

Capstone Report (Final Draft)

Kendall Beaver

2025-05-08

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““{#{r setup, results='hide', include=FALSE}  
#knitr::opts_chunk$set(fig.width = 4, fig.height = 4) ““
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Outline

Intro

Demographics

1. Overview of participants
 1. 149 students partook in Part I, but only 99 students wait until Part 2.
2. Charts of
 1. **Age & Gender (side-by-side)**
 2. **Social Media Platforms & Time Spent Online**
 3. **Top 3 Entertainment__1 &/or Top 3 Educational__1, & Ad-skipping habits (Only applicable to those who listen to podcasts)**

Qualitative Questions Analysis

1. QQ1 After Ad (Did views and length change?)
2. QQ2 After Ad
3. QQ3 After Ad
 1. 5 types of comment length (count count)

Test Score Analysis

1. GBCS
2. MIST-20
3. IT-MIST

Additional Sentiment Discovered From Other Questions

1. Sentiment towards ads
2. Sentiment about participating in future studies

GenAI Study & Results

Future Direction

And yes, audio ads are not a great way to reach people, though they may still be effective in more typical listening conditions. In future work, ideally, we would have participants queue up media they already planned to listen to, and then embed our ad in it while they engage however they usually do (exercising, cleaning, driving).

I'm glad Video ads are still showing promise on deeper analysis. We should pursue that in ads on YouTube podcasts, since many cannot skip those. More testing might be good first, ideally targeting more specific falsehoods and problems.

References

Intro

Diana focused on where participants get their source of information from, so I'm going to focus more on the ad listening behavior of participants. Diana also looked at the test results from GCBS, MIST-20 & IT-MIST, which I may briefly touch upon in this report but will mostly leave the more in-depth analysis to be reviewed in her report.

1. Intro of misinformation and purpose of study, to study the prebunking effects using comedy sketch ads to see how effective they will be.
2. Two different ads
 1. Control ad: Was not a neutral ad. It was an ad with negative emotion, which is impactful but confused the results. In the future a neutral ad will be chosen, in terms of content, tone and emotion.
 1. The United States Post Office. Every now and then, something good happens here." This ad is about two friends waiting in line, or at least Jessica takes a number to wait. Jessica and Mel: Jessica has just completed bowling with her friends because they're morning people. What can you do? Mel jokes and says she can get new friends, and she snaps, then apologizes. She says her fingers were too small and she was kicked out. Mel acknowledges that that sucks, then he invites her to come hang with his karaoke friends at night, to which Jessica displays interest. Then it cuts to her singing and having fun. So completely random.
3. Method: used Descript program to create ads.
4. My help/work needed: Looking at qualitative questions that was asked before viewing the ad and after reviewing the ad.

Demographics

Age

The deadline to register is Tomorrow, May 6! This registration deadline is for the College of Information Science Convocation on May 14 at 9 a.m.

Please keep your eyes out for emails with information about convocation and where you will be checking in and tickets.

At this ceremony, individual student names will be called, and you will cross the stage. Those students who registered to attend online will also have their names called and a slide shown. The livestream link will be available on the convocation website prior to the start of the ceremony.

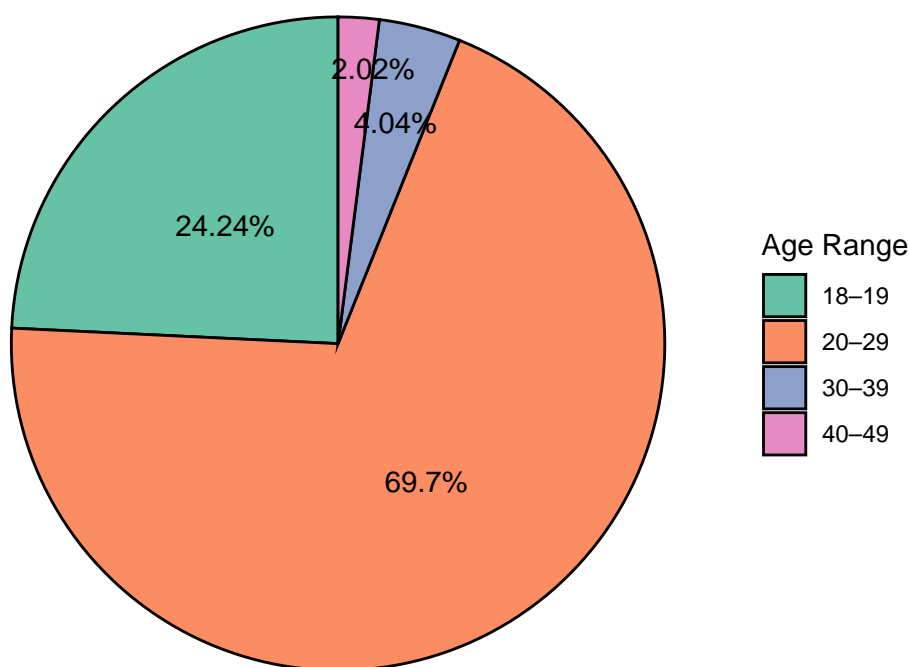
Please visit the website for detailed information for your guests.

ALL guests must have a ticket to enter Centennial Hall, so it is very important for you to register and indicate how many tickets you will need.

Tickets will be electronic this year and information on how to collect your tickets will be sent out after the close of registration. At this time, all ticket requests will be fulfilled.

Seating is on a first come first served basis other than reserved areas for graduating students, college staff and special guests.

Age Range of Participants



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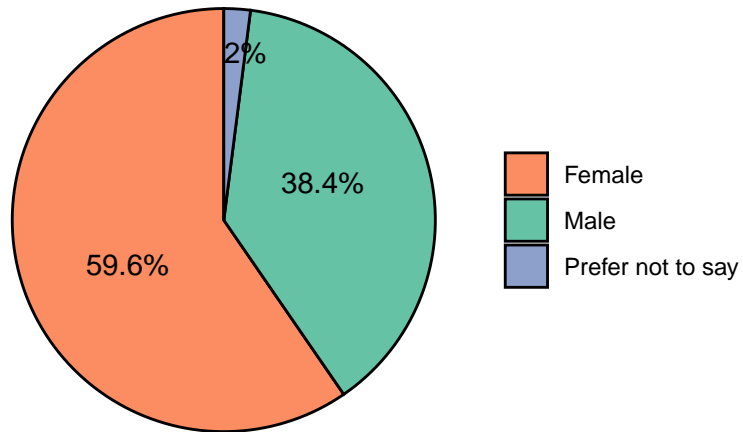
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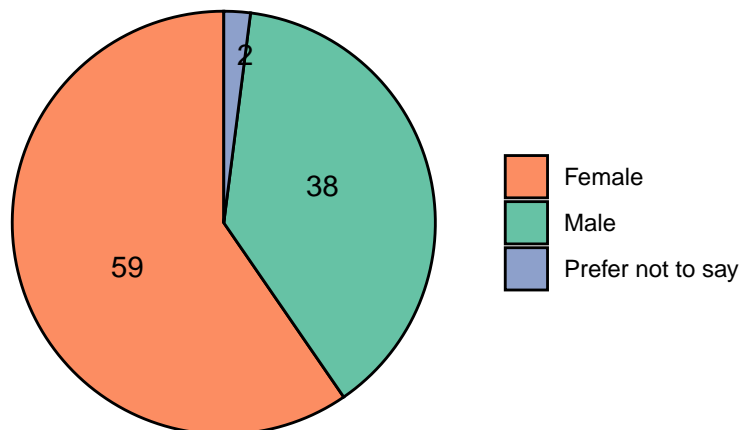
Seating is on a first come first served basis other than reserved areas for graduating students, college staff and special guests.

Gender

Gender Distribution



Gender Distribution (by Count)

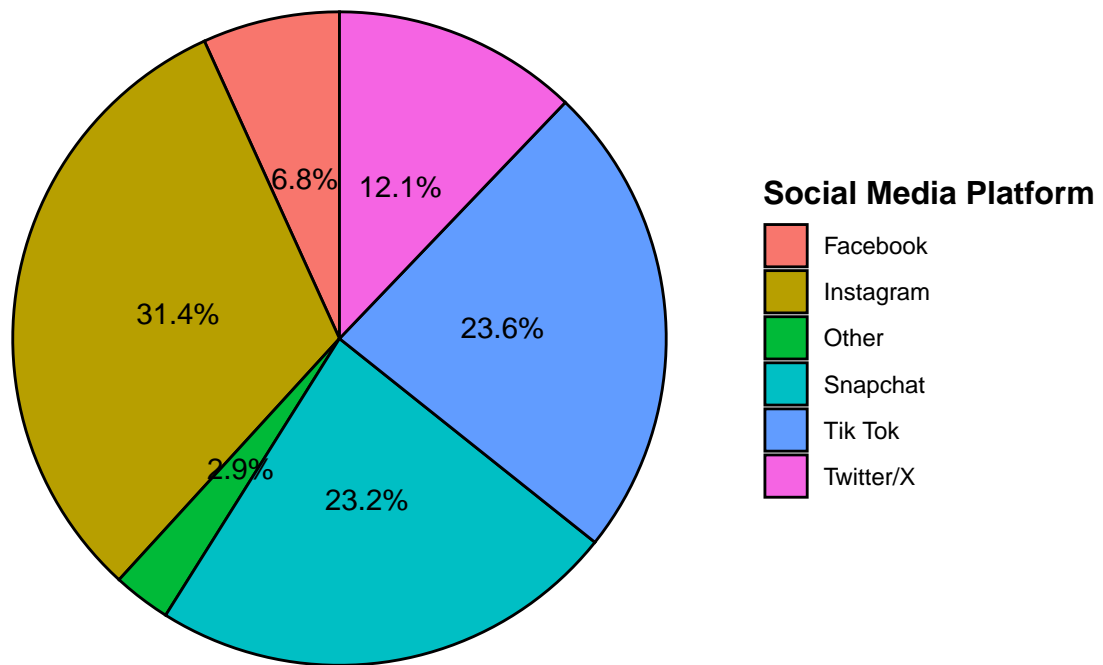


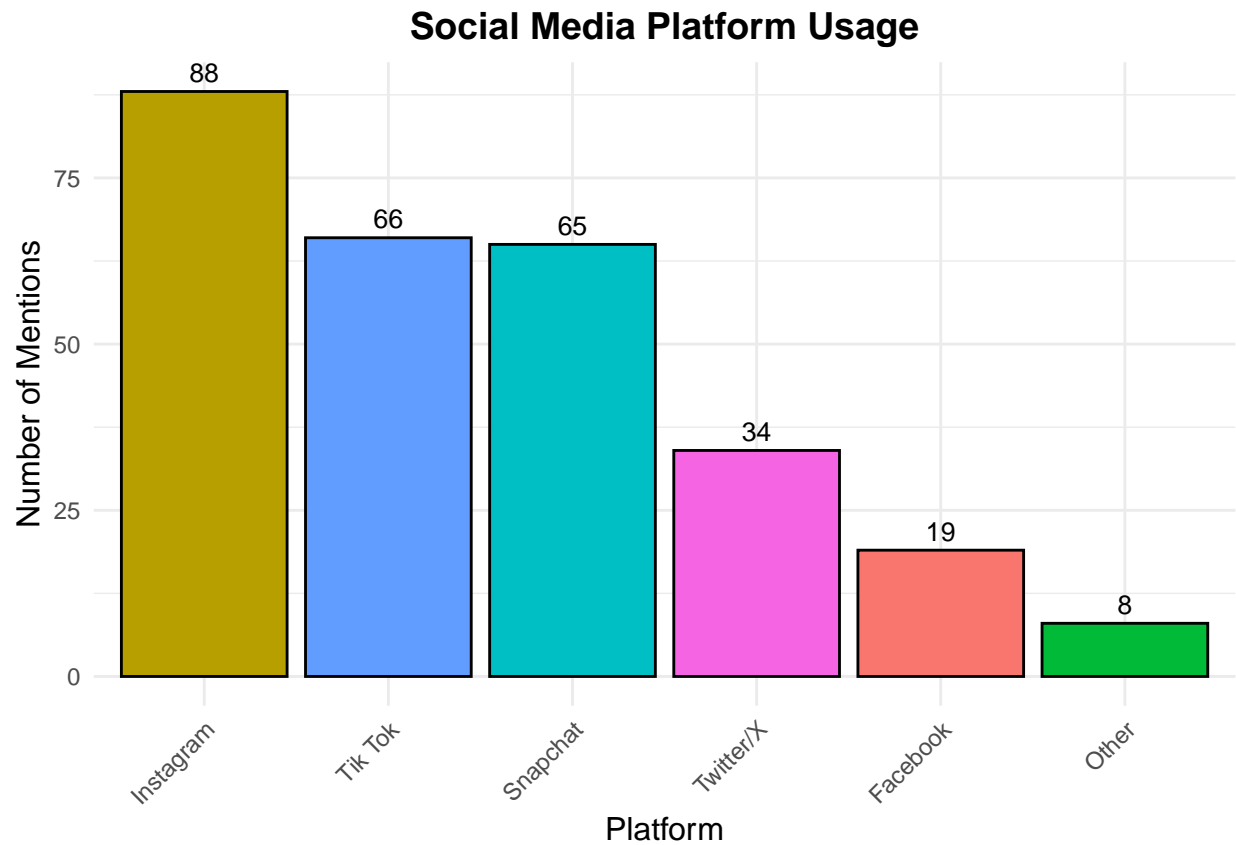
Social Media Habits

Social Media Platform Used by Participants

This indicates the main sources of news that people get.

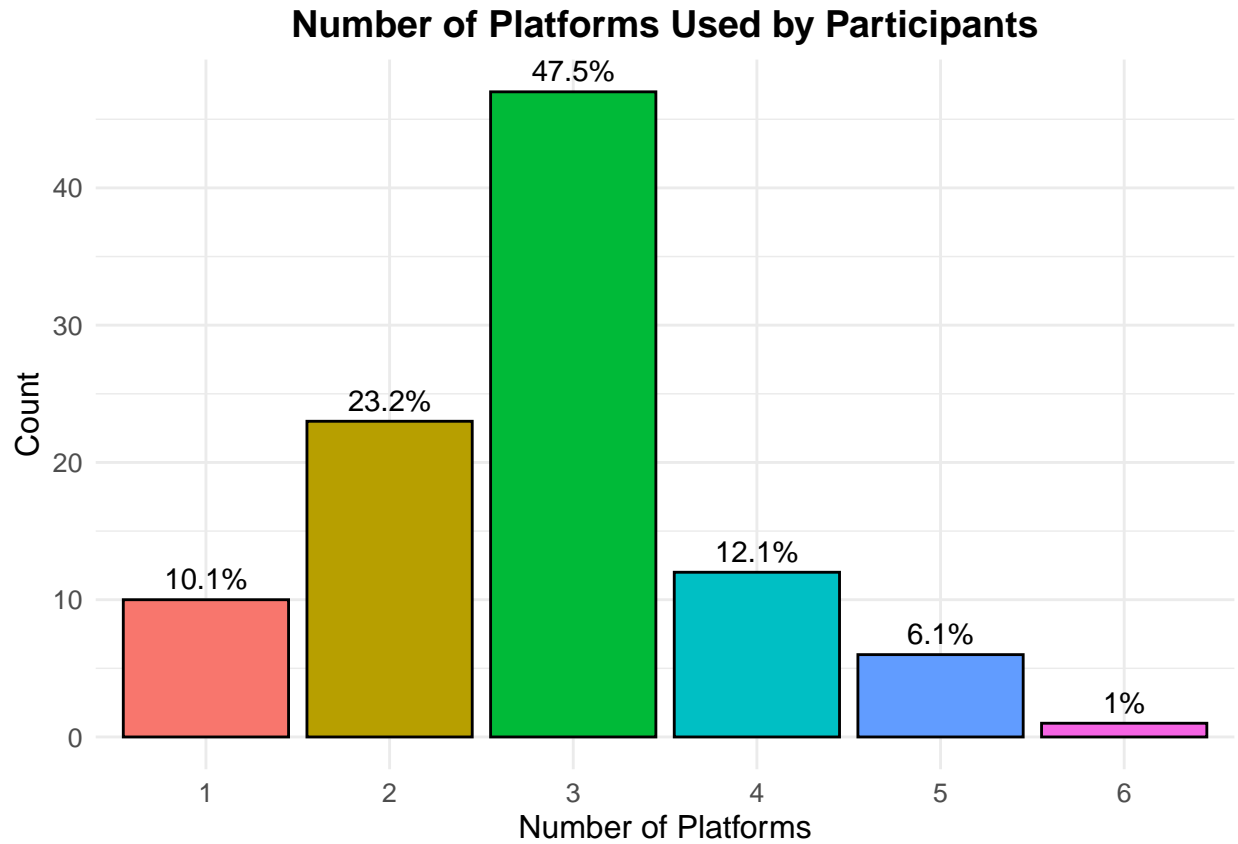
Social Media Platform Usage





The “Other” category includes 2 mentions of Reddit, and 1 mention of Discord, MEANS.TV, Telegram, Tumblr, and YouTube.

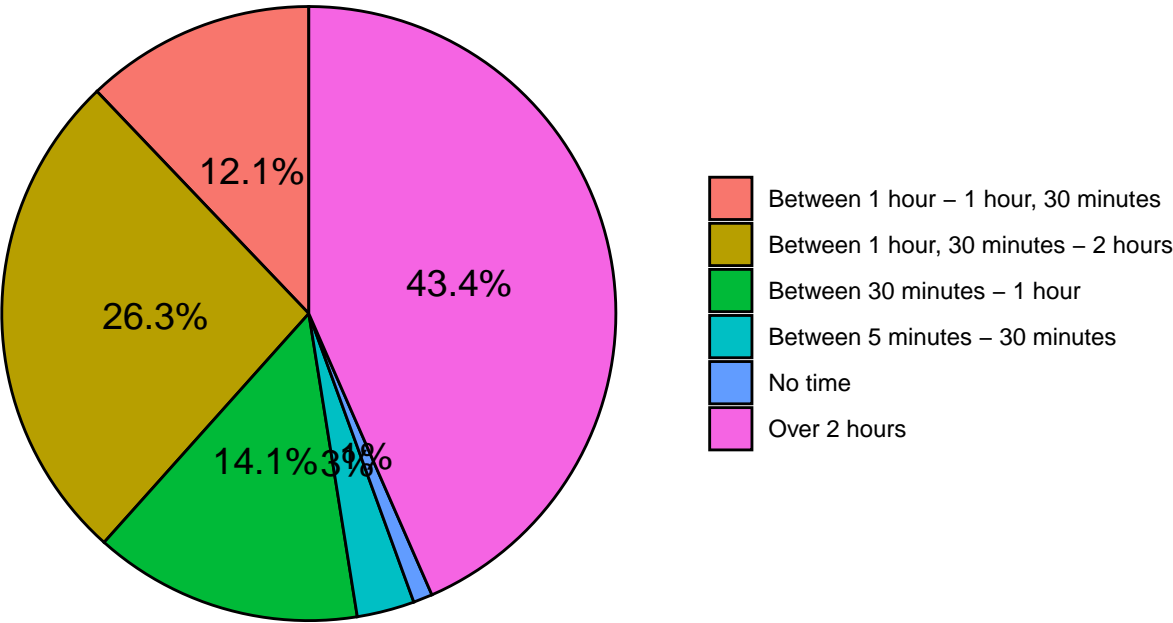
Number of Platforms Used

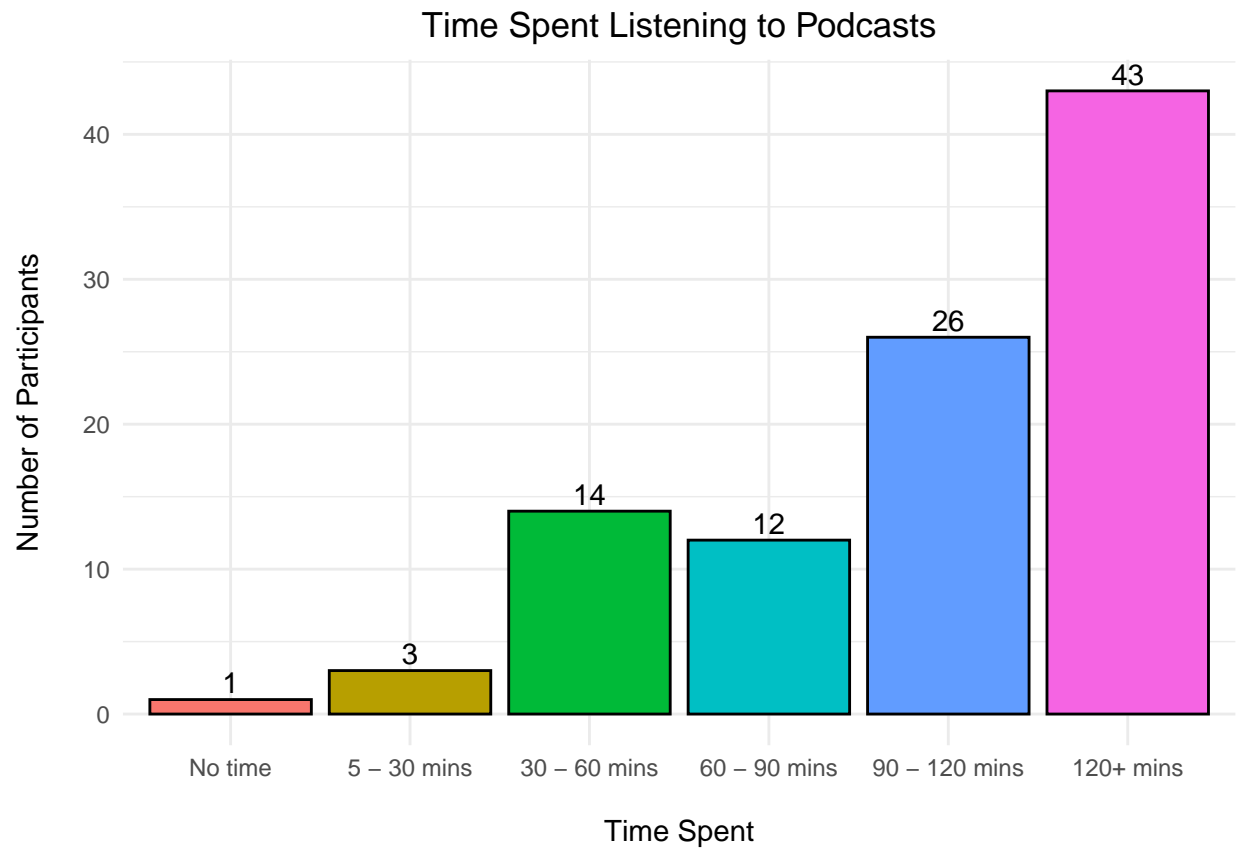


Hours Spent on Social Media

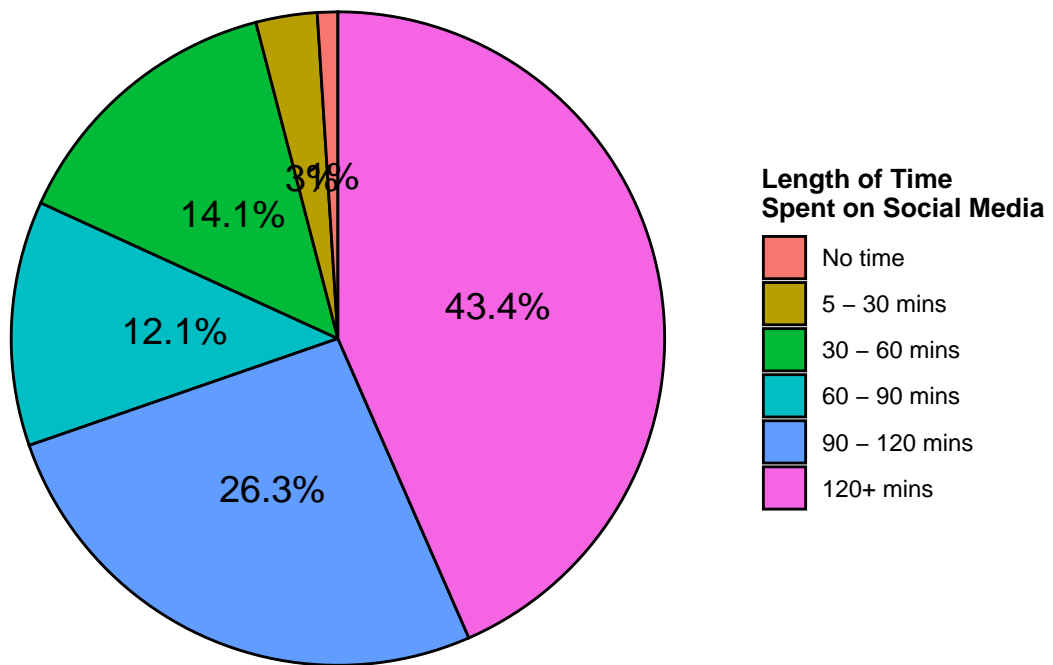
The amount of time exposed to news and information on these platforms.

