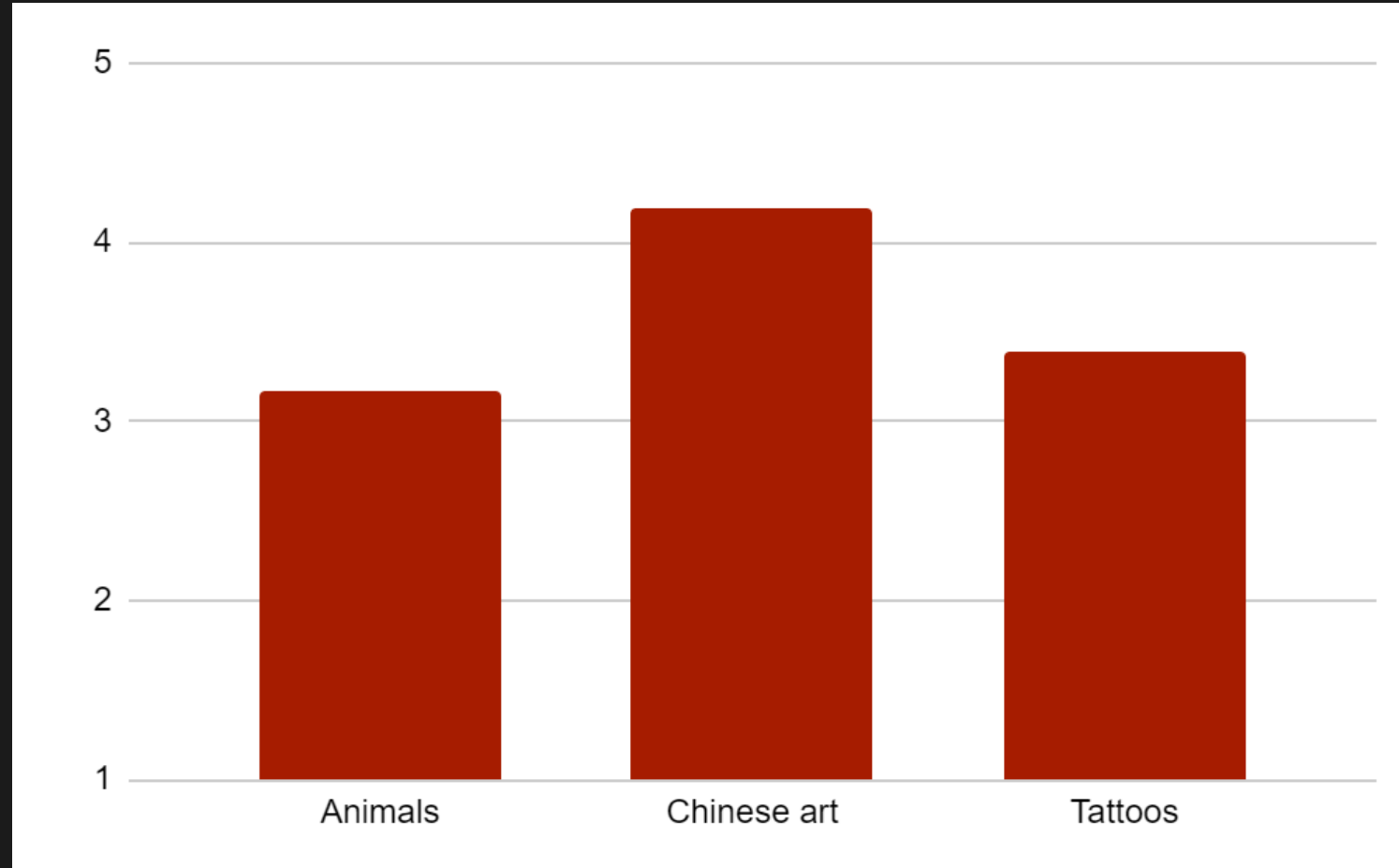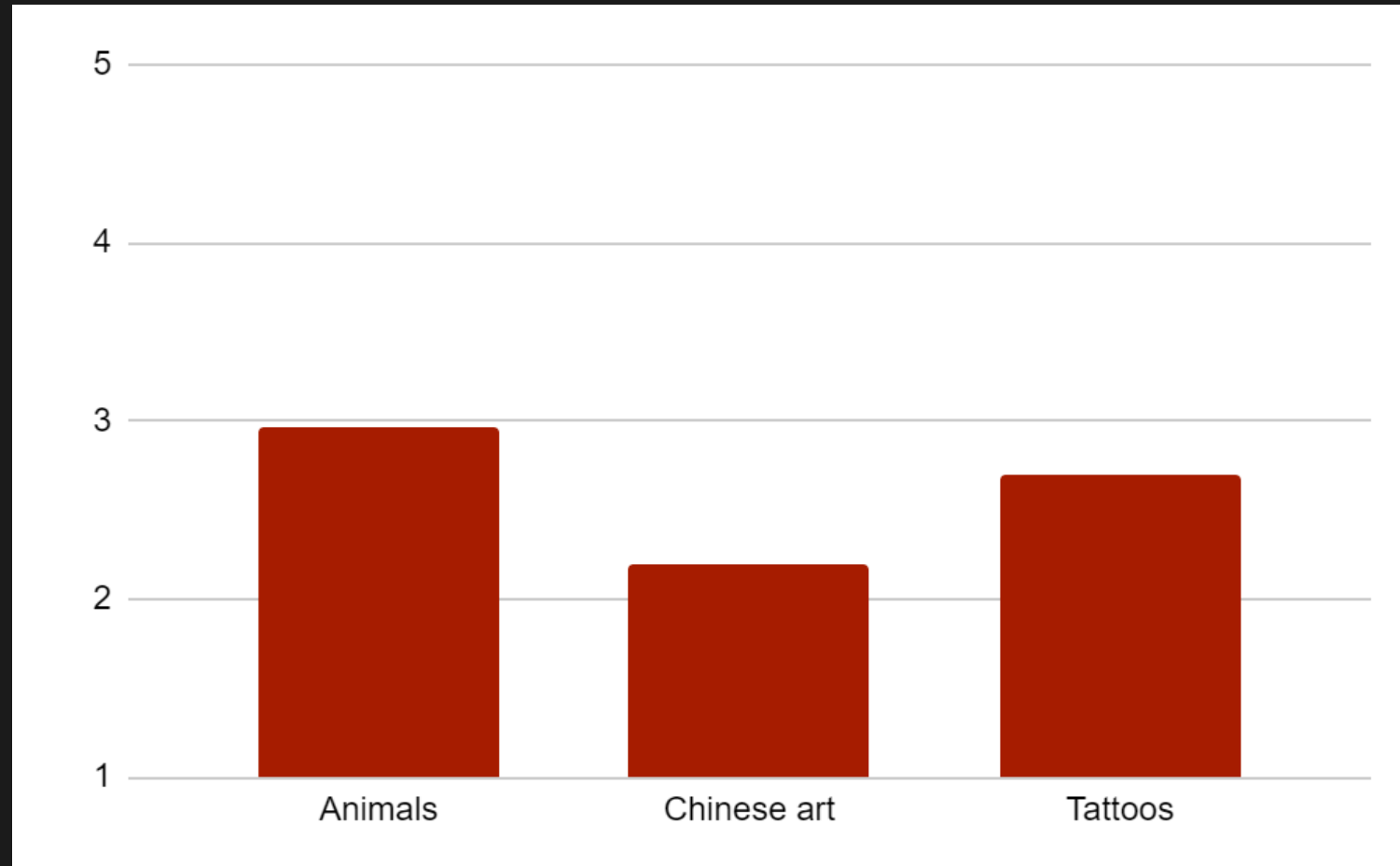# How much did it feel like you were MENTALLY IMMERSED, that your attention and thoughts were completely focused on or absorbed in the experience?
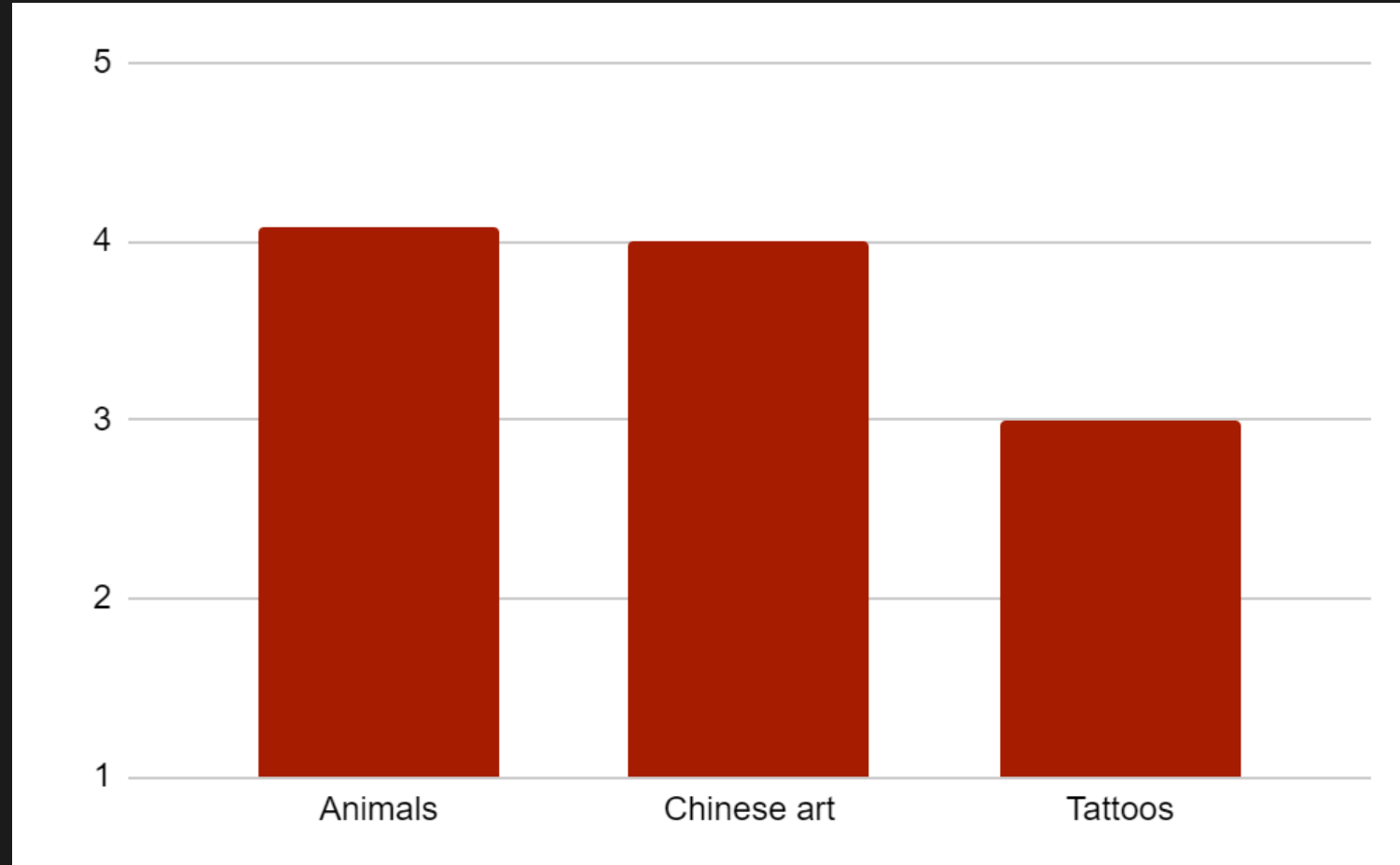
Overall, how much did the things and people in the AR LOOK and SOUND like they would if you had experienced them directly?