Time Spent Listening to Podcasts



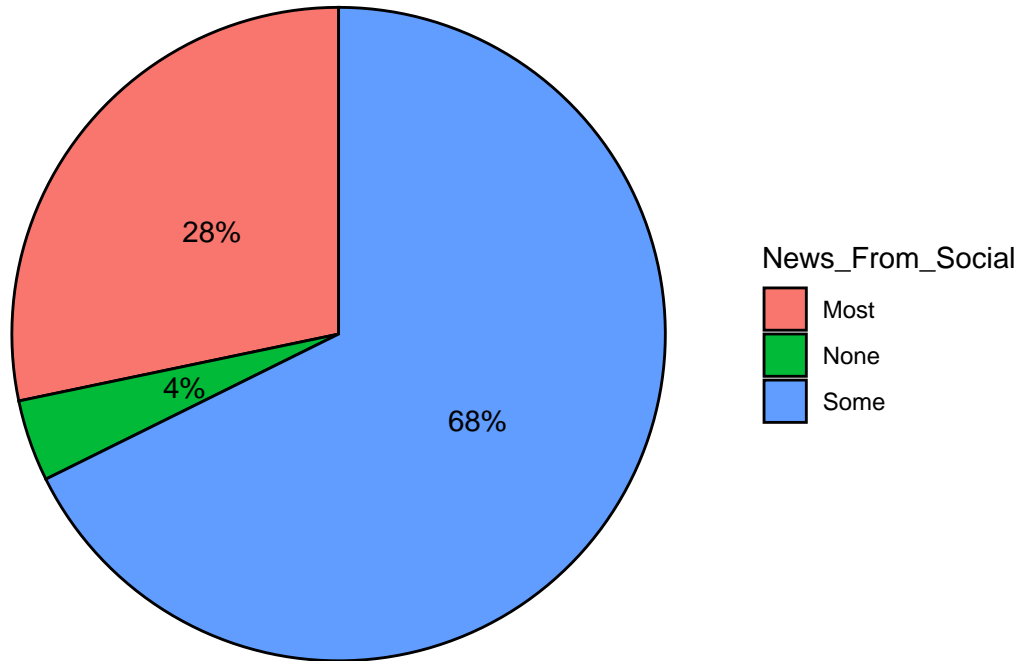


Time Spent on Social Media



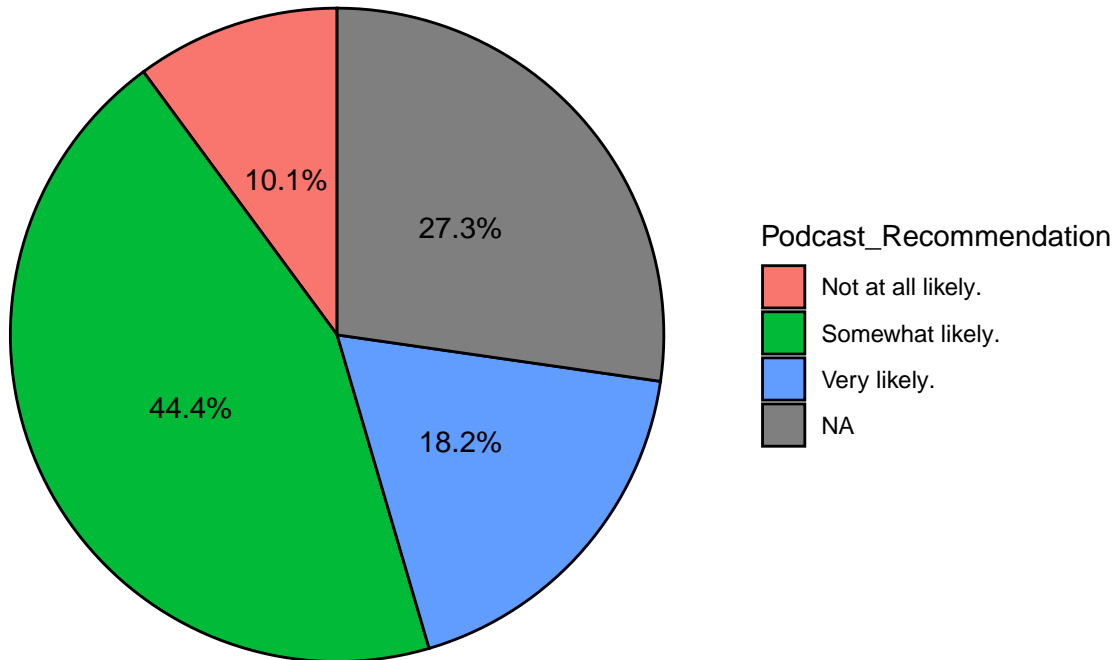
Gathering News From Social Media

Sources of News from Social Media



Podcast Recommendation

Recommending Podcast to a Friend



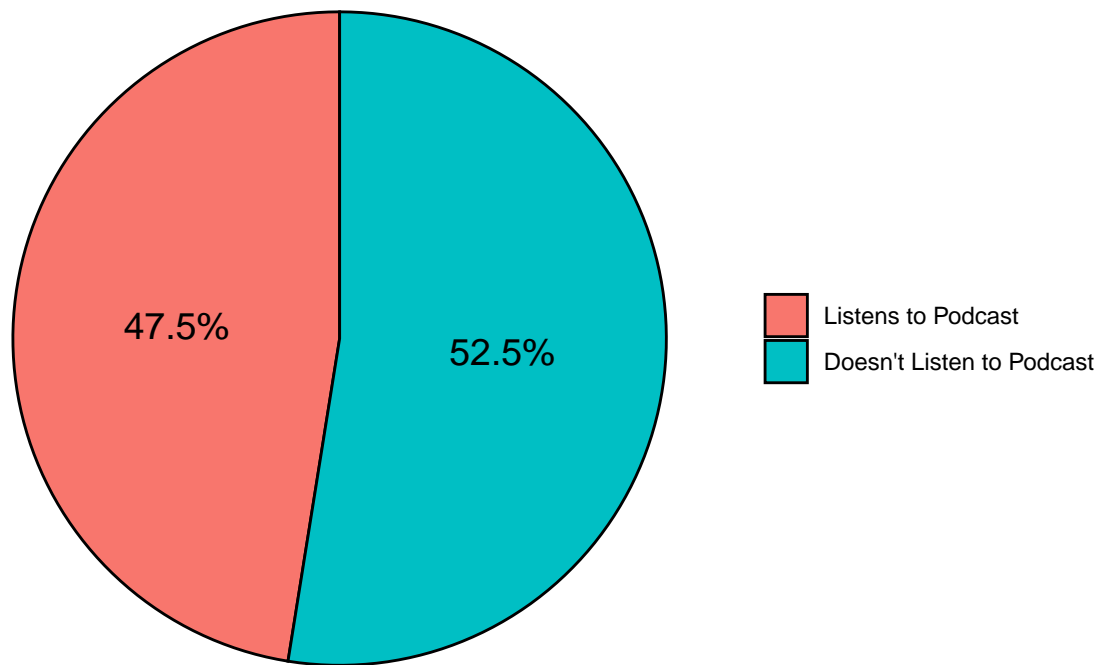
Podcasts & Podcast Habits

Background Research on Educational Podcasts

Podcast vs. Non-Podcast Listeners

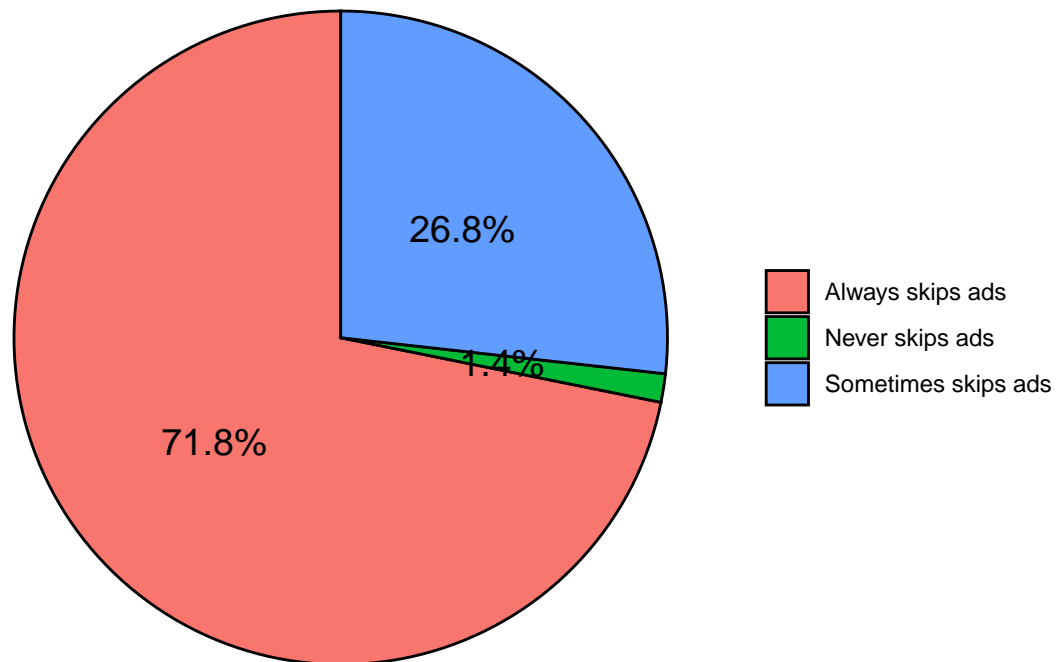
Percentage of non-podcast listeners vs. people who have listen to at least one educational type of podcast.

Proportion of Participants Who Listens to a Podcast



Proportion of Podcast Listeners Who Skip Ads vs. Fast-Forwards

Ad Skipping Behavior



ITMIST Scores

II: Analysis of Qualitative Questions

I've performed thematic analysis/content analysis on the responses from the first question and found seven main themes: (I can look at using Atlas.ti)

Category 2: perhaps a somebody in their life is forcing them to join. Powerful people could be preying on the weak.

Category 4 is a social answer because you want to seek people who have the same views as you. We seek communities of like-minded people. People with similar ideas make someone feels valued and listened to, and you feel like you belong and matter to that person and community. Everything ultimately comes down to community.

Category 6: "Safety in numbers"

Category 8: "Other" - This is if the student didn't understand the question.

You could have a group of similar ideas, but that may not be proposing change necessarily, such as groups that promote conspiracy theories that the moon landing never happened, or that dinosaurs are a hoax, etc.

There were vague answers such as "sense of empowerment," but never stated what gave them a sense of empowerment. This could result from a narcissistic leader giving them the sense of empowerment, but simply belonging to a tribe and community is the base, fundamental level to give someone a sense of empowerment.

There were some vague answers, that “they’re missing something within themselves.” I attributed this to Category 4 because community is the only thing that matters to human, has mattered for millennia since it’s how we survive, how we produce offspring and have a purpose.

QQ1: Change in Content of Answer

I had to manually read each response and subjectively determined if their answer changed. A more optimal method to counter this would be to have multiple people reviewing this and comparing the results with a Gini index, which was not afforded to this project since I was the sole researcher.

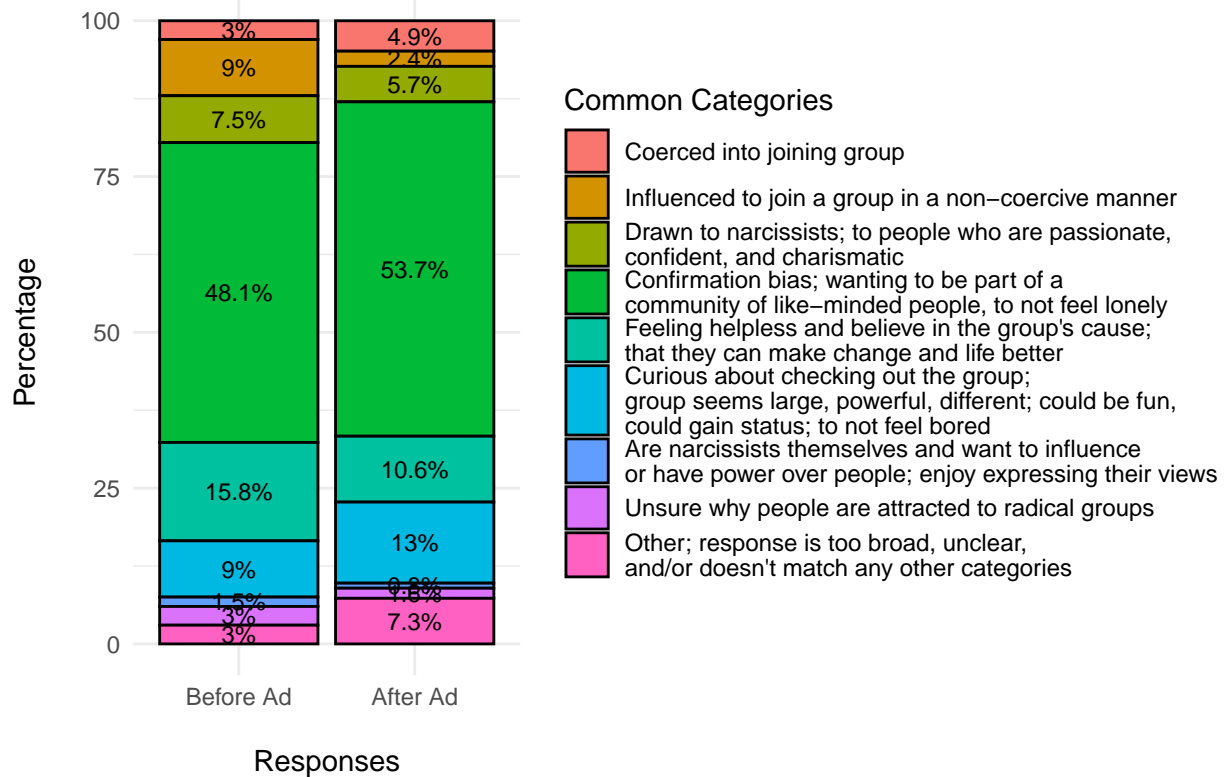
Change in word count. I looked at the amount of sentences and words per sentence, then took an average of words per sentence divided by the number of sentences to measure how each participant writes a sentence and relatively increased or decreased their thoughts

Participant 17 had the largest change, whose values septupled (600%)! Participant 83 had the lowest. A composite score of 1 means that the values doubled, and a composite score of 2 means that it tripled.

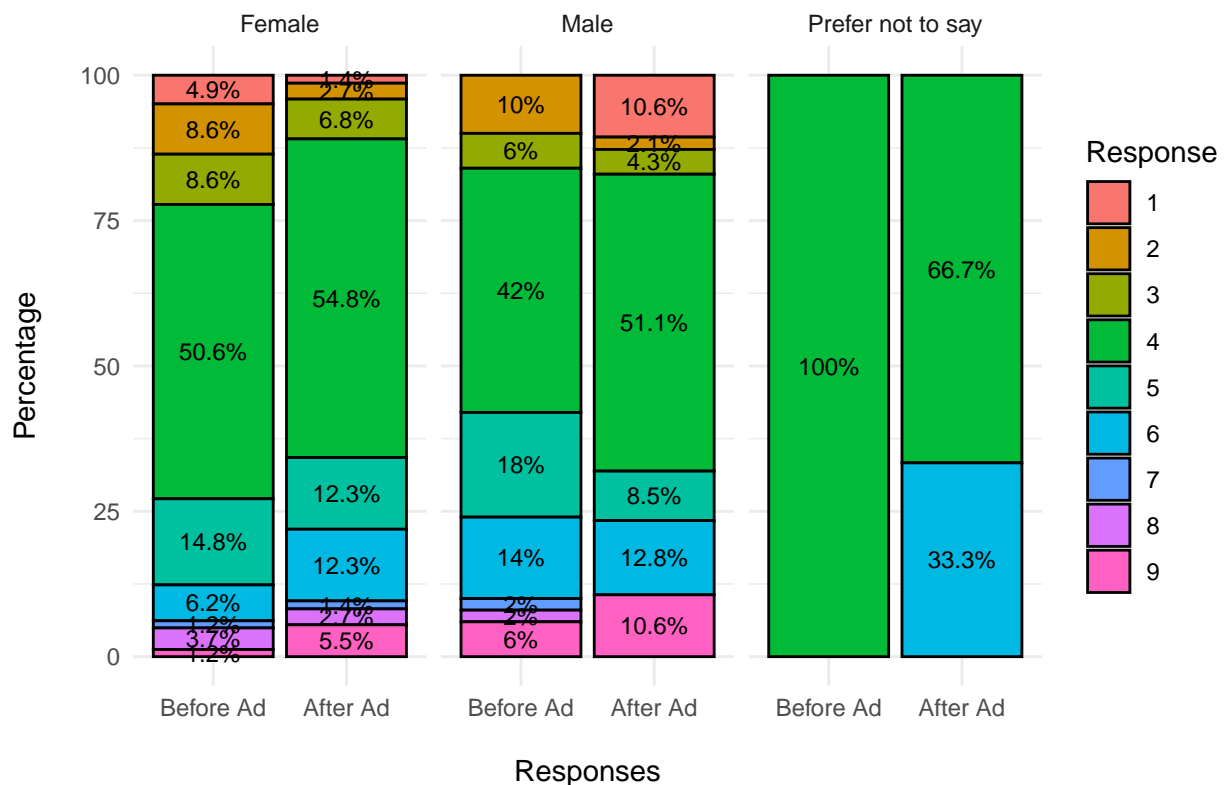
So, looking at values above 1, meaning that the combined words and sentences doubled and went up by 100%.

QQ1: Categorical Data Before & After Ad, All

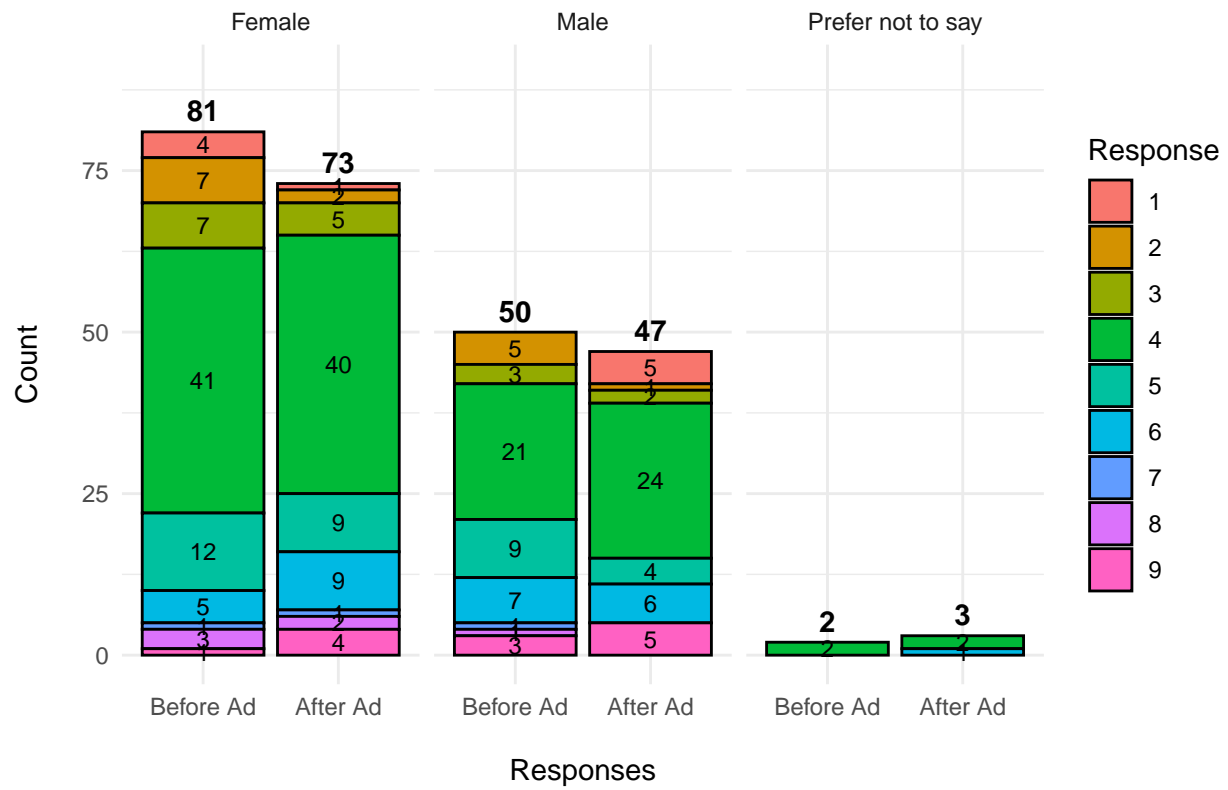
QQ1 Responses Before vs. After Ad (All Groups)



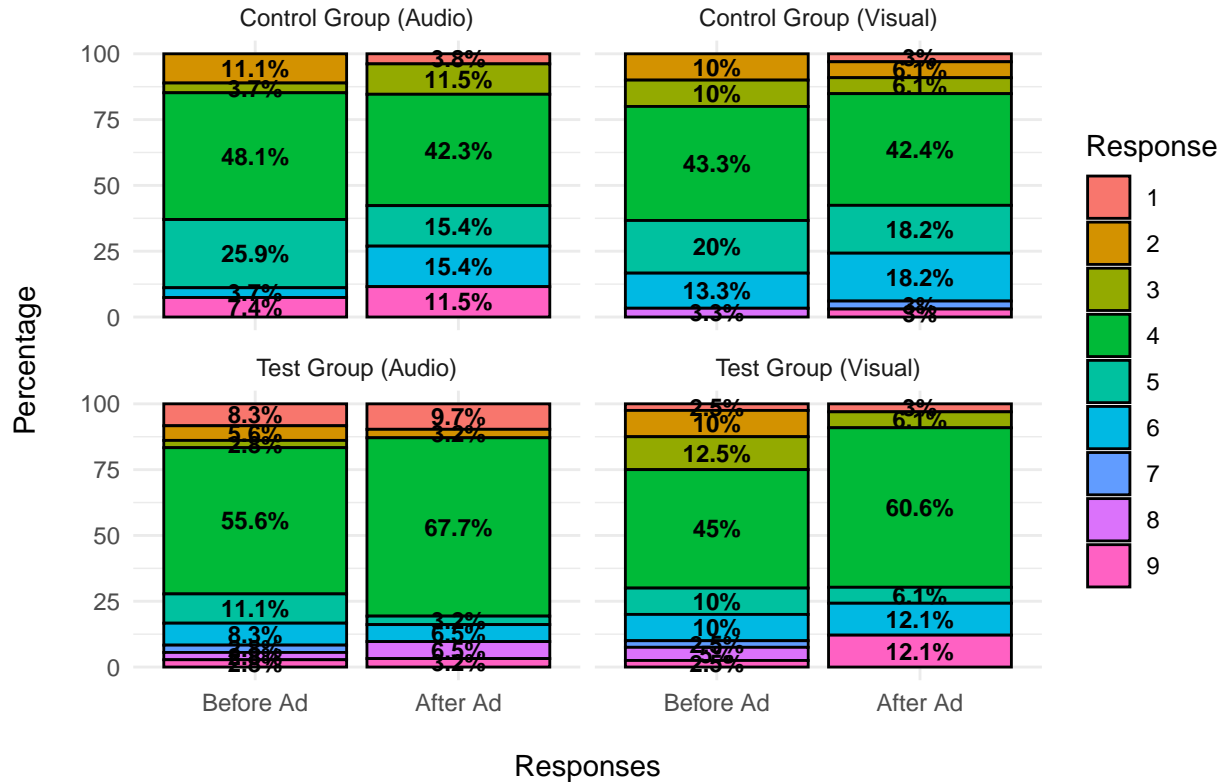
Responses Before vs. After Ad (By Gender)



Responses Before vs. After Ad (By Gender)



QQ1 Responses Before vs. After Ad (Control vs. Test Group)



The top 3 responses are 4, 5 & 6:

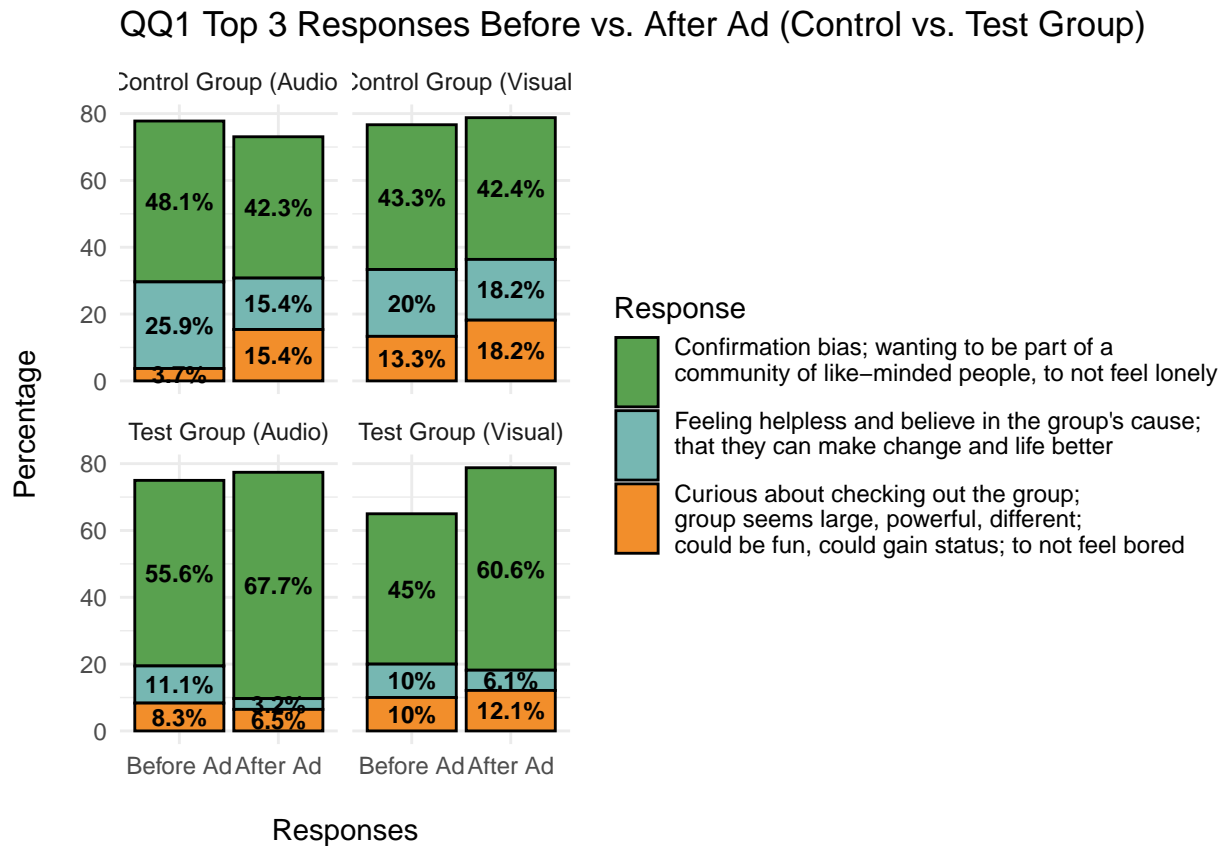
- 4 - Confirmation bias; wanting to be a part of a community of like-minded people, to not feel lonely.
- 5 - Feeling helpless and believe in the group's cause, that they can make change and life better. (Ex: Frustrated with the existing system and believe that change can only be accomplish through extreme, radical action.)
- 6 - Curious about checking out the group; group seems large and powerful and different, that it could be fun to join, an energy to the group; could gain status; the feel of power; to not feel bored (aesthetics of being associated with a group) [COULD THE NEW FRIENDS AD INFLUENCE THIS?]

All responses are:

1. Coerced into joining group, don't really have a choice; brainwashed.
2. Influenced to join a group in a non-coercive manner (family & friends); have more of a choice.
3. Drawn to narcissists, to people who are passionate, confident, and charismatic; wanting to be inferior/submissive to a superior.
4. Confirmation bias; wanting to be a part of a community of like-minded people, to not feel lonely.
5. Feeling helpless and believe in the group's cause, that they can make change and life better. (Ex: Frustrated with the existing system and believe that change can only be accomplish through extreme, radical action.)

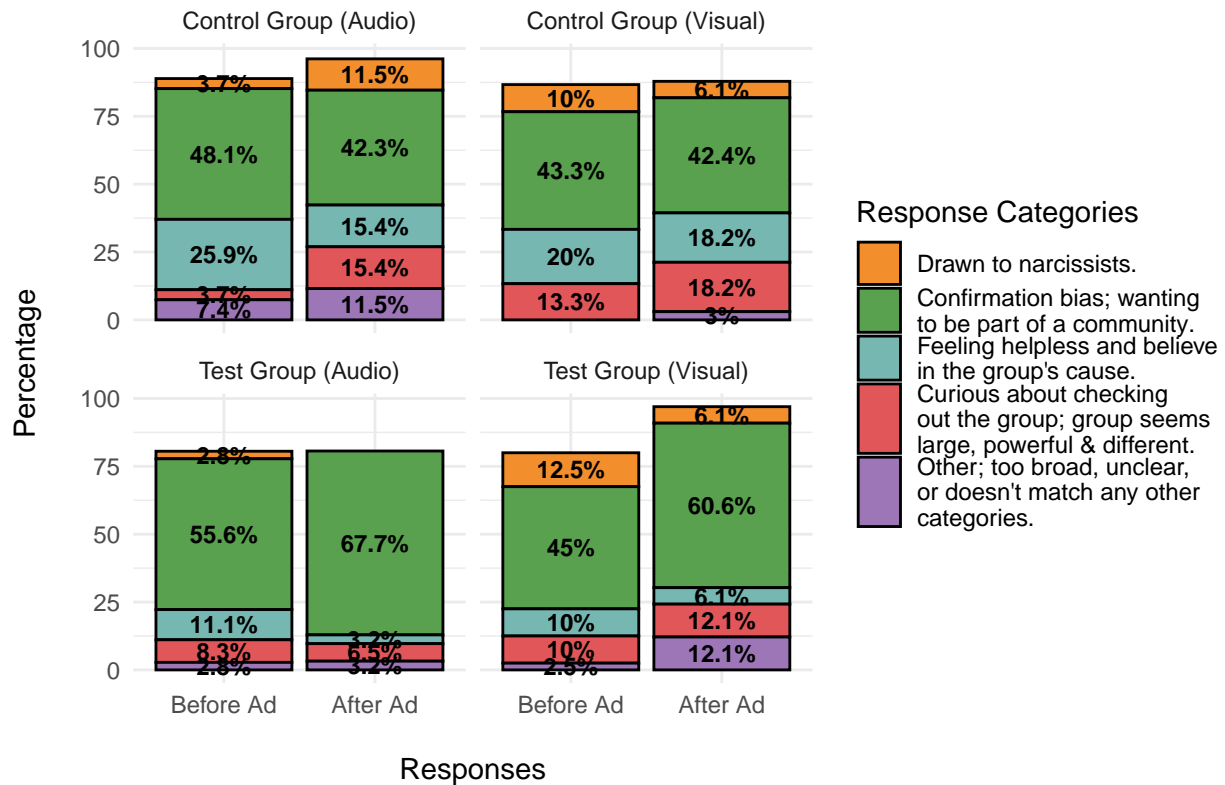
6. Curious about checking out the group; group seems large and powerful and different, that it could be fun to join, an energy to the group; could gain status; the feel of power; to not feel bored (aesthetics of being associated with a group).
7. Are narcissists themselves and want to influence or have power over people; enjoy expressing their views.
8. Unsure why people are attracted to radical groups.
9. Other; too broad, unclear, or doesn't match any other categories

Top 3 Categories for QQ1

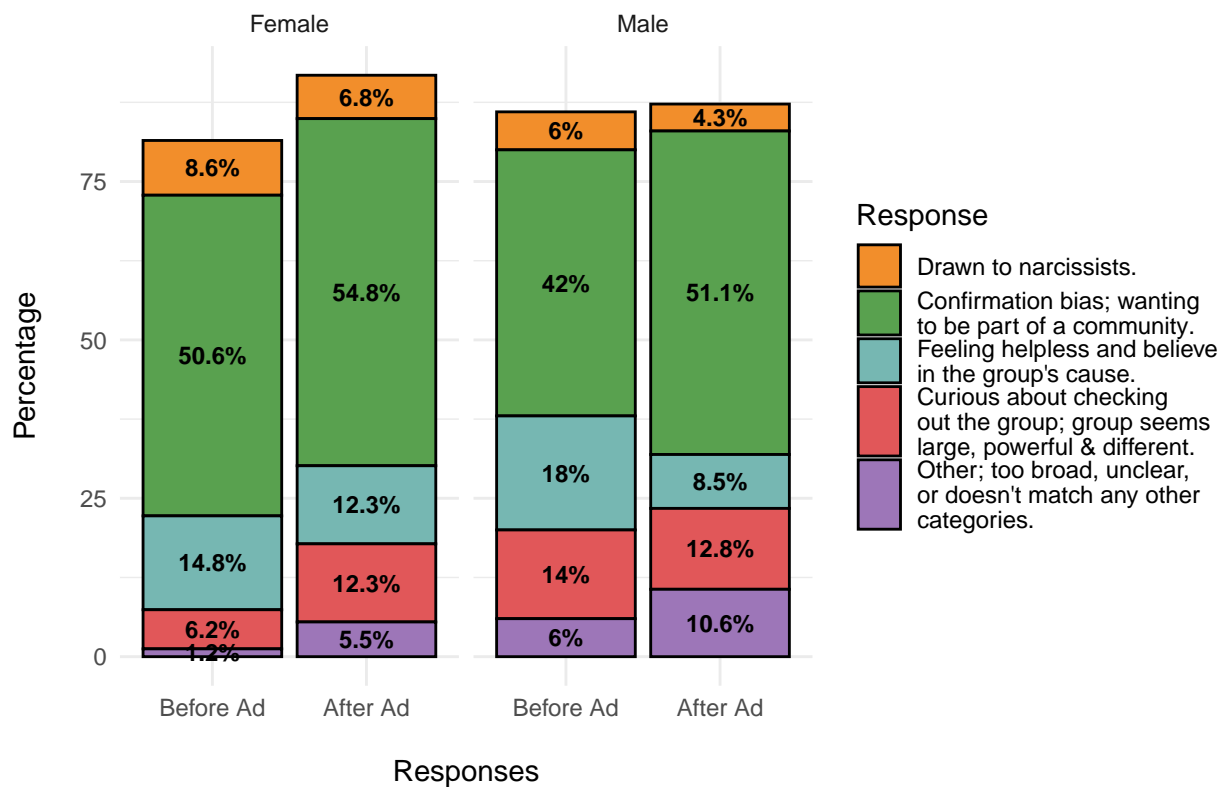


THIS ONE: Top 5 Responses for QQ1

QQ1 Top 5 Responses Before vs. After Ad (Control vs. Test Group)



QQ1 Top 5 Responses Before vs. After Ad (Male vs. Female)



For Control, “Curious about checking out the group” and “Other” had the largest increase, plus “Drawn to narcissists” for the first one; otherwise, all other categorical values declined. It is possible that this reflects the character’s willingness to want to check out the group of new friends, that she wasn’t drawn to narcissists because narcissists were specifically mention as being part of the new group.

For Test, “Confirmation bias” significantly went up. This could reflect something in the ad...[INSERT EXCERPT FROM TRANSCRIPT/EVIDENCE]. “Feeling helpless” went down for both, as well as “Drawn to narcissists”, and “Other” significantly increased for Test Group (Visual), an increase of 384%, from 2.5% to 12.1%.

Control Ad The only thing that decreased was “believing in the group’s mission, that it can improve their lives.” Since no radical group was mentioned in the ad, it’s possible this could have influenced people’s answers.

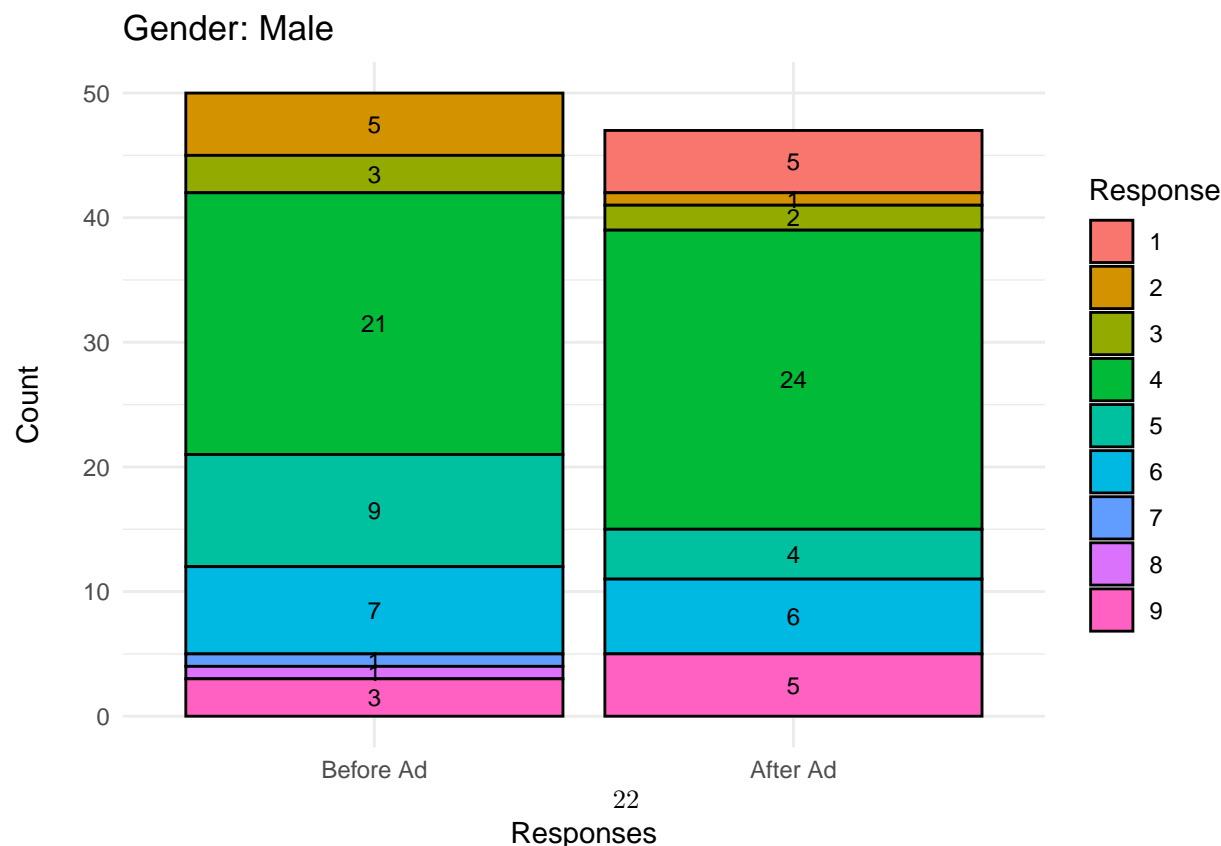
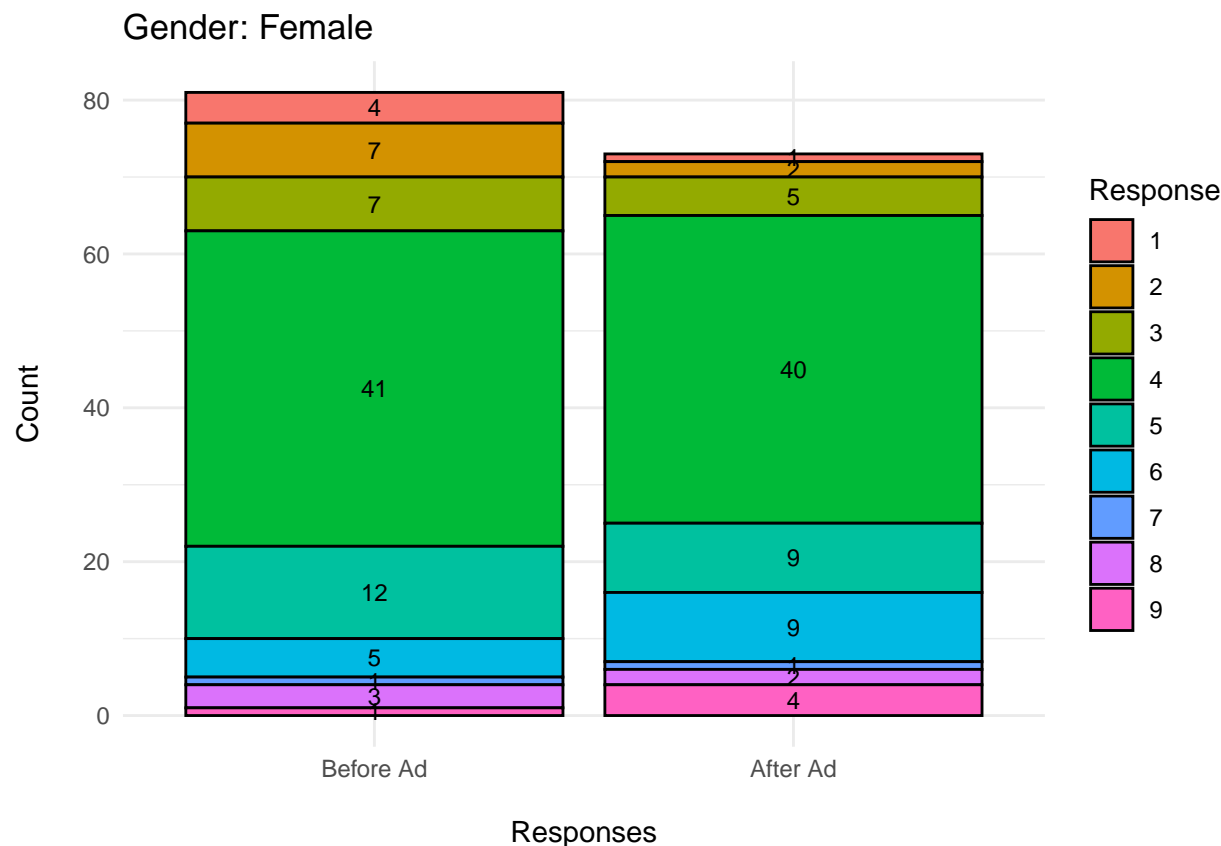
[The difference is that her friends aren’t trying to storm the post office. The only thing wrong with them is that they go bowling too early, in the morning. They could possibly be seen as productive people and if Jessica doesn’t want to go with them in the morning, then maybe she’s not a match to having morning friends, which Mel has friends who enjoy doing stuff at night, which Jessica is interested in hanging out with these people.]

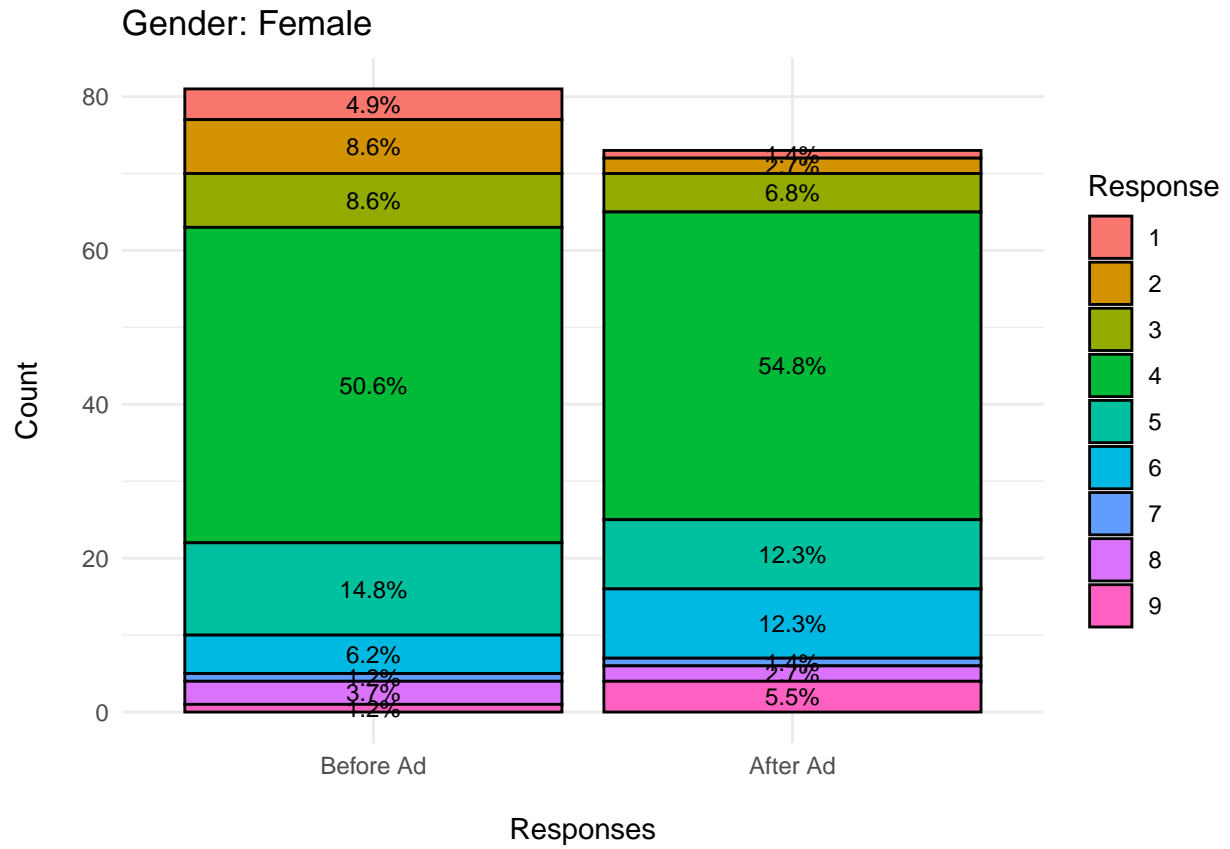
Test Ad Since the “confirmation bias and wanting to be part of a community” significantly went up, It’s possible that Jessica was wanting to be a part of a radical group.

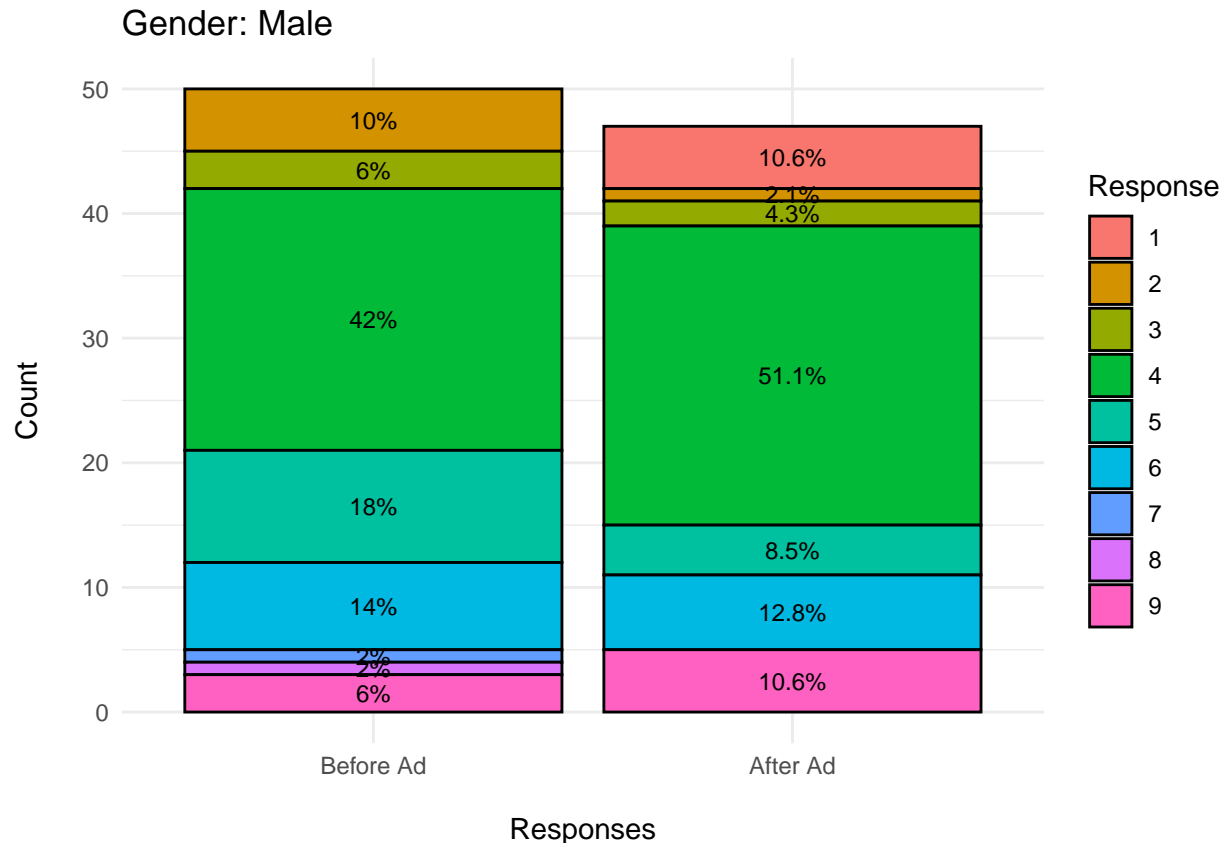
The narcissists answers decreases for both. Regardless of what exactly influenced their answers, **responses relating to “confirmation bias and joining a radical group” significantly increase, perhaps due to Jessica joining a radical group before her old friend Mel gets her to hang out with him and his (normal) friends.** [This is really the only thing that I can say with certainty.]