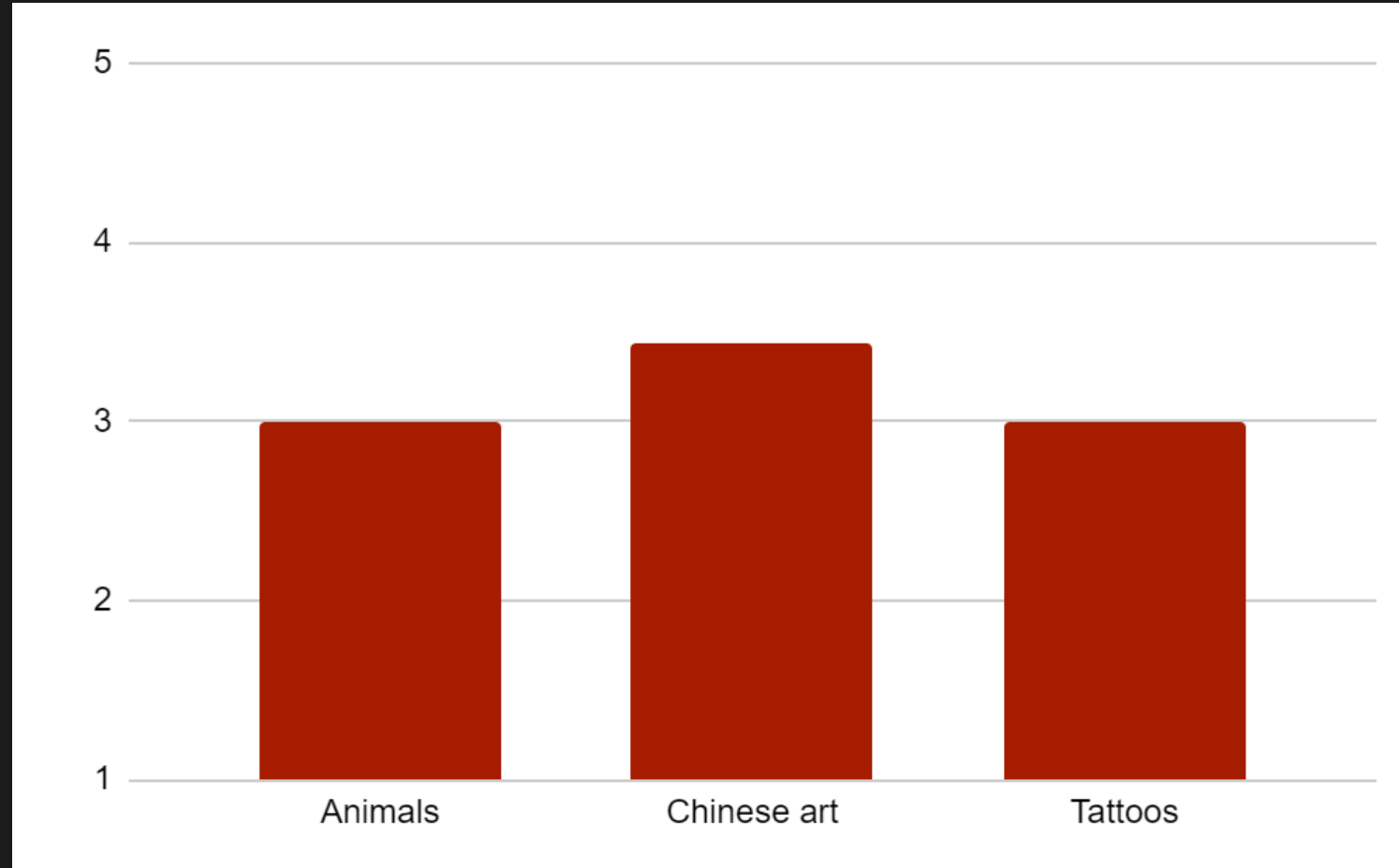
How disconnected from your actual location did you feel while you experienced the AR?
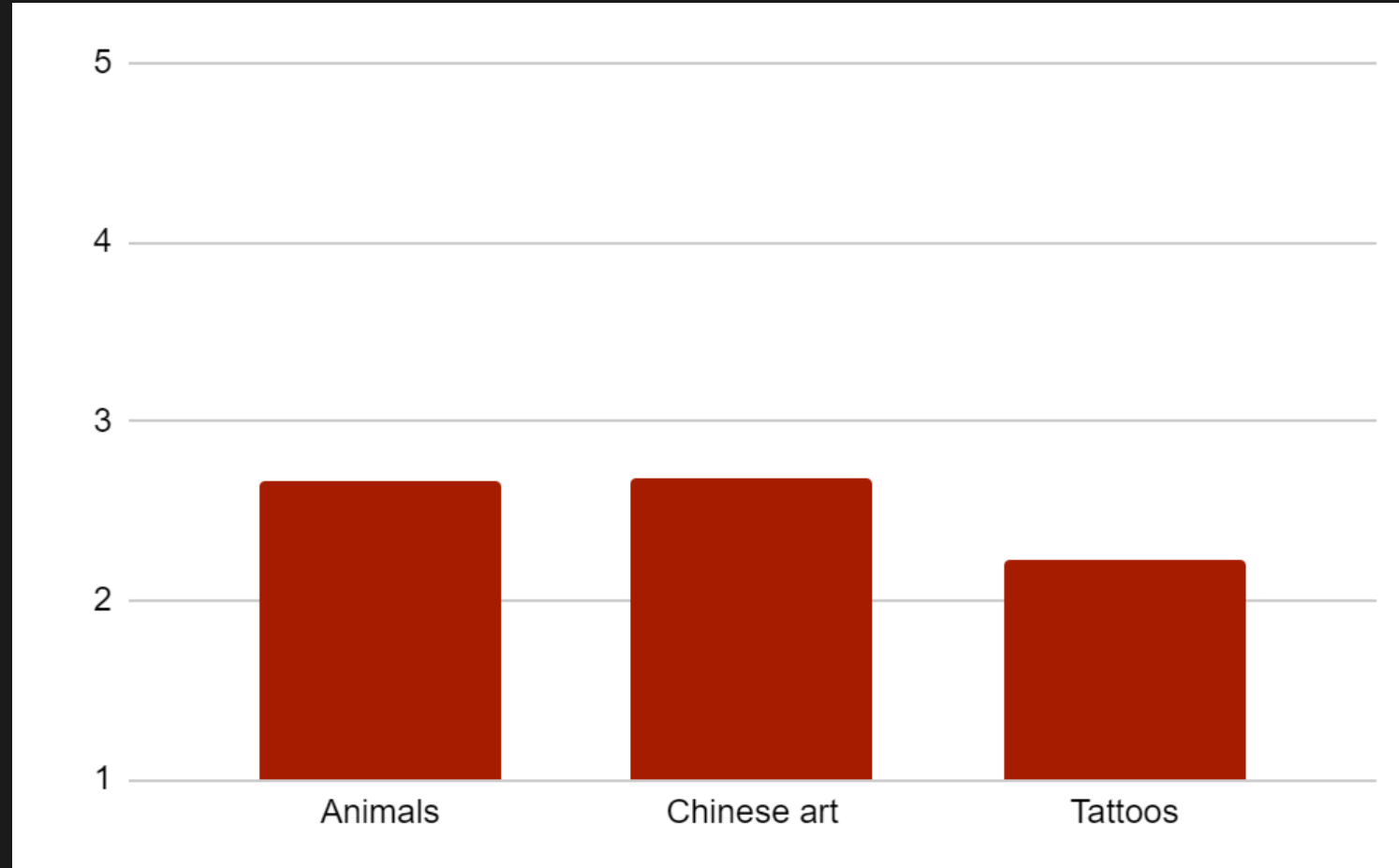
Other Responses