Testing to See if New Friends Ad Has Anything to do with This

THIS ONE: QQ1 “GENDER” - Categorical Data Before & After Ad, by Gender







1. Coerced into joining group, don't really have a choice; brainwashed.

1. This is an interesting one where males didn't list being coerced into a group, but after hearing the ad this jumped to 10% of answers.

2. Influenced to join a group in a non-coercive manner (family & friends); have more of a choice.

3. Drawn to narcissists, to people who are passionate, confident, and charismatic; wanting to be inferior/submissive to a superior.

4. Confirmation bias; wanting to be part of a community.

5. Feeling helpless and believe in the group's cause.

6. Curious about checking out the group; group seems large, powerful & different.

1. (This one doubled for Females; the main character was checking out a new group.)

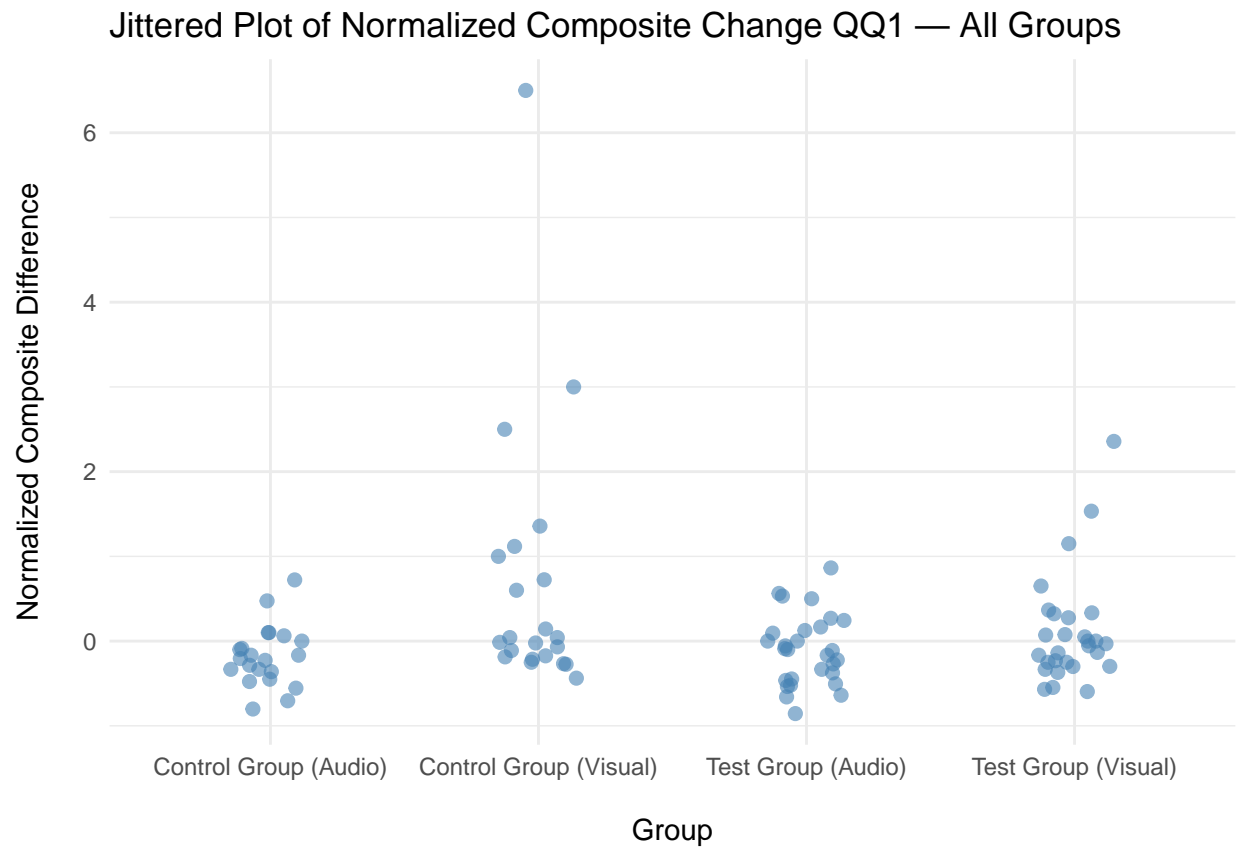
7. Are narcissists themselves and want to influence or have power over people; enjoy expressing their views.

8. Unsure why people are attracted to radical groups.

9. Other; too broad, unclear, or doesn't match any other categories.

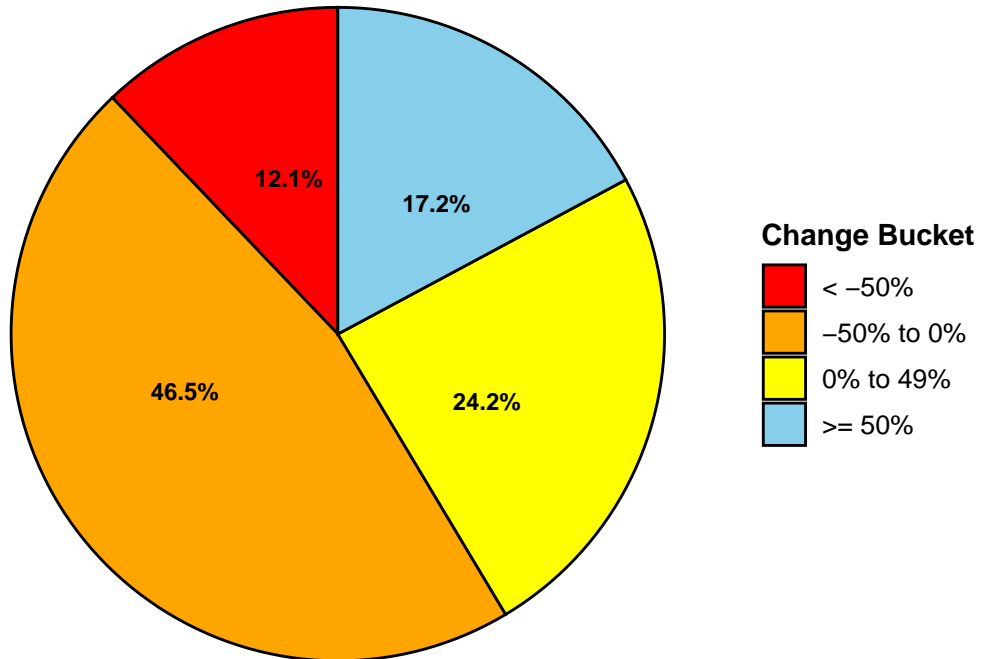
Females had all 9 categories, but males only had 8 categories before the ad, then down to 7 categories after the ad, where they had an answer that fit into one of the main themes. Females stated "Unsure" as an answer before and after their ad, although between 2.7% - 3.7% before and after viewing the ad.

THIS ONE - QQ1: Composite Score - Jitter Plots

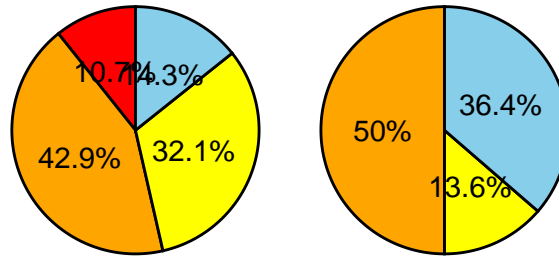


QQ1: Composite Score - Pie Charts

Composite Change Distribution by Bucket

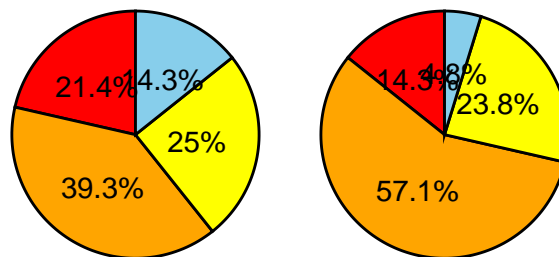


Test Group (Visual) Control Group (Visual)



Change Bucket ■ < -50% ■ -50% to 0% ■ 0% to 49% ■ >= 50%

Test Group (Audio) Control Group (Audio)



Change Bucket ■ < -50% ■ -50% to 0% ■ 0% to 49% ■ >= 50%

QQ2

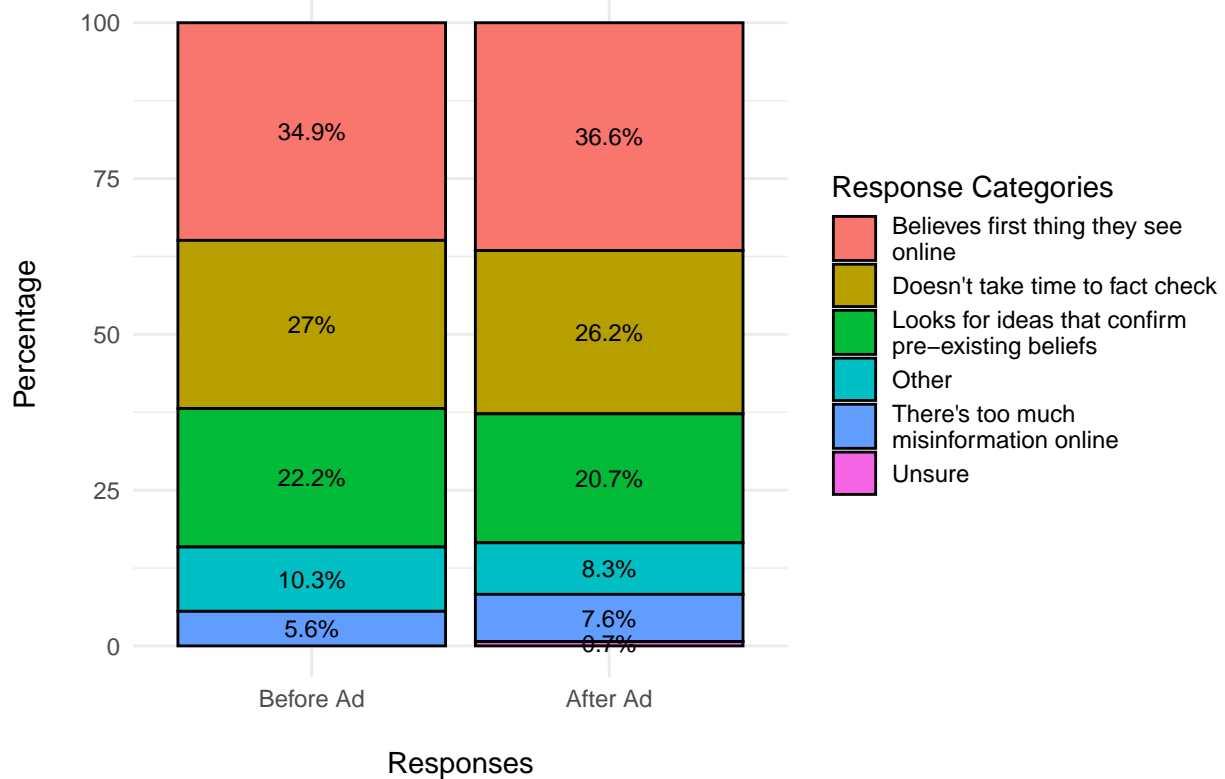
“What are some reasons you think people believe false ideas circulating online?”

There were six main themes to this question. The responses stayed nearly identical. This section was easier to create categories out of than QQ1.

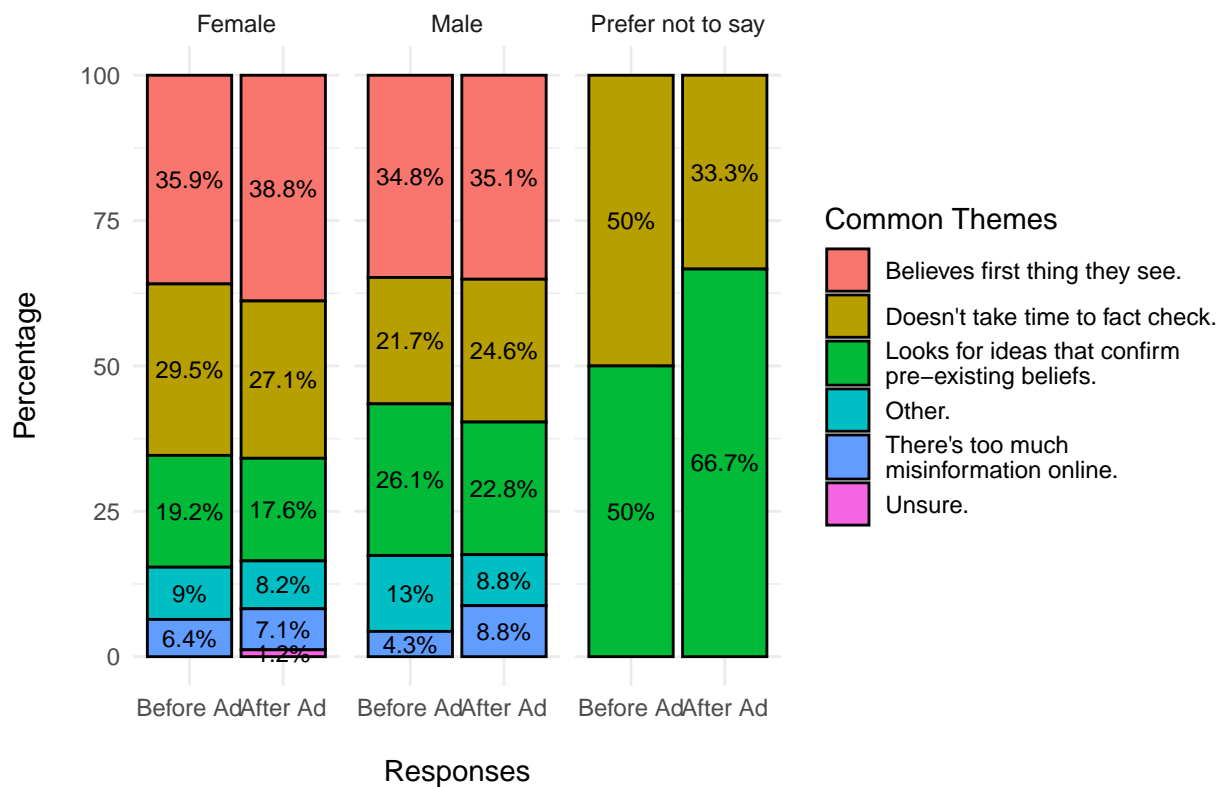
I believe there’s a difference between seeing information for the first time, because this was never stated anyways with “don’t take time to fact check” and “believe first thing they see”.

THIS ONE - QQ2: Categorical Data Before & After, All Categories

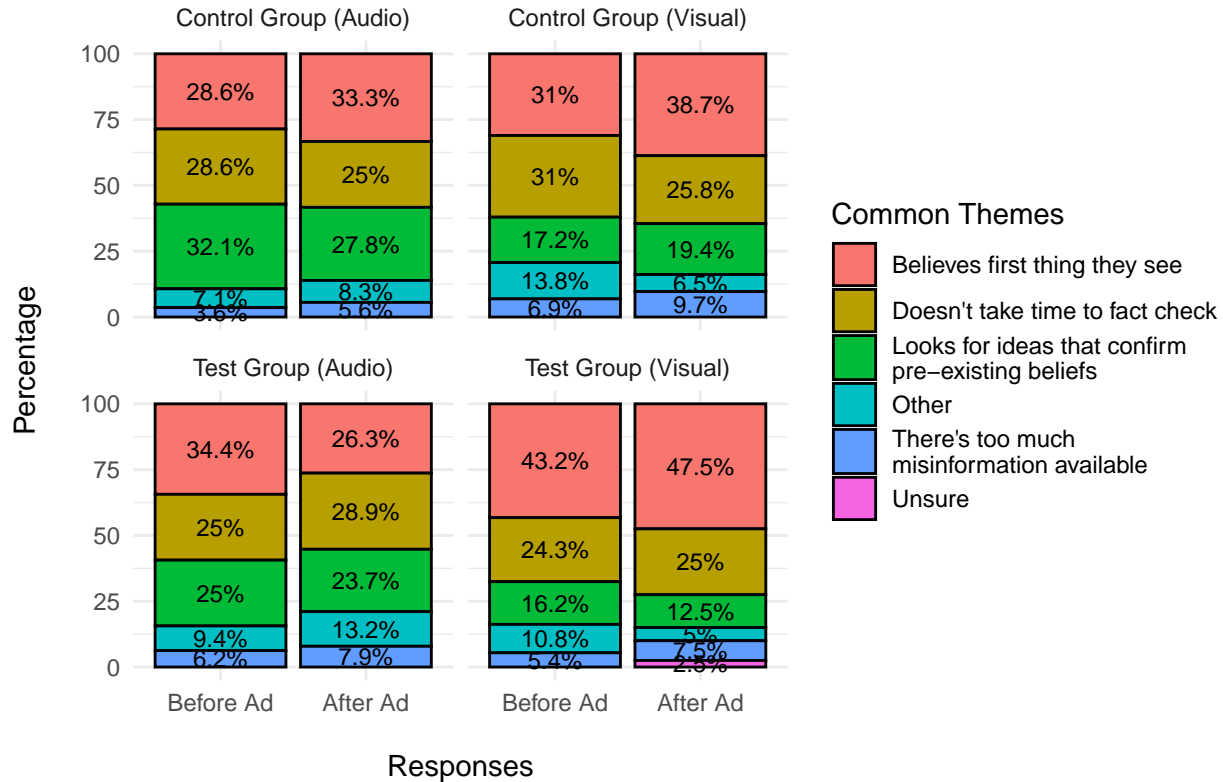
QQ2 Responses Before vs. After Ad (All Groups)



QQ2 Responses Before vs. After Ad (By Gender)



QQ2 Responses Before vs. After Ad (Control vs. Test Group)



Control Ad There really was one significant finding: “Believes first thing they see” increased while “Doesn’t take time to fact check” slightly decreased. It is possible that this was reflected in Jessica’s character believing what she saw online.

Test Ad No consistent trends.

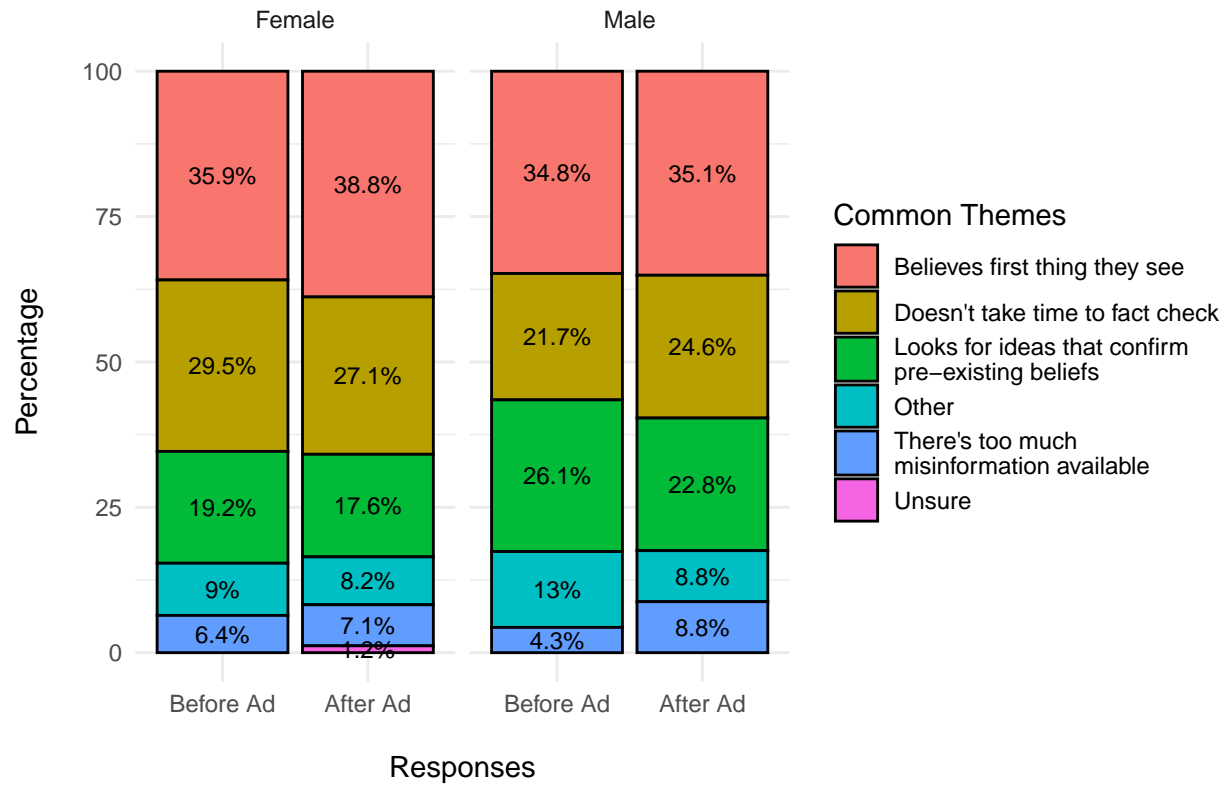
Original Thoughts The first category, “Believes first thing they see,” increases and remains the dominant category exact for the group who listened to the audio ad, which decreased and was replaced by the category “Doesn’t take time to fact check.” This was already a common response among participants that upon filling out the questionnaire on the second attempt, they may have simply switched over to the default value.

However, when you zoom back and look at the responses overall, porportionally they remained the same where either ad seemed to had no significant effect on changing the responses.

“1” = “Don’t take time to fact check and verify information.”, “2” = “Believe first thing they see; source seems real, important, or is popular.”, “3” = “Look for ideas confirming pre-existing beliefs, or for entertaining, dramatic ideas.”, “4” = “Unsure.”, “5” = “Other.”, “6” = “There’s too much misinformation available that gets spread around easily.”

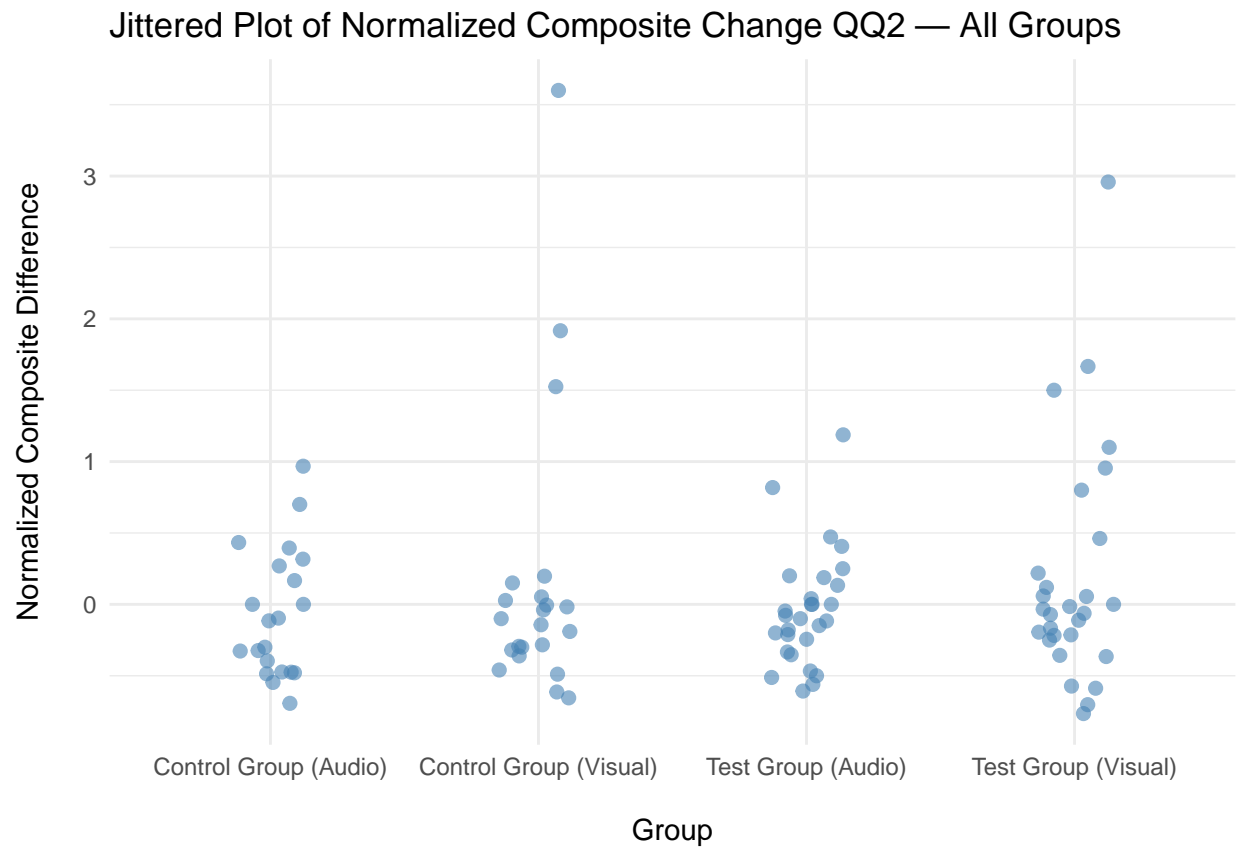
THIS ONE: QQ2 “GENDER” - Categorical Data Before & After Ad, by Gender

QQ2 Responses Before vs. After Ad (Male vs. Female)



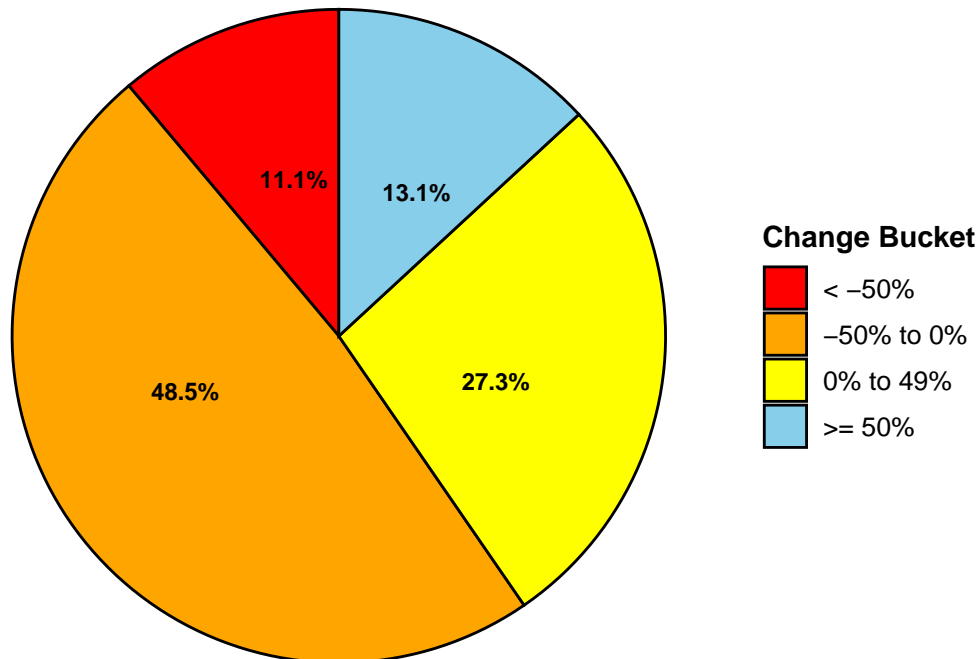
Males and females had the same ideas about QQ2, about why people believe misinformation online.

THIS ONE - QQ2: Change in Composite Score - Jitter Plot



QQ2: Composite Score - Pie Charts

Composite Change Distribution by Bucket

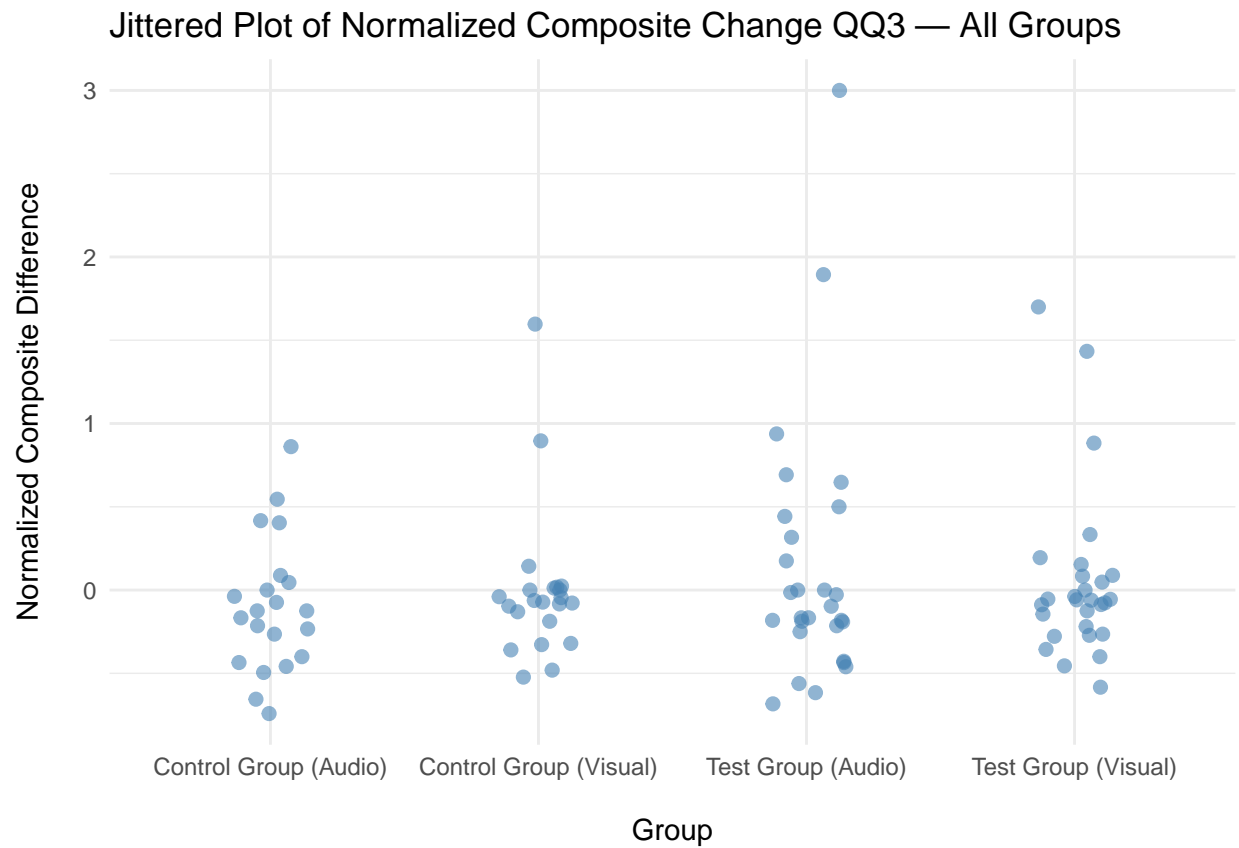


The drop was the same percentage for Test Group - Visual and Audio: 57.2% and 57.1%, respectively; but the word count more than doubled for Visual in the Test Group. and was slightly larger for the Control Group, although the drop in word and sentence count was the highest in this group, with 59.1%.

QQ3

The ad doesn't really say anything about lying, so instead of looking at each GROUP (Test vs. Control) category, which didn't show much of a difference (the second plot below), I decided to look at just gender and found some very interesting results.

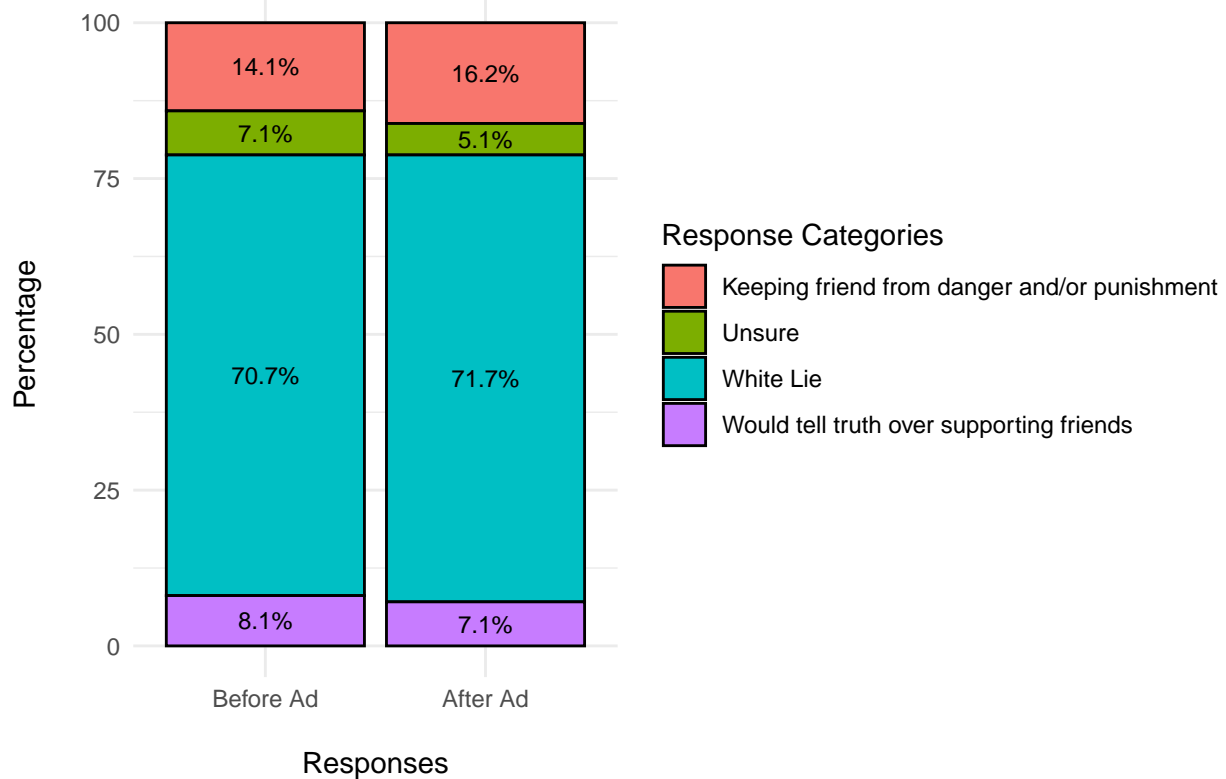
THIS ONE - QQ3: Composite Score - Pie Charts



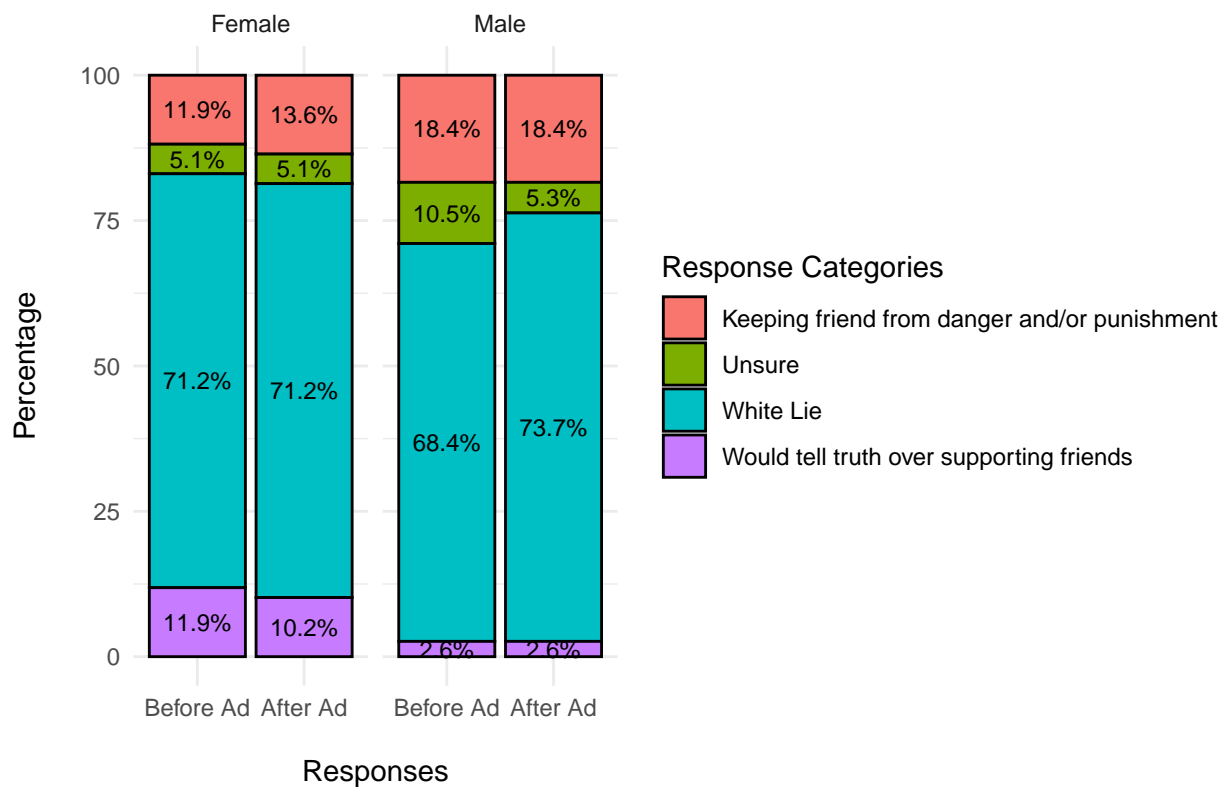
This significantly dropped, and surprisingly the audio had the greatest increase amount of words and sentences, but also the greatest drop, too.

THIS ONE - QQ3: Categorical Data Before & After, All Categories

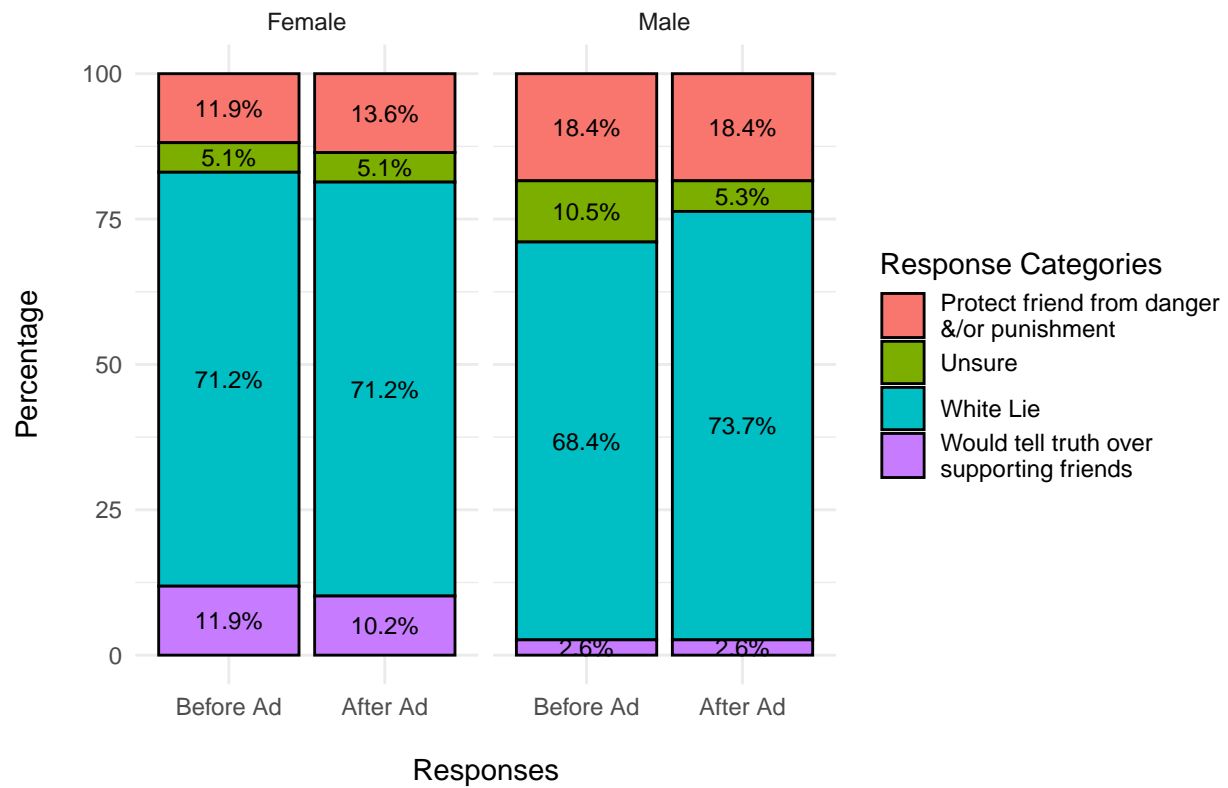
QQ3 Responses Before vs. After Ad (All Groups)



QQ3 Responses Before vs. After Ad (By Gender: Male and Female Only)

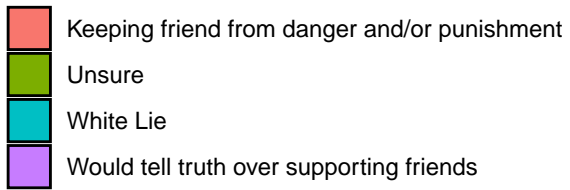


QQ3 Responses Before vs. After Ad (By Gender: Male and Female Only)

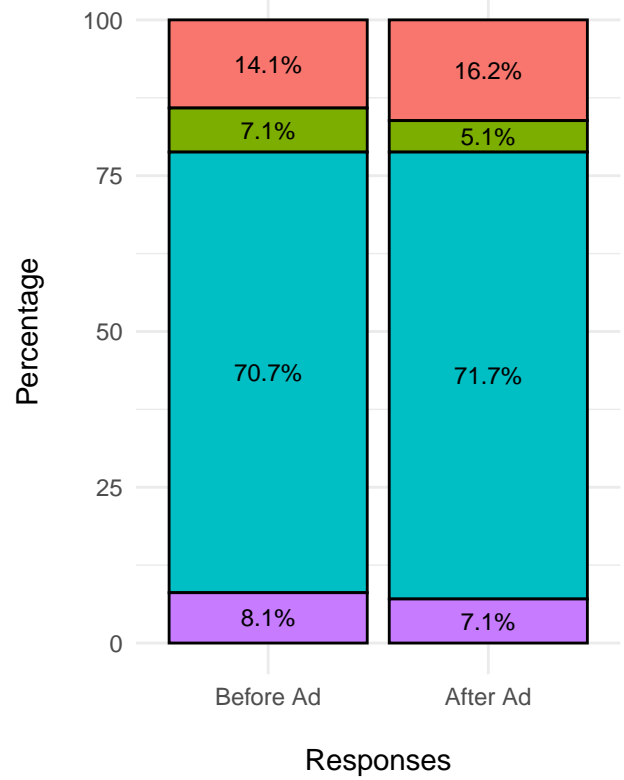


Significant finding: Women are willing to tell the truth more than men, 11.1% vs. 2.6% of men.

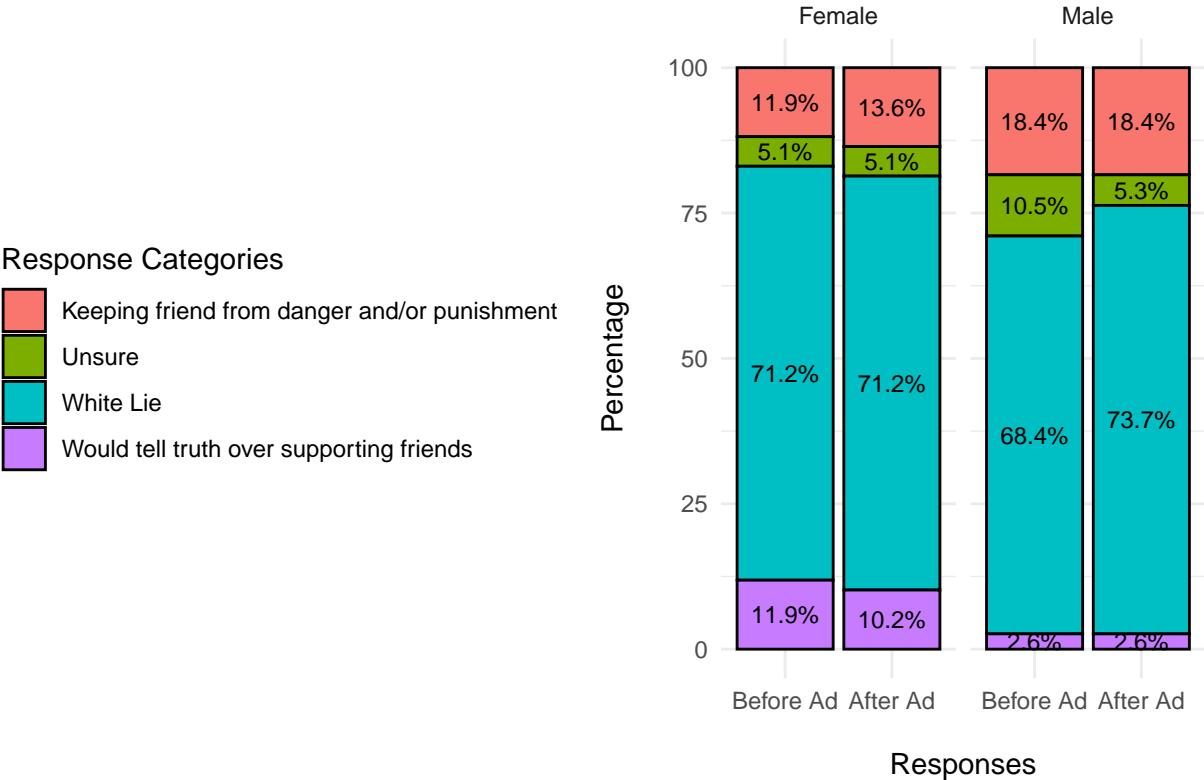
Response Categories



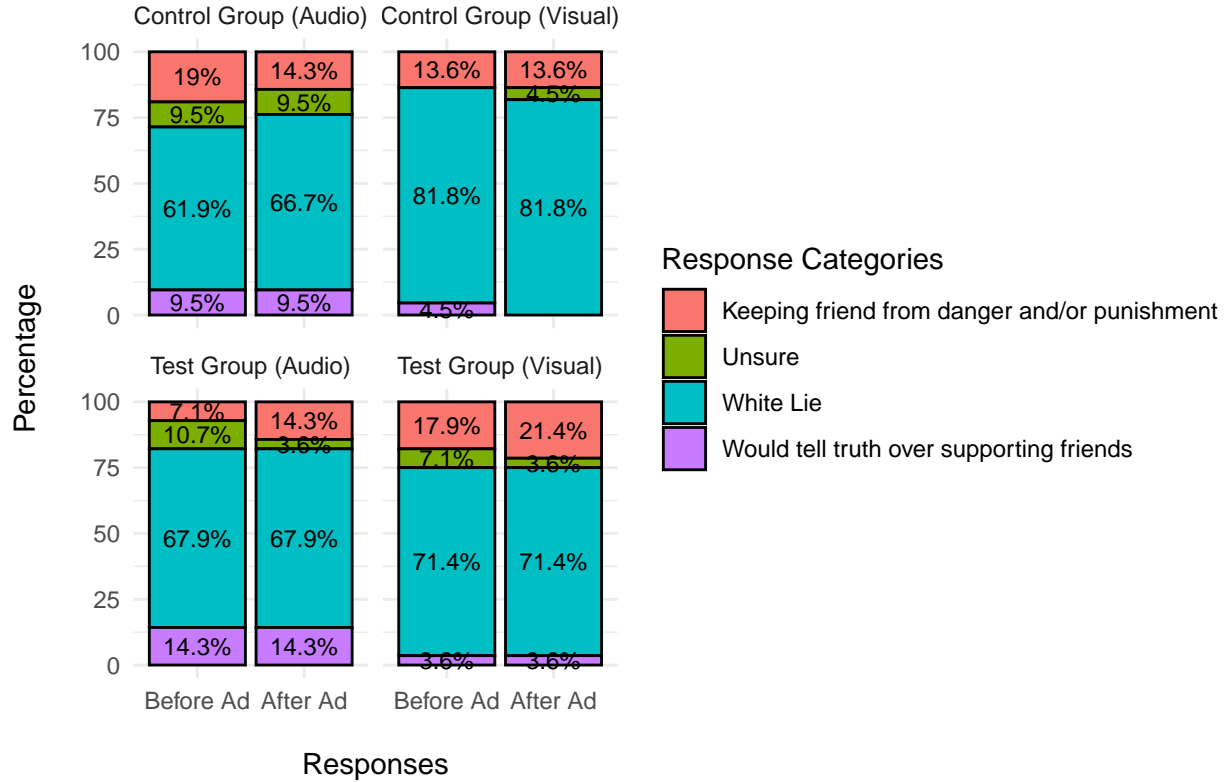
QQ3 Responses Before vs. After



QQ3 Responses Before vs. After

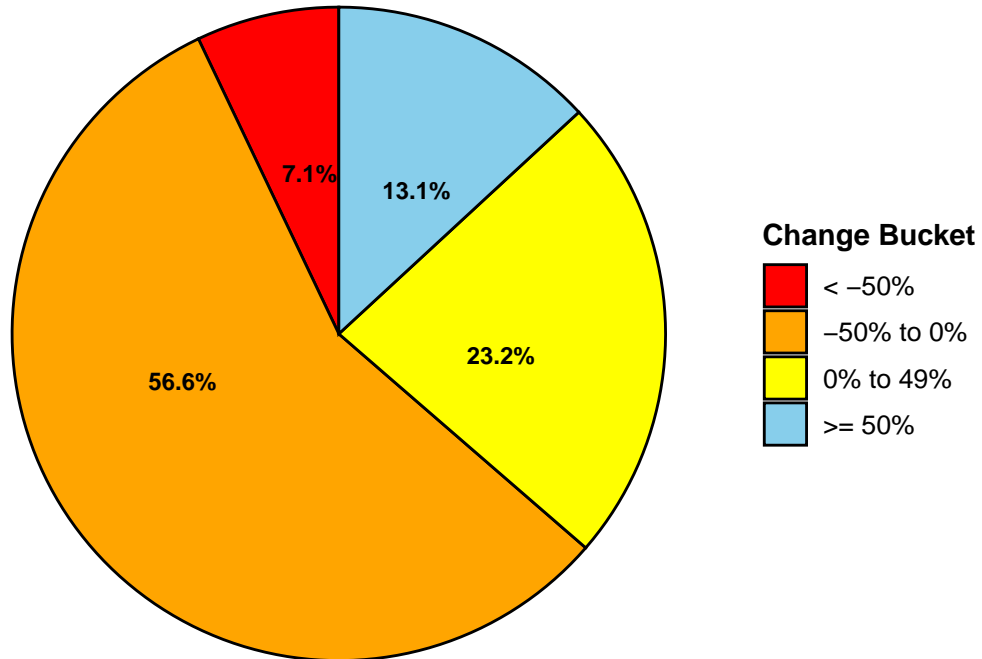


QQ3 Responses Before vs. After Ad (Control vs. Test Group)