How much did you enjoy the AR?
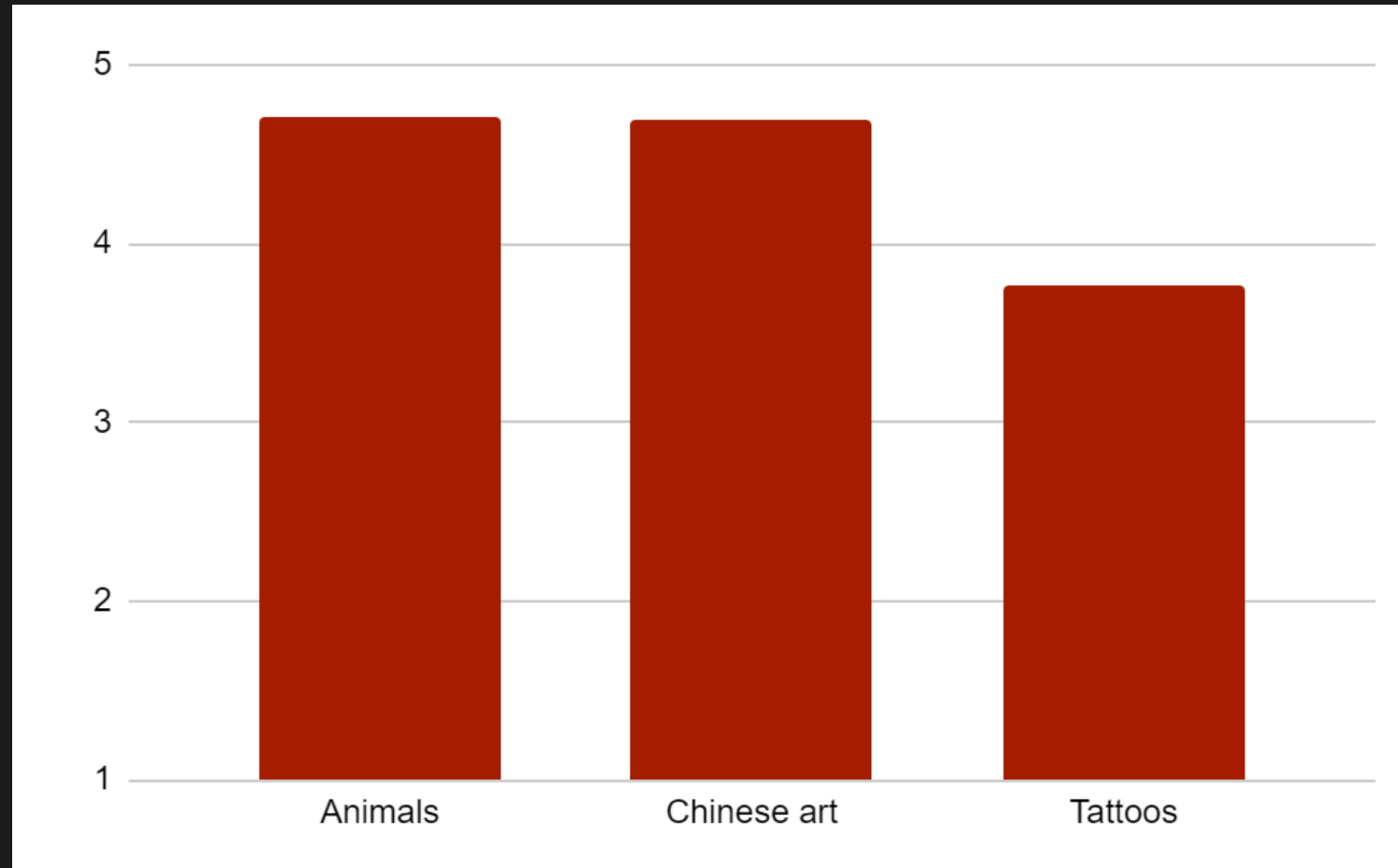
How hard or easy was it to see all of the AR elements during the experience?