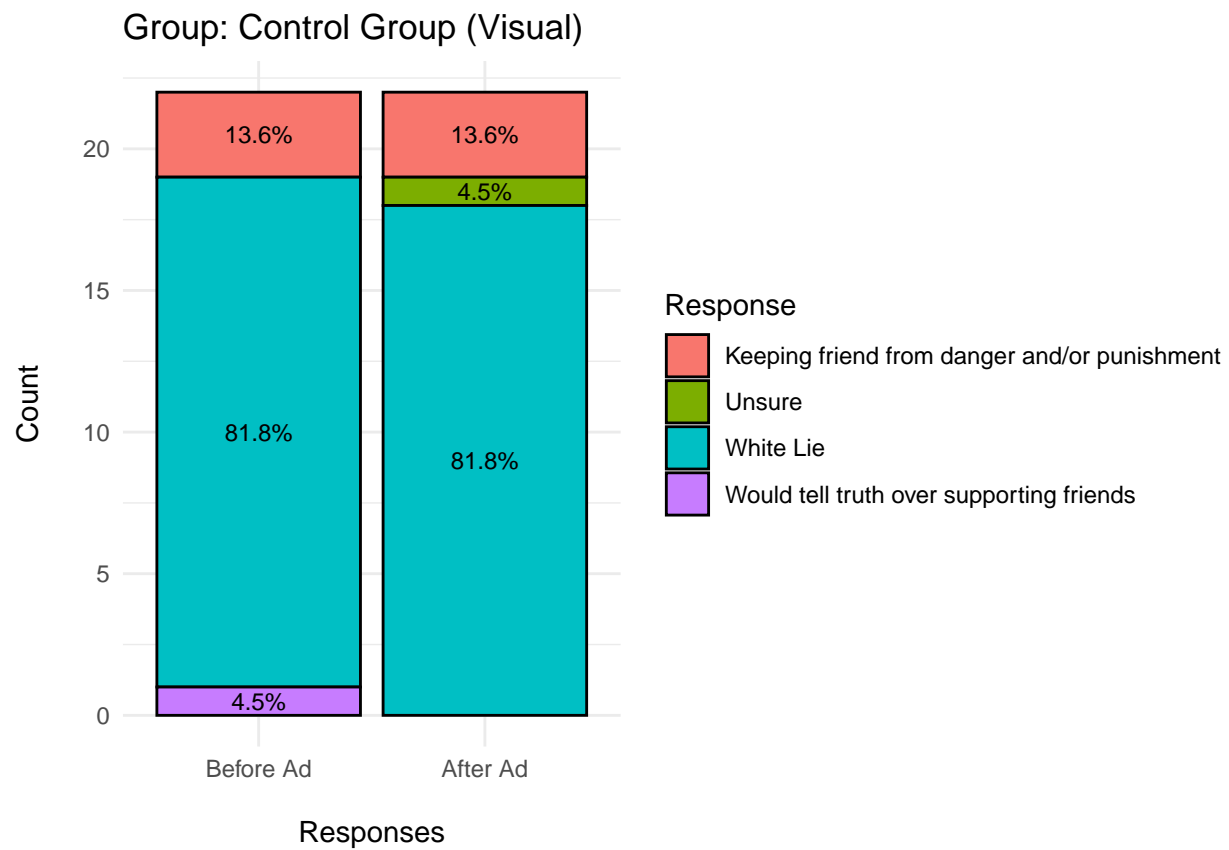
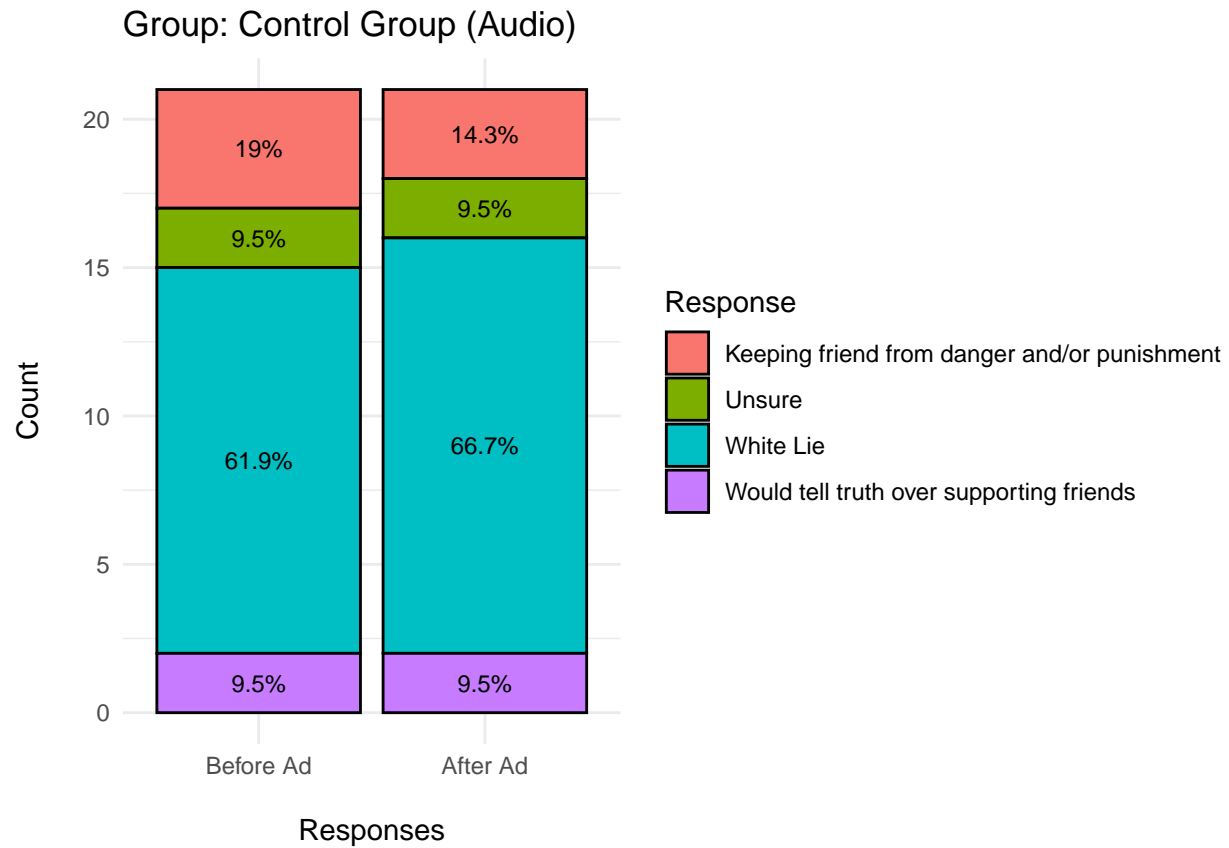
QQ3: Composite Scores as Pie Charts (Bad & Hard to Decipher)

Composite Change Distribution by Bucket

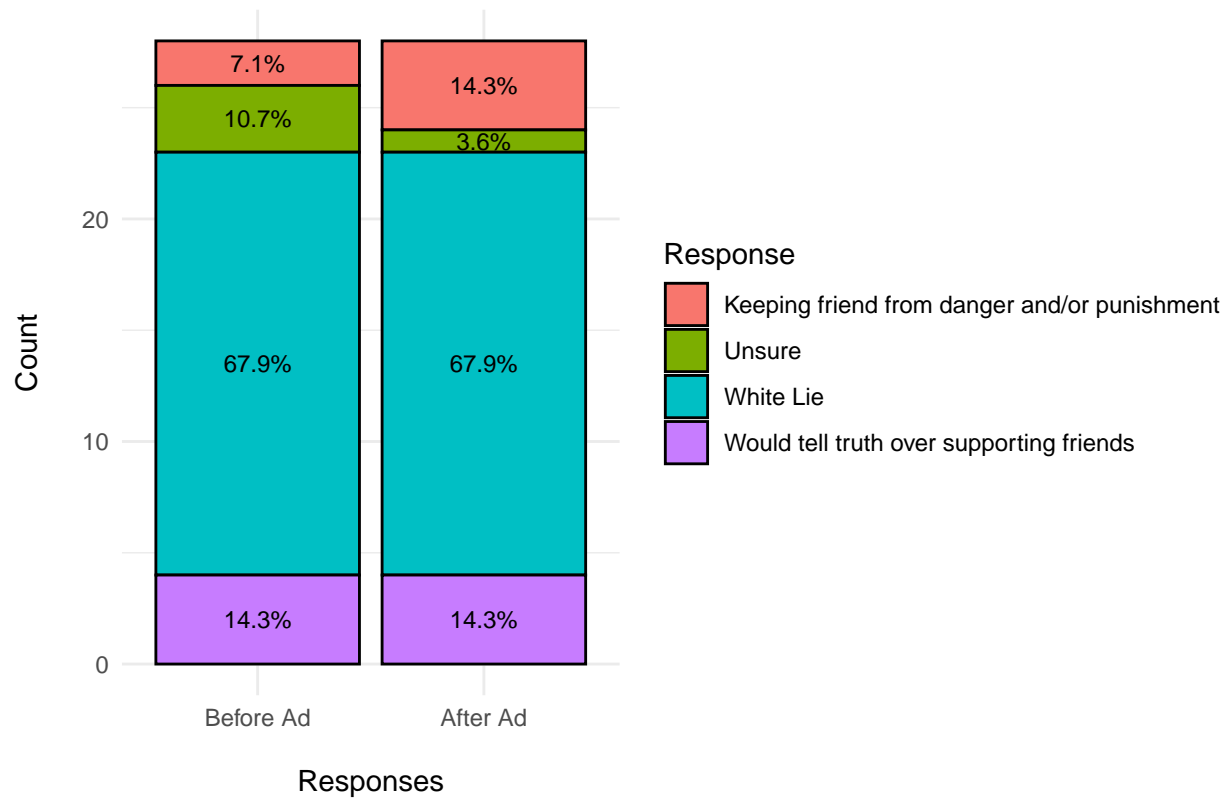


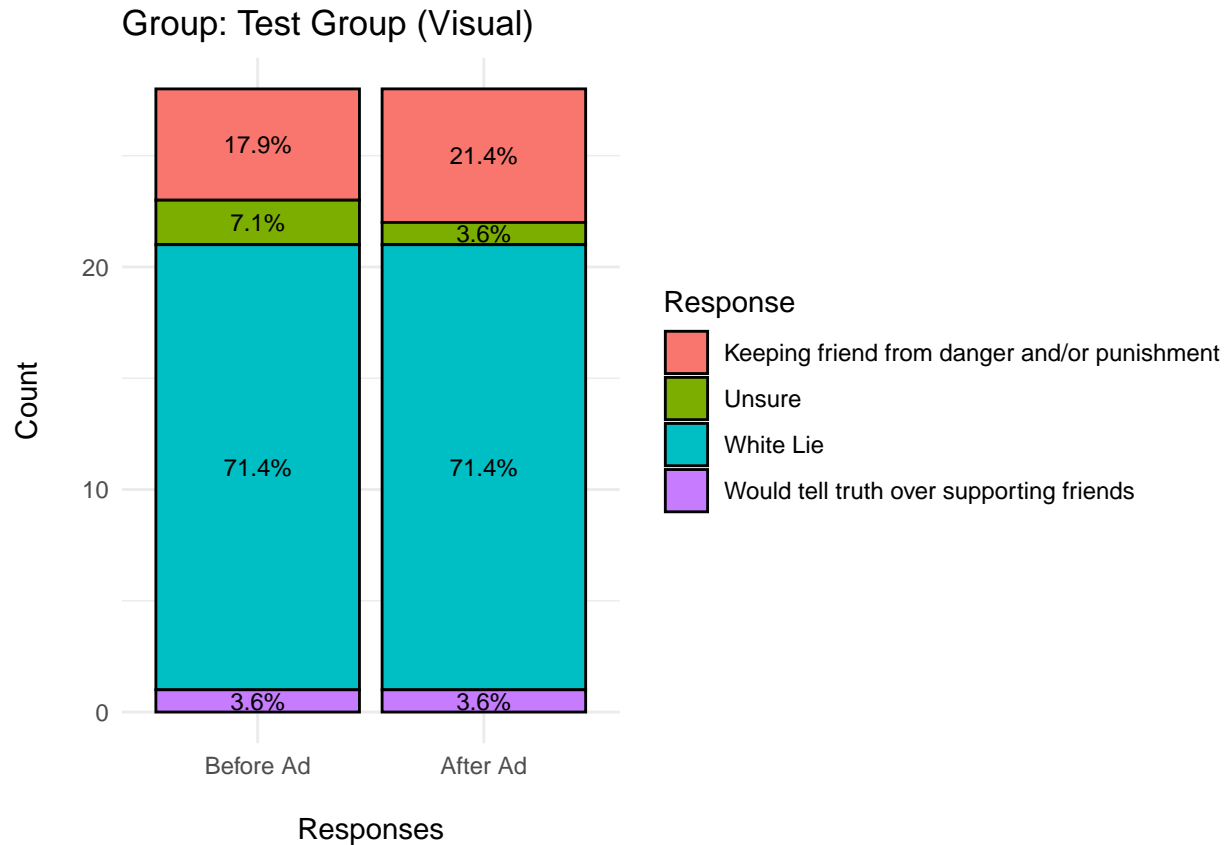
Significant finding: 57% of respondents decreased their answer for QQ3. In total, 63.7% had decreased their answers compared to 36.3% who increased their answers.

QQ3: Percentage Change in Views/Answers



Group: Test Group (Audio)





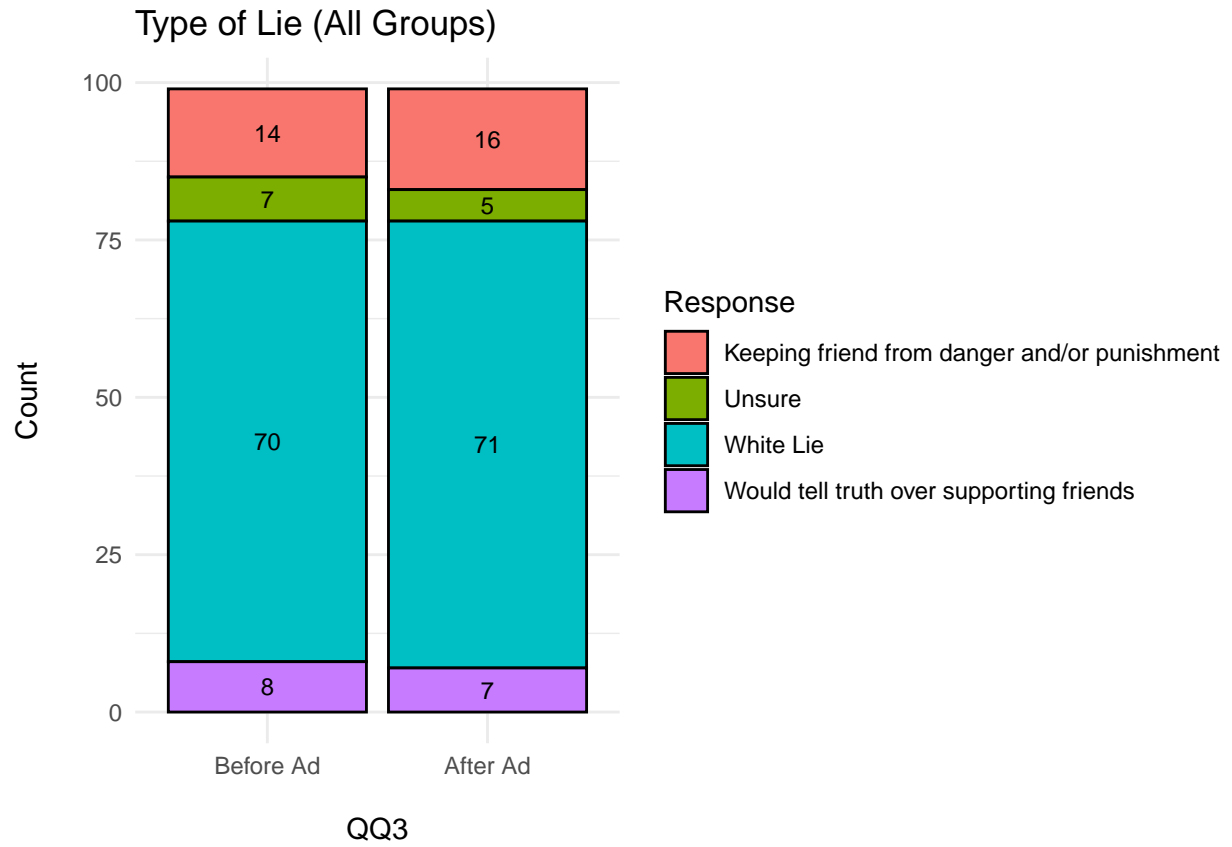
QQ3: Change in Views - Histogram (Counts)

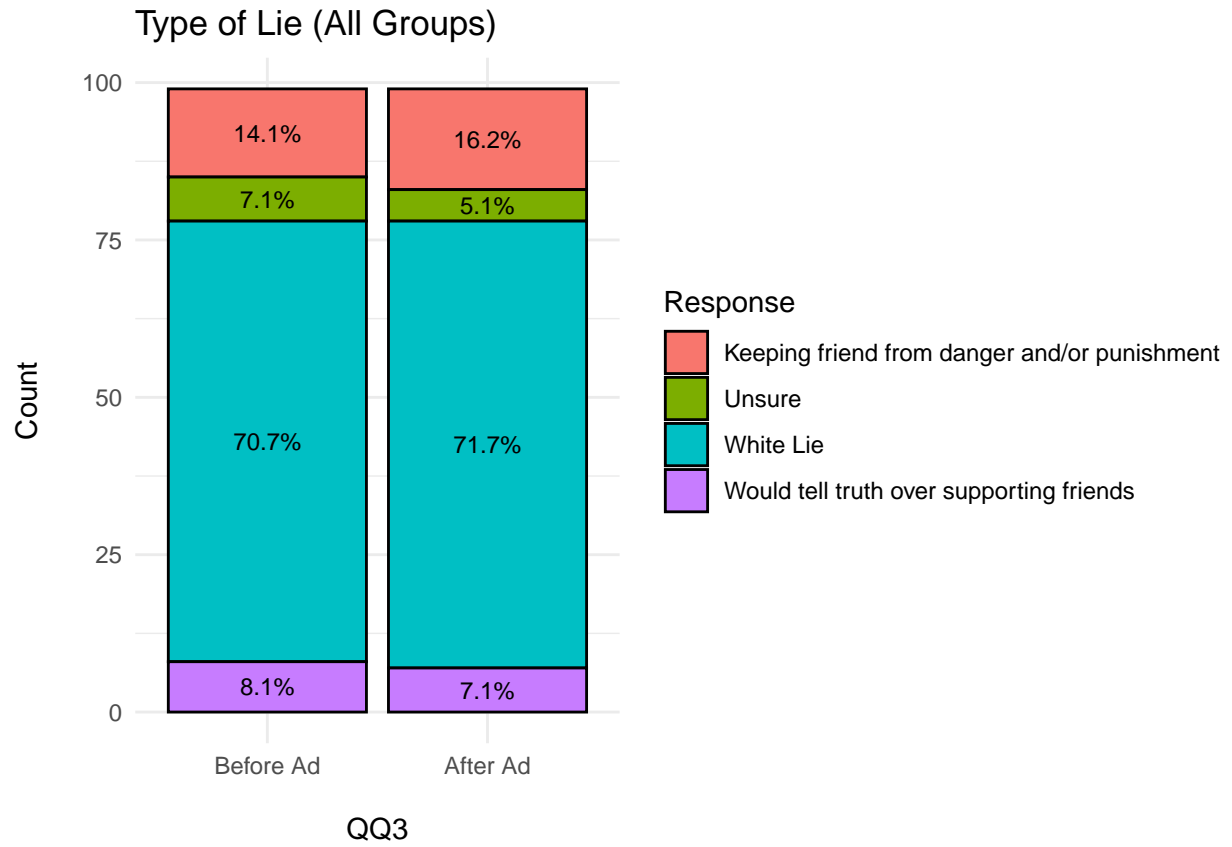
Overall, the ad didn't have that much of an effect on any of the groups in their response.

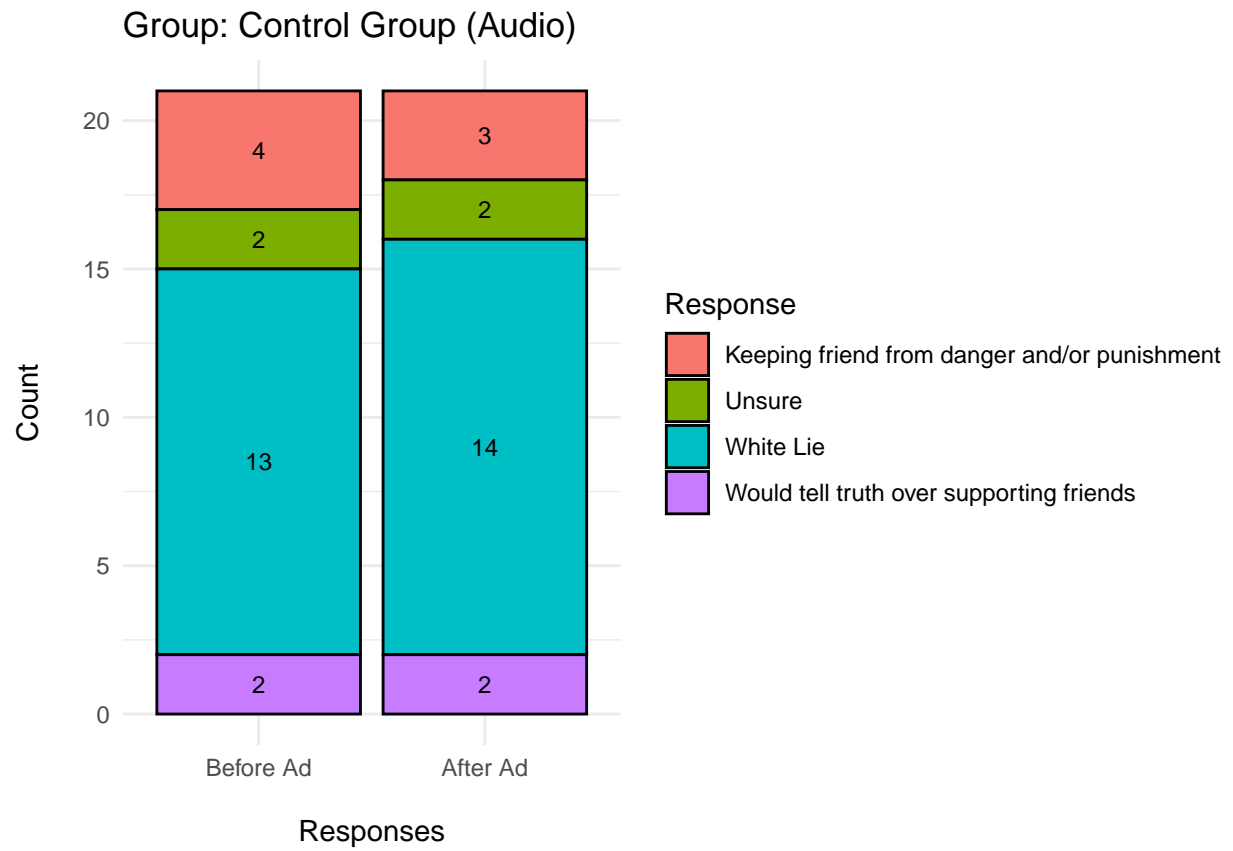
There were four main responses to QQ3:

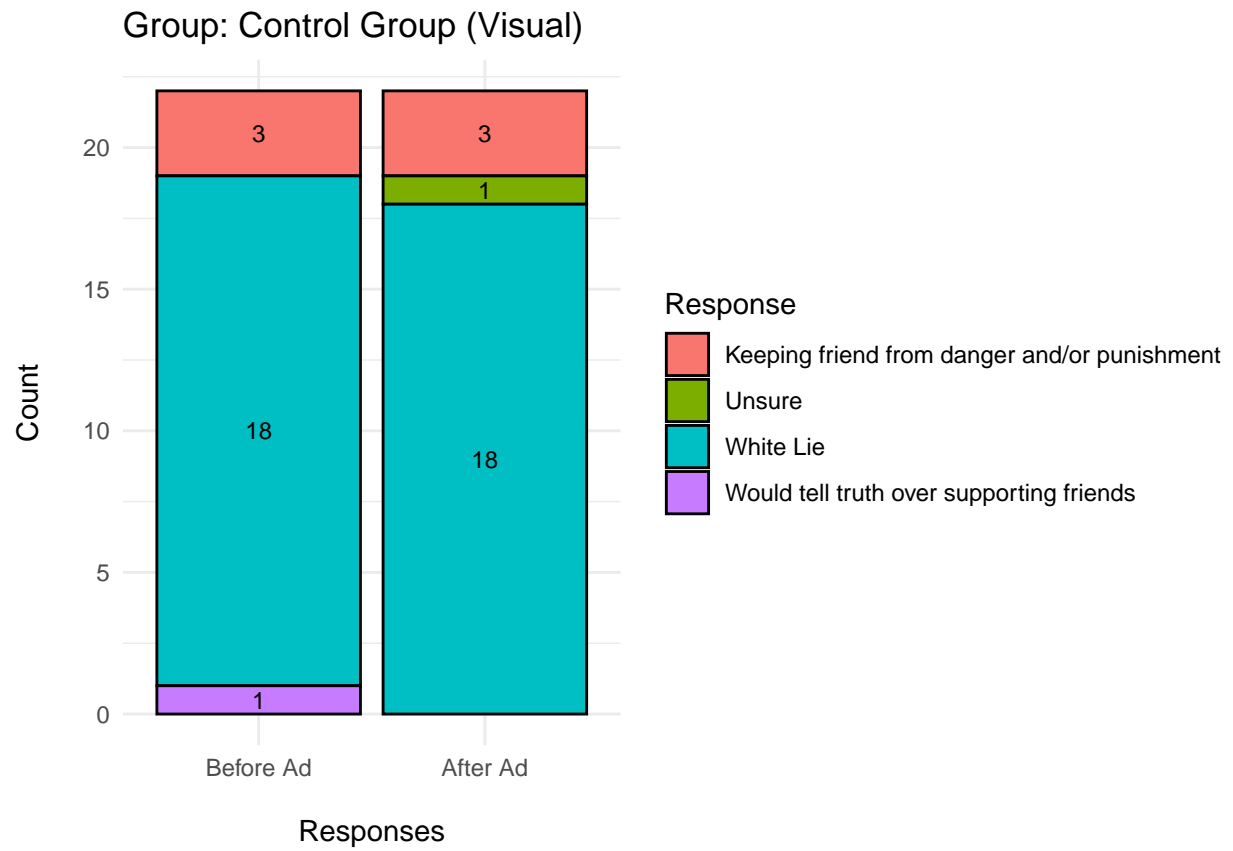
1. White Lie
2. Keeping friend from danger and/or punishment
3. Would tell truth over supporting friends
4. Unsure

While the Test Group (Audio) went from 7.1% to 14.3%, everything stayed exactly the same except for "Unsure." The Control Group (Audio) seems to have had some effect on the getting respondents to put a different answer, "Keeping friend from danger and/or punishment" to "White Lie," dropping by 25% and increasing by 7.8%.