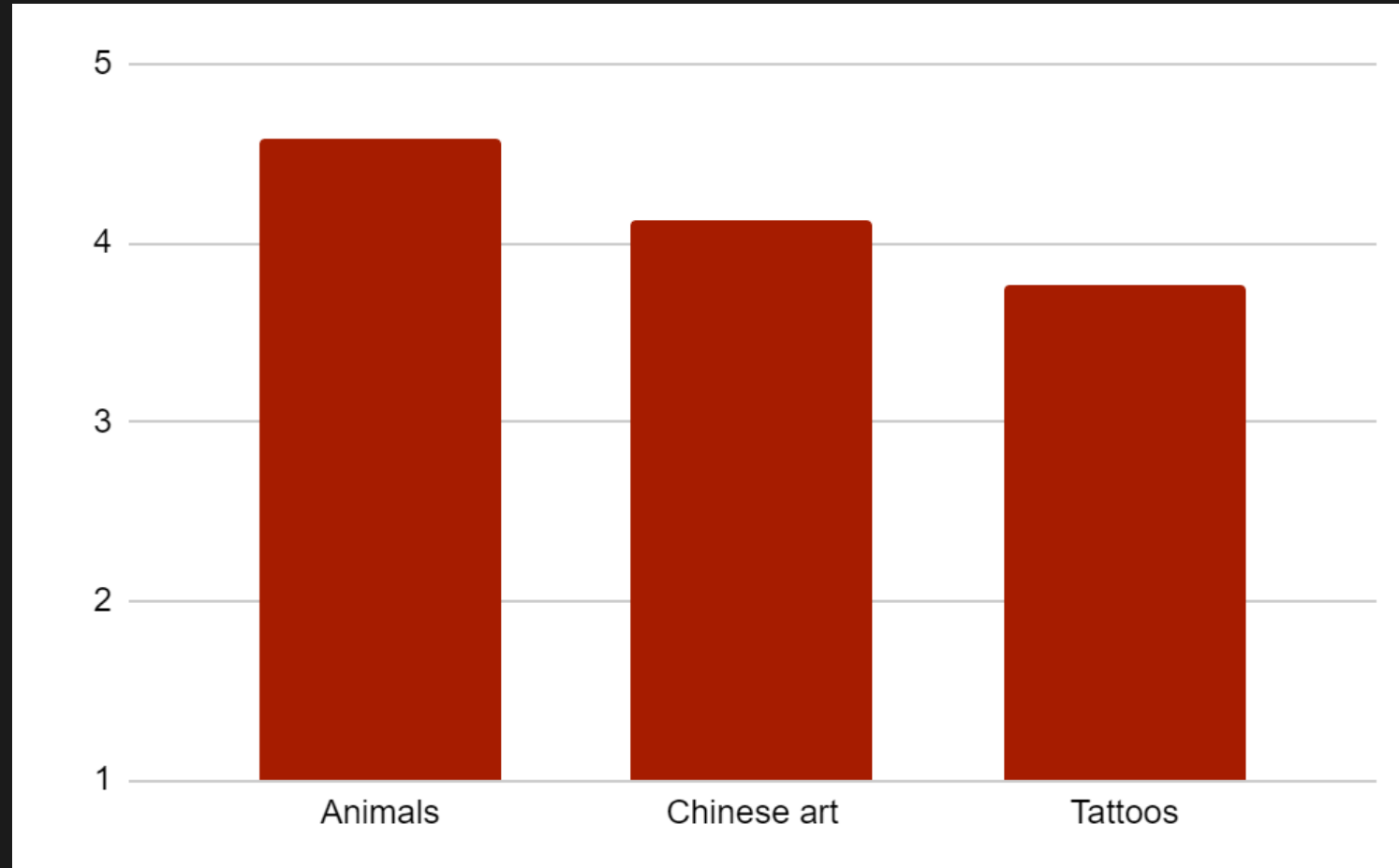
How comfortable was it to experience the AR through the phone?
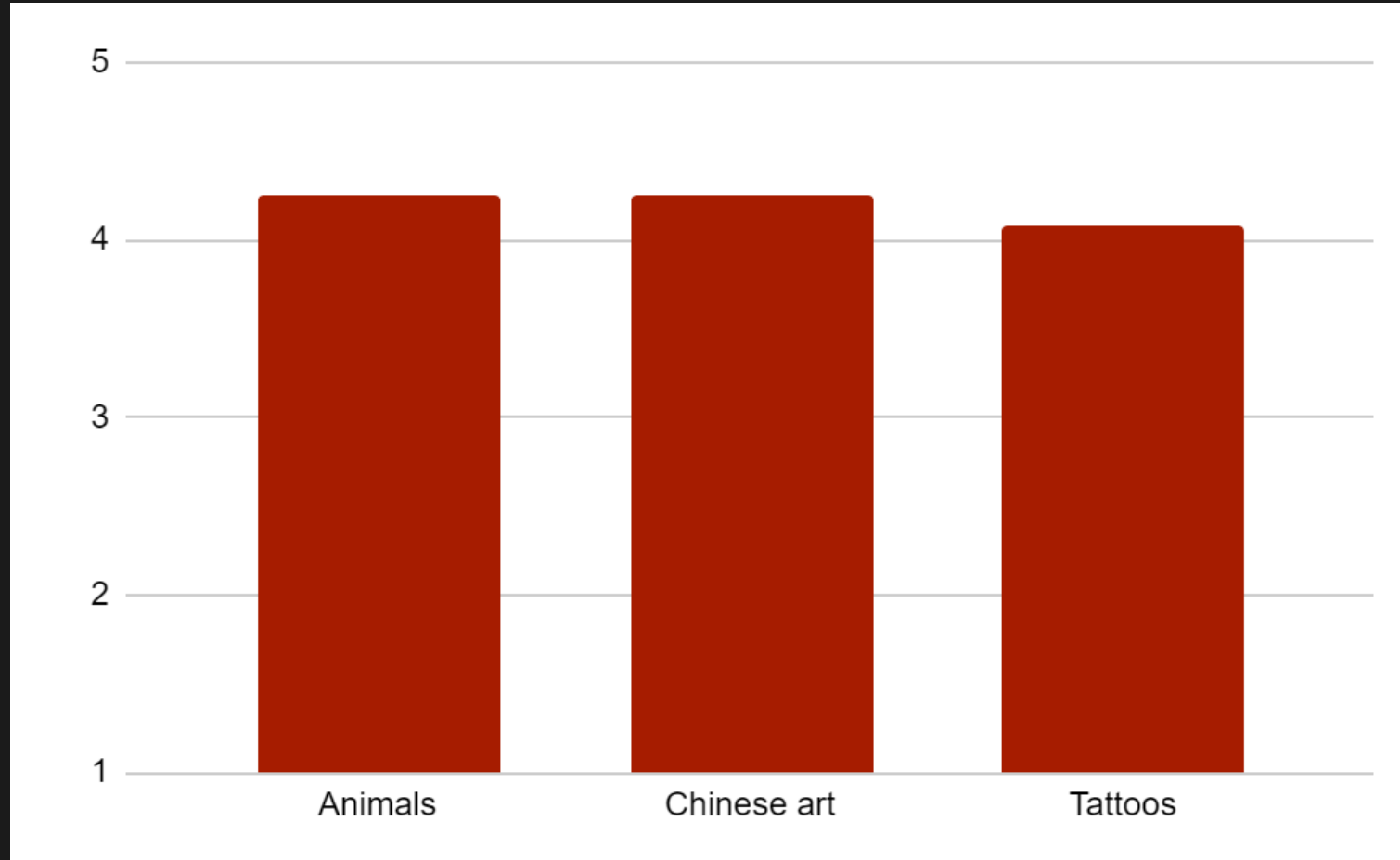