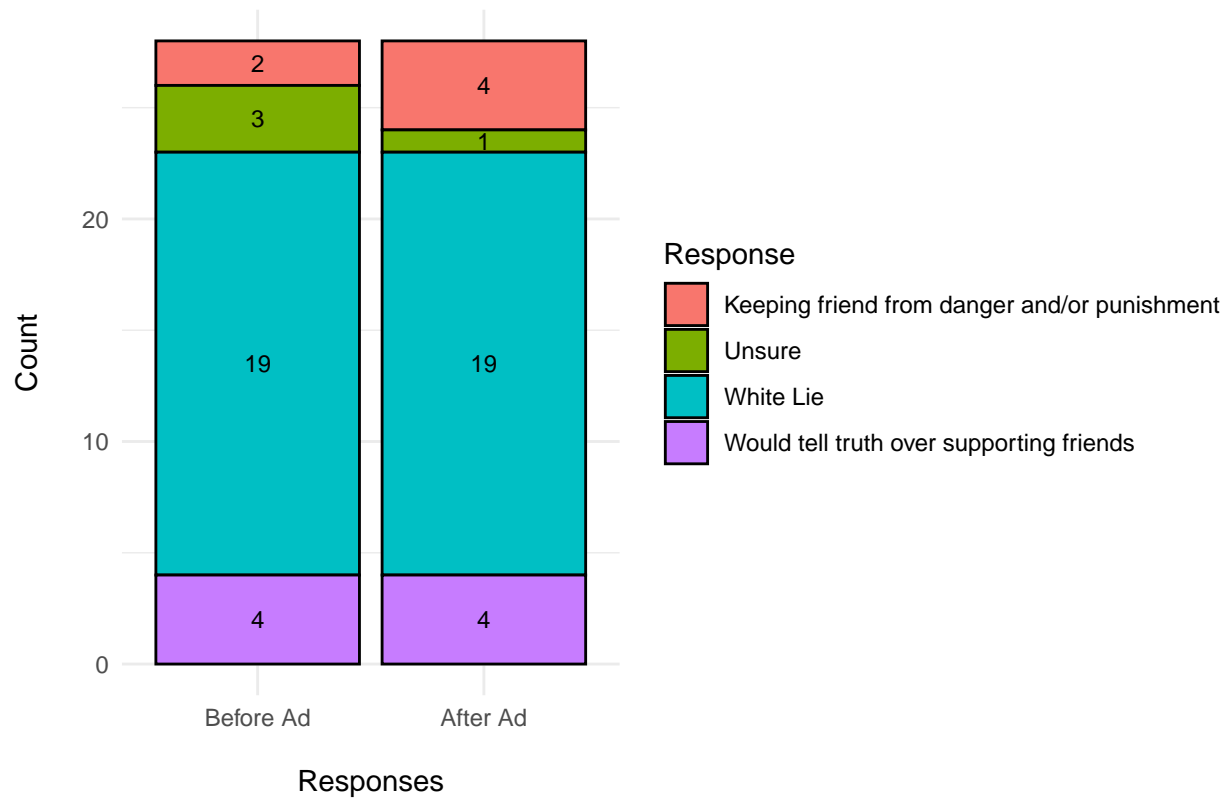




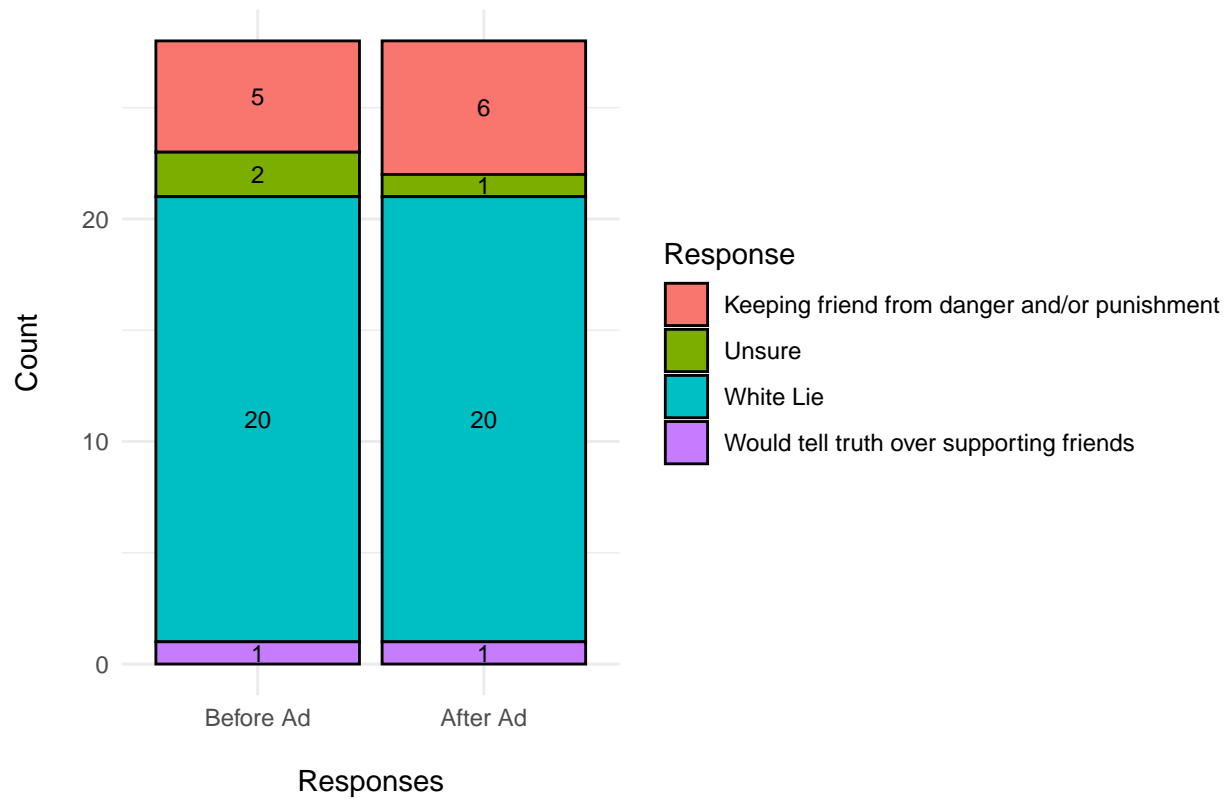




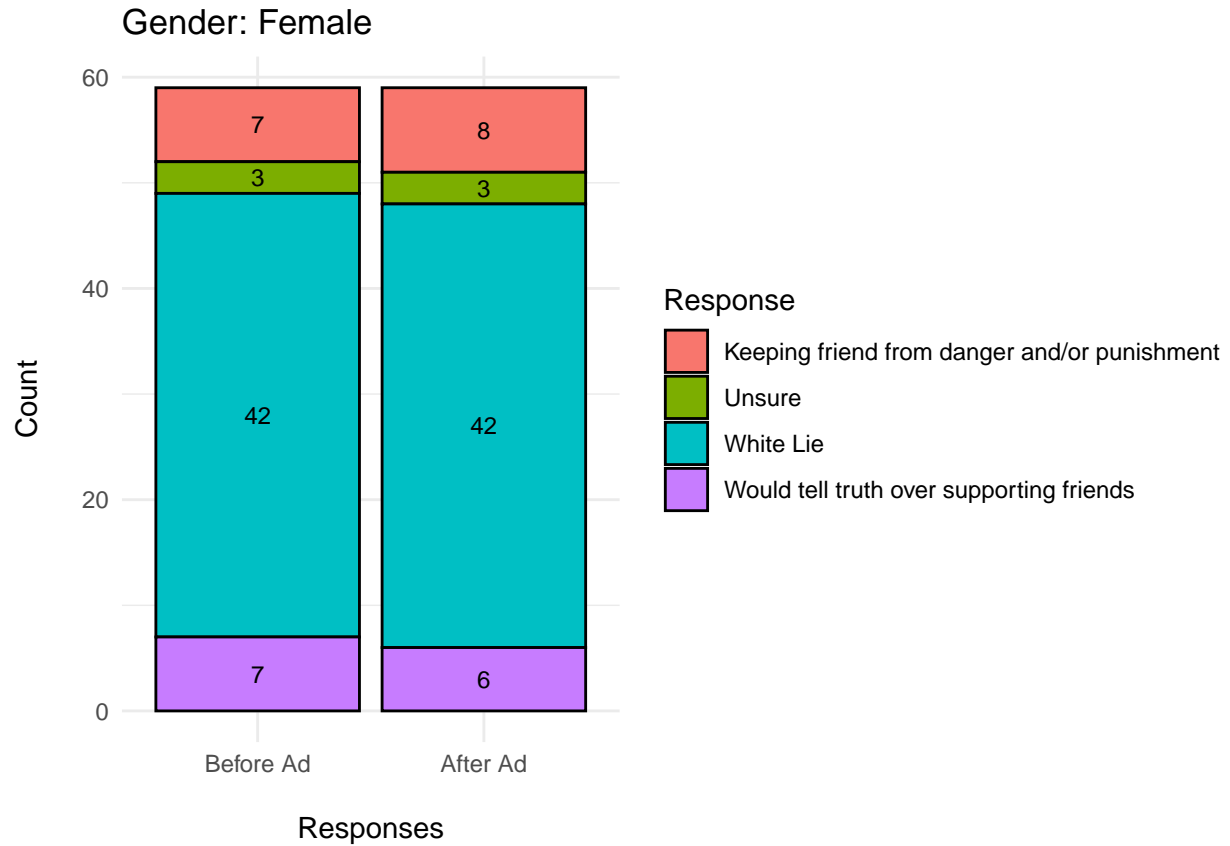
Group: Test Group (Audio)

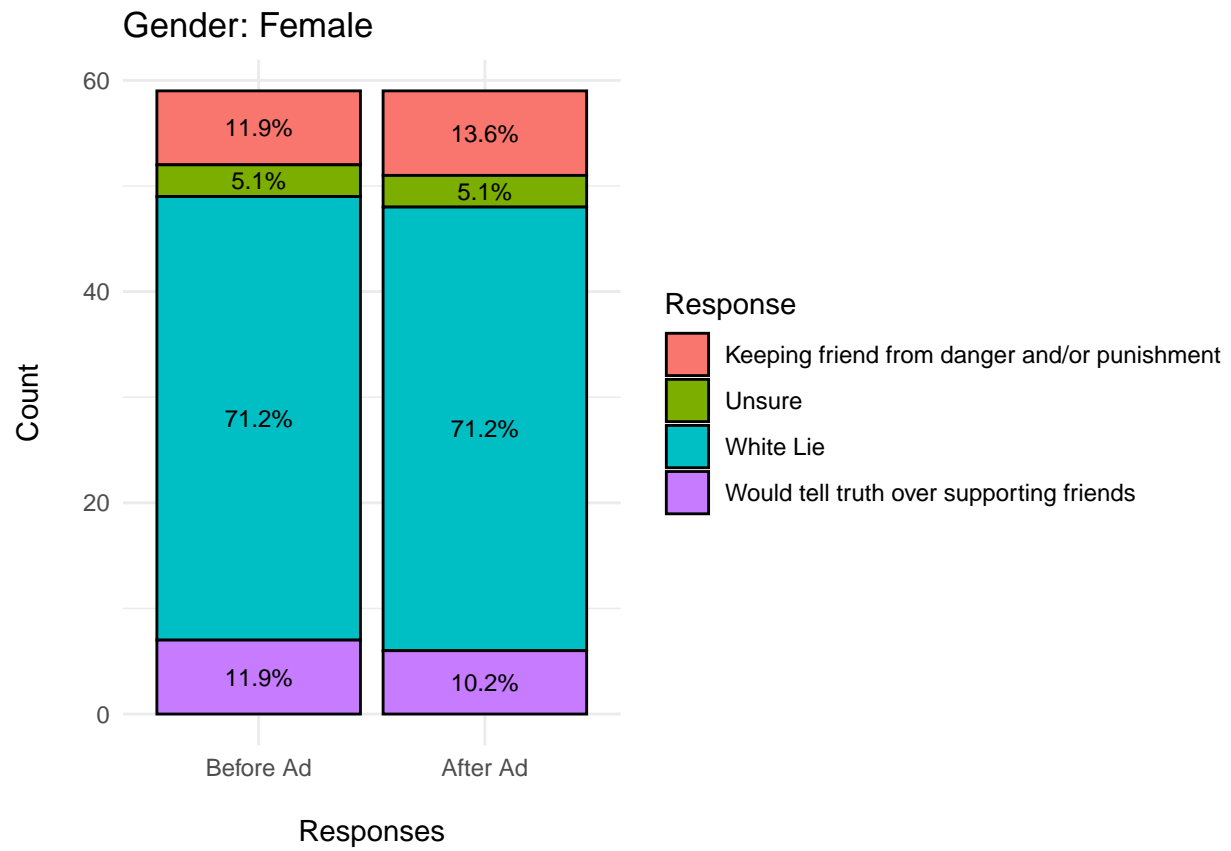


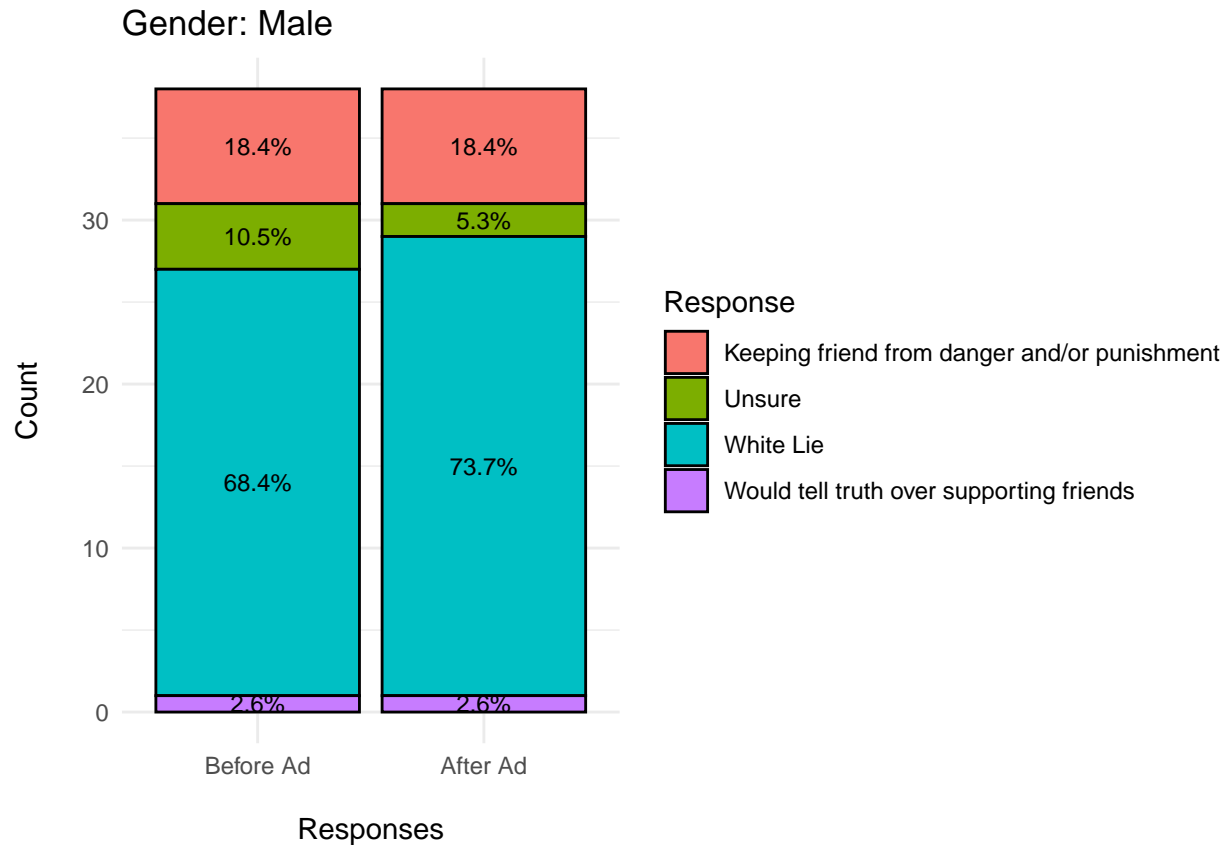
Group: Test Group (Visual)



QQ3: Views Between Males & Females







All - Summary Table (50% Threshold)

All - Summary Table (25% & 50% Threshold)

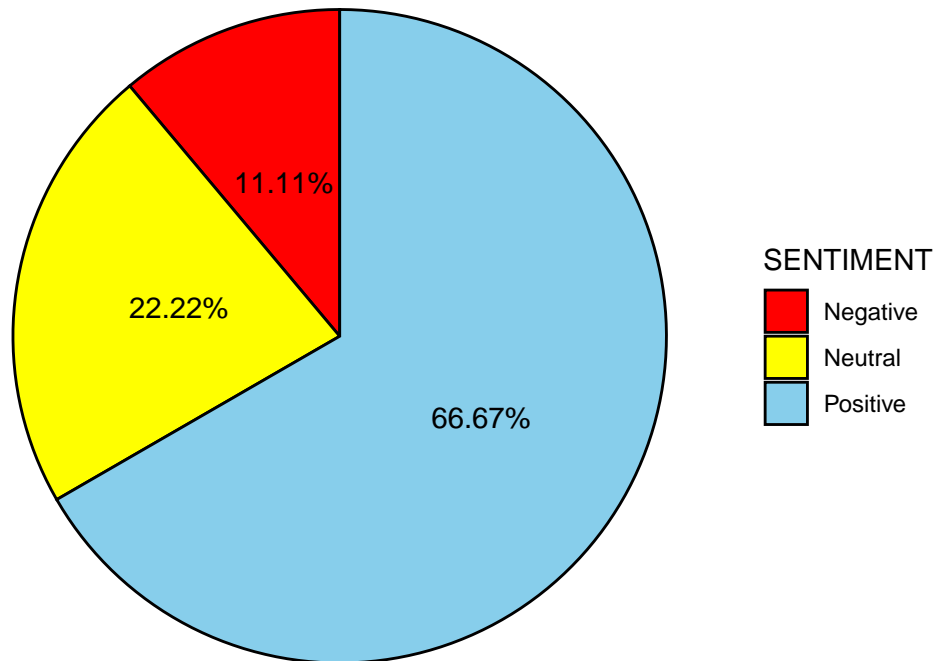
Additional Sentiment

I created my own variable SENTIMENT, which I read all the responses across the row for a participant, but felt that Question 4 is where the participant conveyed their true feeling about the ad after listening to it. So I put more emphasis on this question when collectively evaluating the responses.

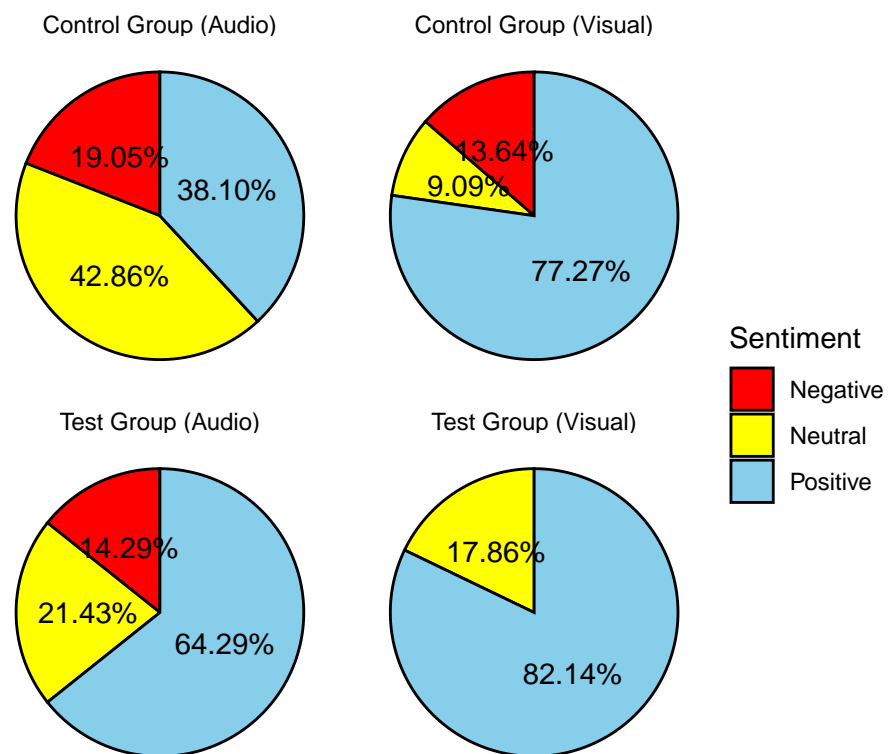
1. What did you like most about the ad?
2. What did you like least about the ad?
3. Which words or phrases in the ad, if any, made you feel particularly good or bad?
4. Please tell us any other thoughts you have about the ad.