How much do you think the AR effects made your overall experience of the printed materials worse or better?
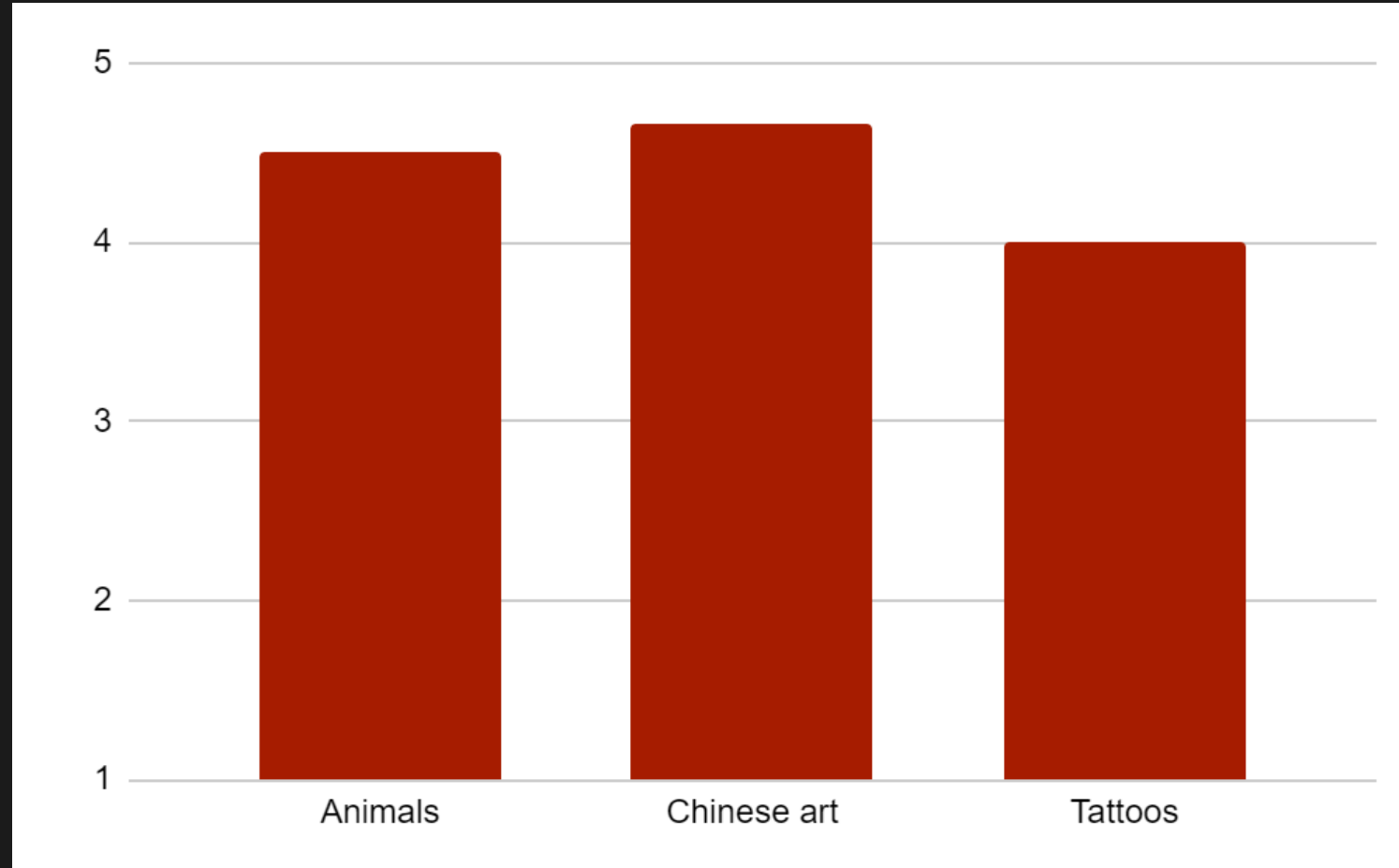
How much would you like to have more AR experiences in the future?
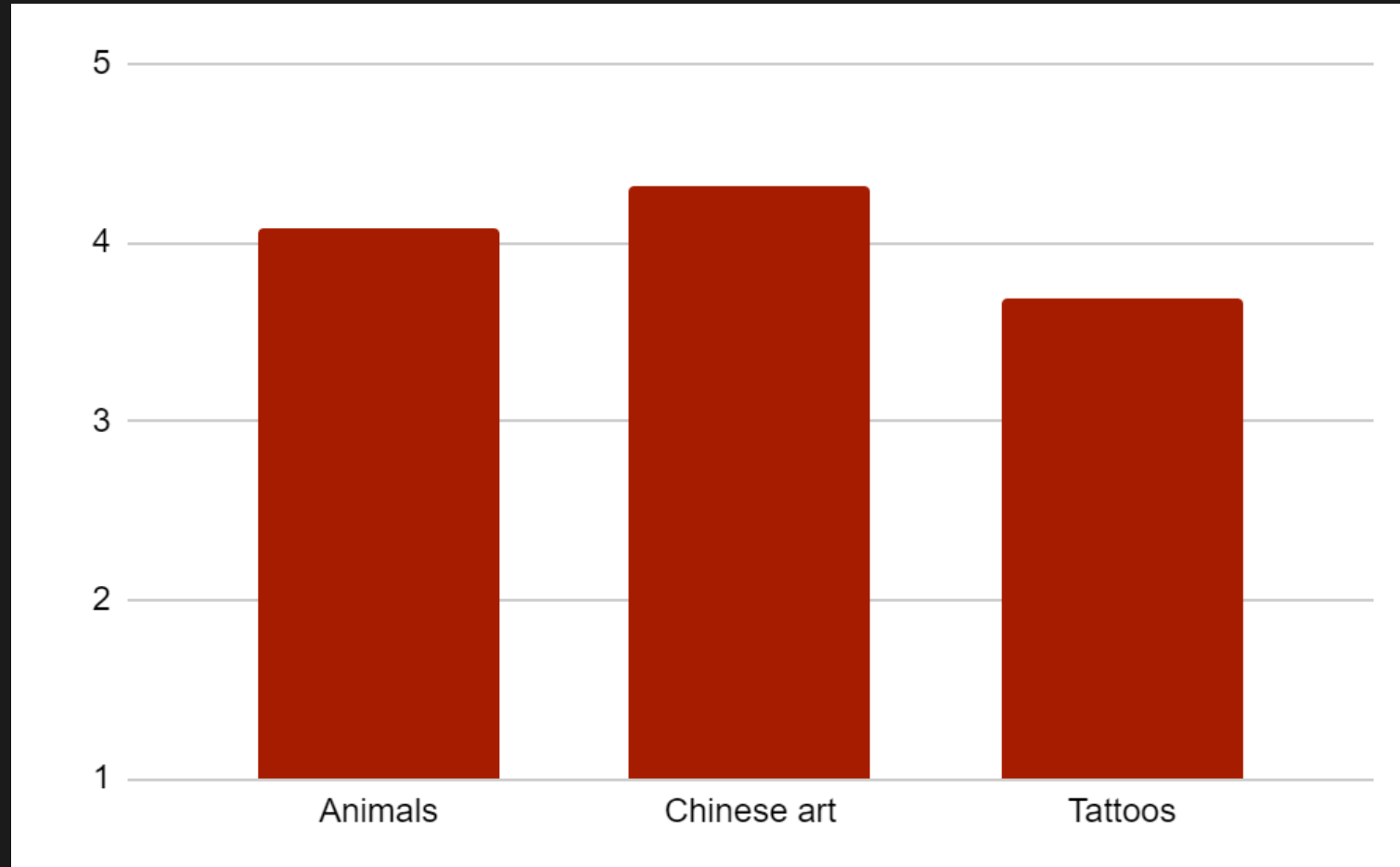
AR-specific Responses to Open-ended Questions

Noteworthy Responses for the Animals AR:

1. I enjoyed it thoroughly. I wouldn't say I was "immersed" in it, but it definitely felt more enjoyable tha[n] if it was just a 2D children's book. I could see this at a petting zoo or something.

1. I liked the way the picture and animations came together as one

1. I've never seen an AR before or knew it even existed so it was very cool.

1. So cute!!

Noteworthy Responses for the Chinese art AR:

1. I really like the idea of bringing paintings to life

2. This was so cool! I enjoyed the reading parts too explaining what each picture was. I wish the one with the waterfall (the second picture) was a little bit closer to the original photo. could have gave it a subtle harry potter feel where it would be a seemless transition

1. I really liked the subtlety of the movements within this piece specifically the birds and the waterfall

1. Gorgeous.. how did they do that?

Noteworthy Responses for the Tattoos AR:

1. I think it is a good idea for AR and would use this at a tattoo shop

1. I thought the image with the ship was really creative and interesting

2. The sound helped sell the experience

1. Some of the tattoos used it better than others. I enjoyed the ship coming out of the clouds and the tattoo on the forearm. both are good for stirring up imagination or a real-life application, but the others were so-so to me.

Limitations

- Small samples and sub-samples

- Samples not based on random probability so representativeness unknown (especially re: AR; both sets of participants skew young)

- Many other factors cause variability

- Measurement issues

Conclusions

- Both 360 videos and AR can evoke strong presence and enhance user experience over standard formats

- 360 video (via presence?) can have positive effects (documentary, meditation)

- 360 video seems to evoke more spatial presence and physical immersion

- AR seems easier and more comfortable to use, to provide more enhancement over standard format (printed material), and to create more interest in future use

- Genre and design choices matter - easy to overwhelm user (simple, still = safest)

Future Questions

- Novelty effect?

- Form trends:
  360 video: Higher resolution, spatial sound?
  AR: Phone vs. tablet vs. HMD?
  Both: HMD improvements?

- Effects of genre, age, viewing conditions, user interests and mood, etc. ?

- 360 video (and VR) versus AR?

- BIG PICTURE: How to best design media experiences for these and other emerging media to engage and positively affect users

Winner of PPM Music and Presence Vote

TBA