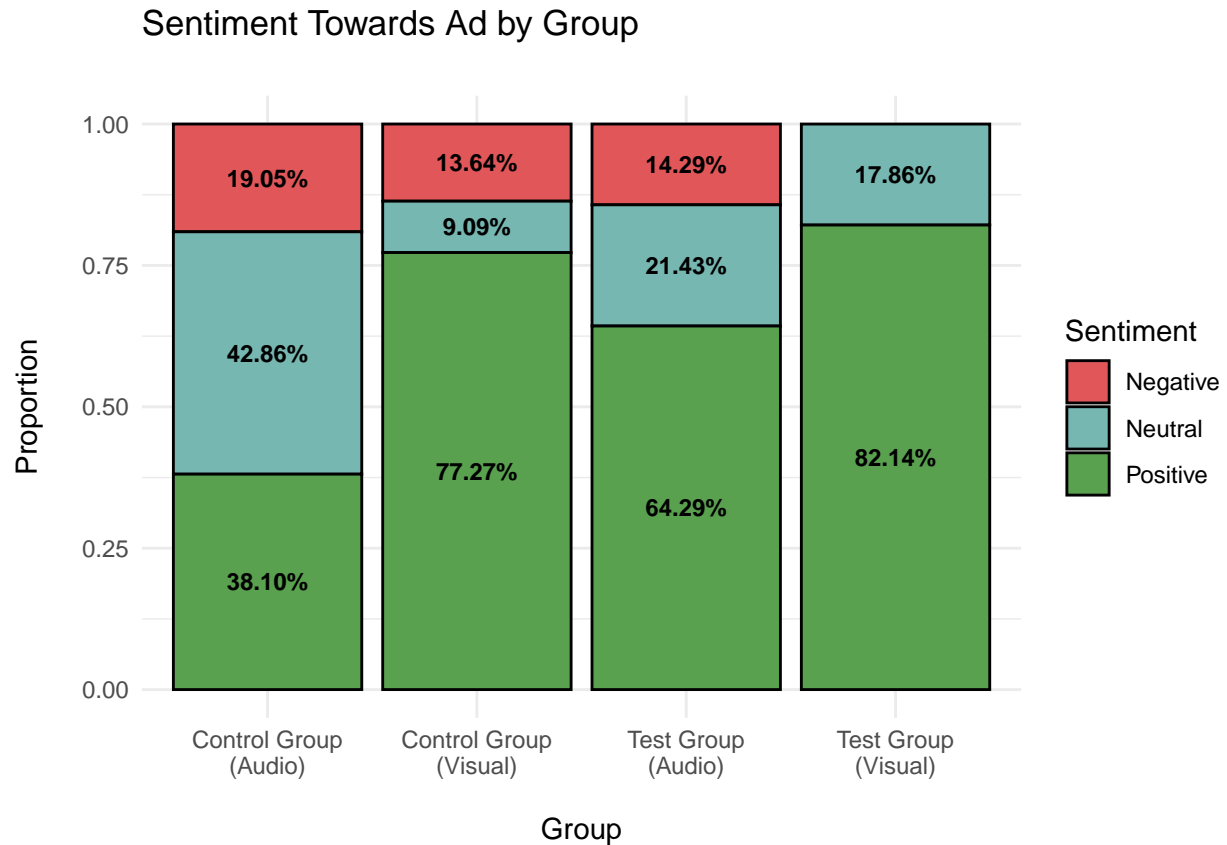
THIS ONE: Sentiment Towards Ads - Pie Charts

Sentiment Towards Ad



Sentiment Towards Ad by Group



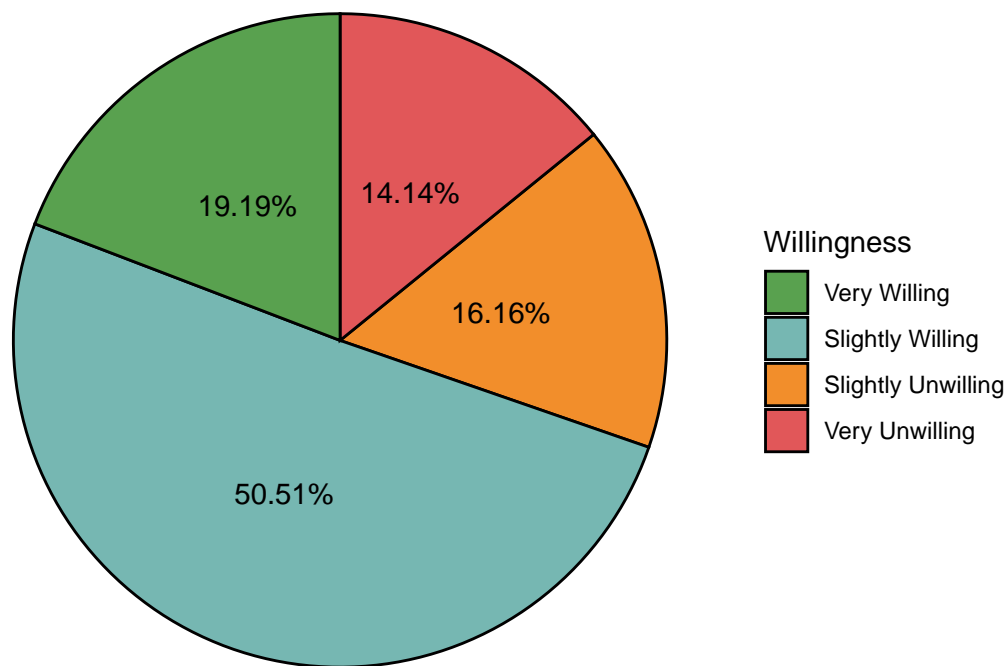


Positive Sentiment - These participants stated that they liked something about the ad, usually a line a character said or usually a positive sentiment such as one character inviting the friend to come out to karaoke with him and his friends.

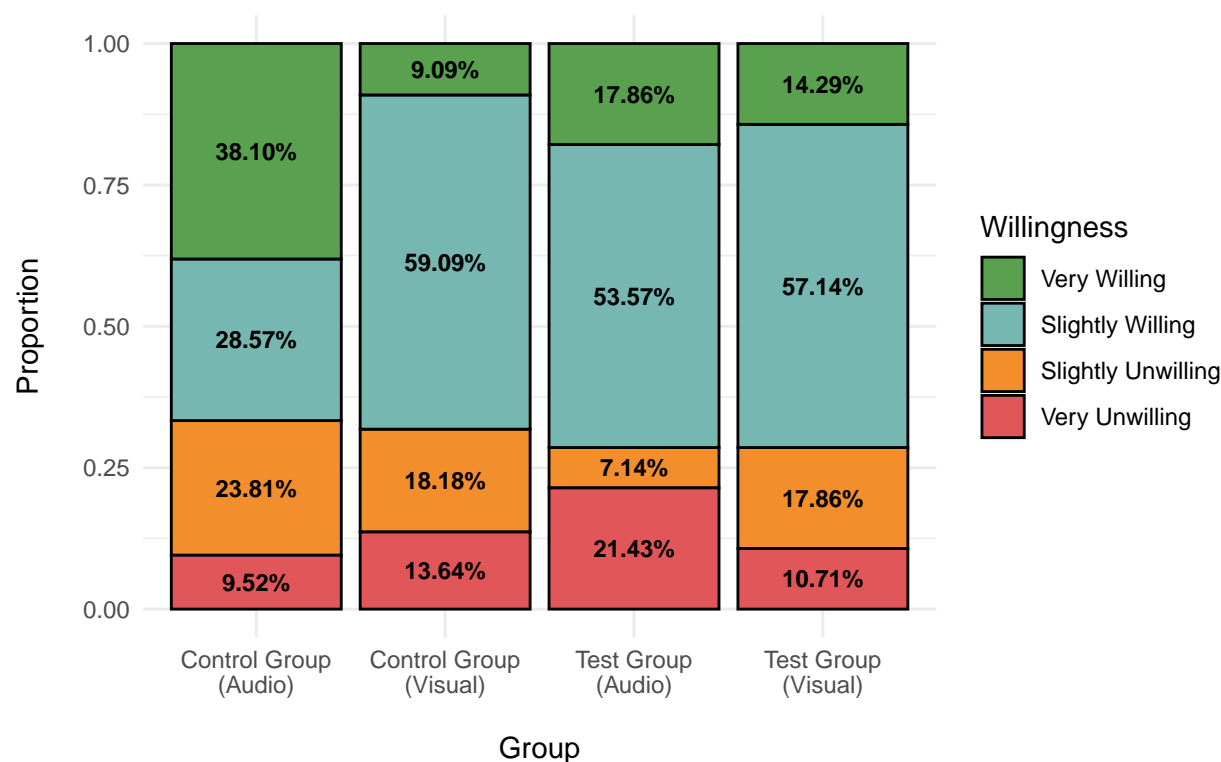
Significant Finding: It's possible that there will always be a group of people who don't like audio only ads, especially when they don't make sense (control ad). However, it may not be the channel/medium that this was delivered, but the ad itself was the issue. Follow-up questions and interviews are needed to confirm this.

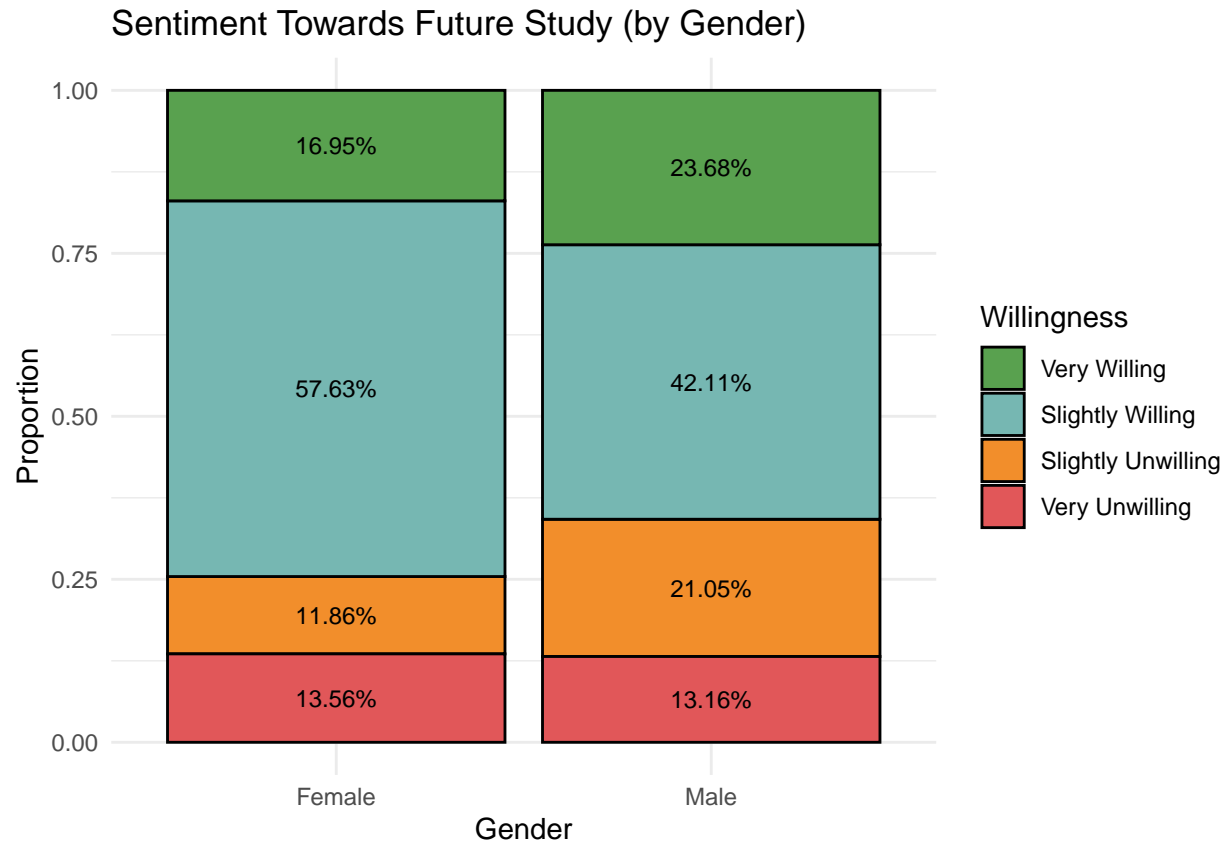
Sentiment about participating in future studies

Sentiment Towards Future Study



Sentiment Towards Participating in a Future Study

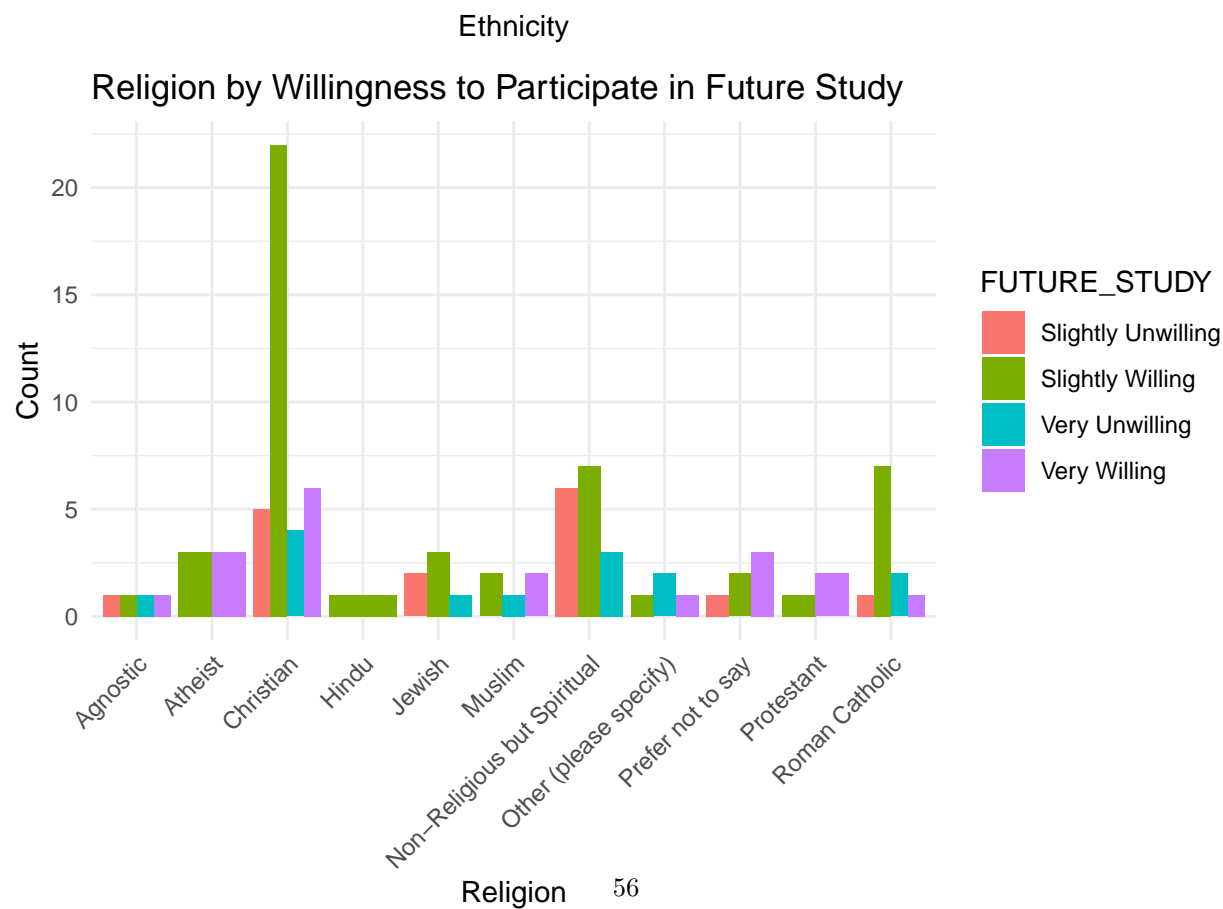
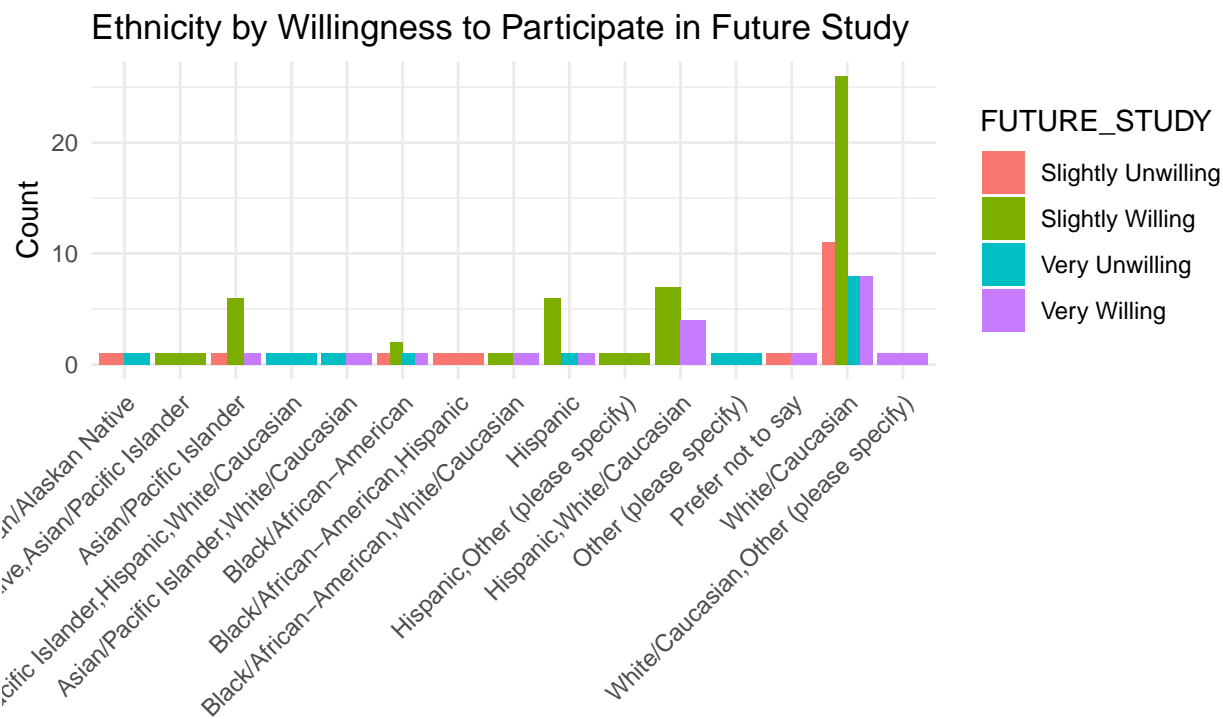


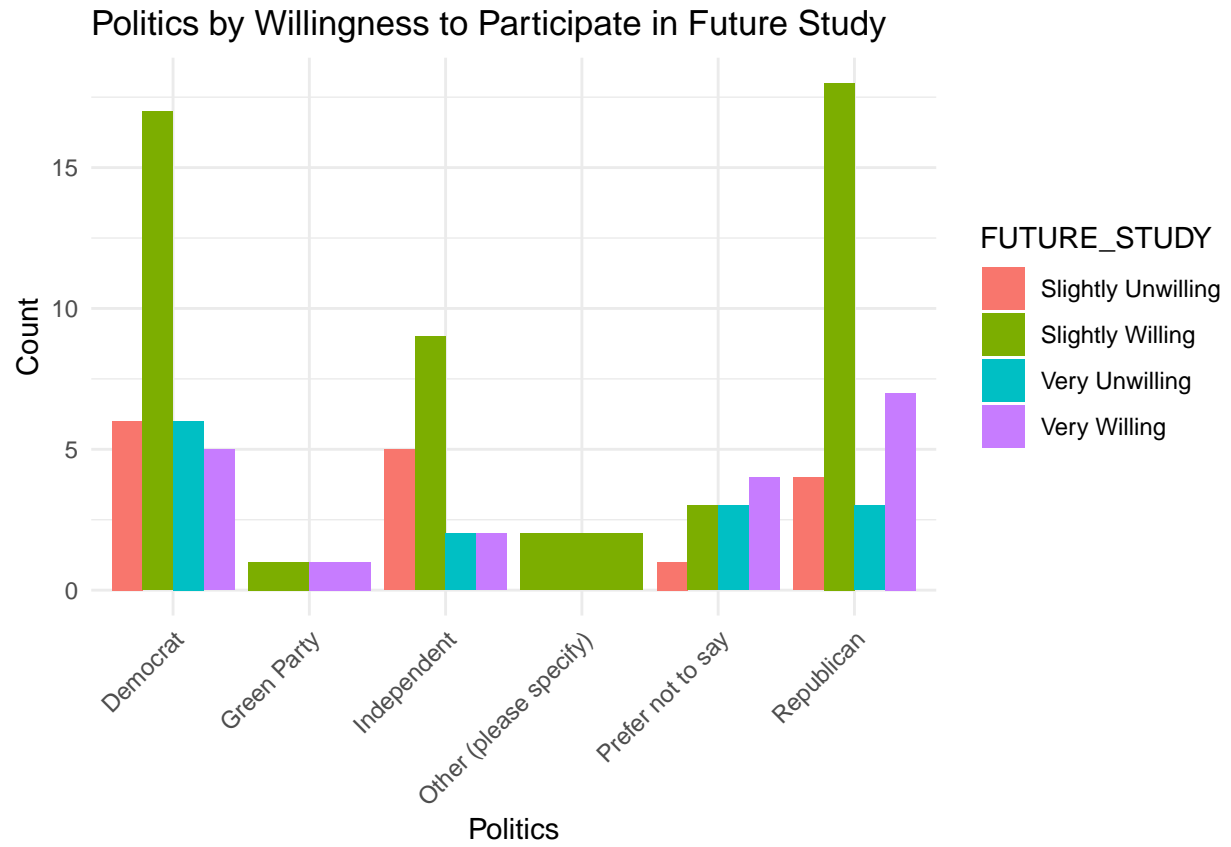


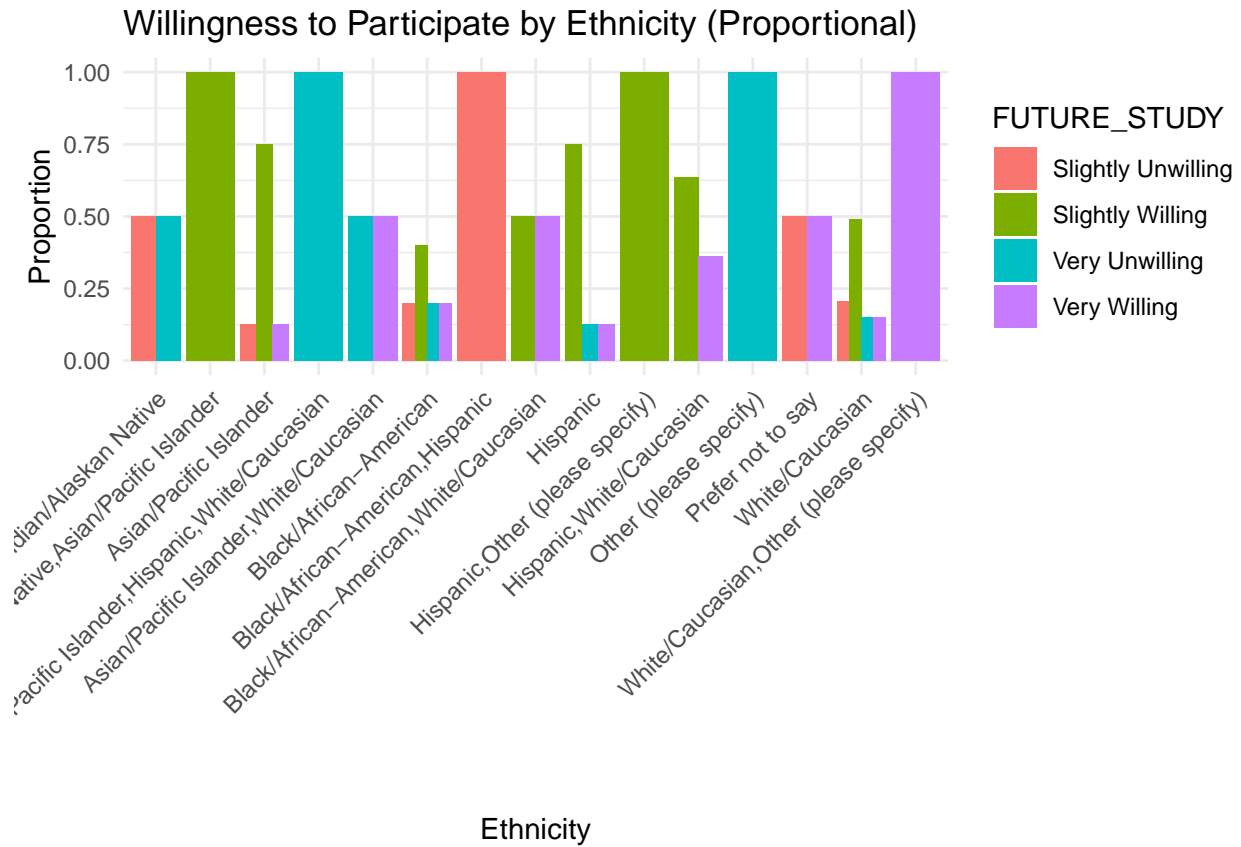
Test Group: Just looking at Willing (Slightly + Very) against Unwilling (Slightly + Very), the percentages are the same across the board: 69.45% vs. 30.55%. However, there is a difference between men and women.

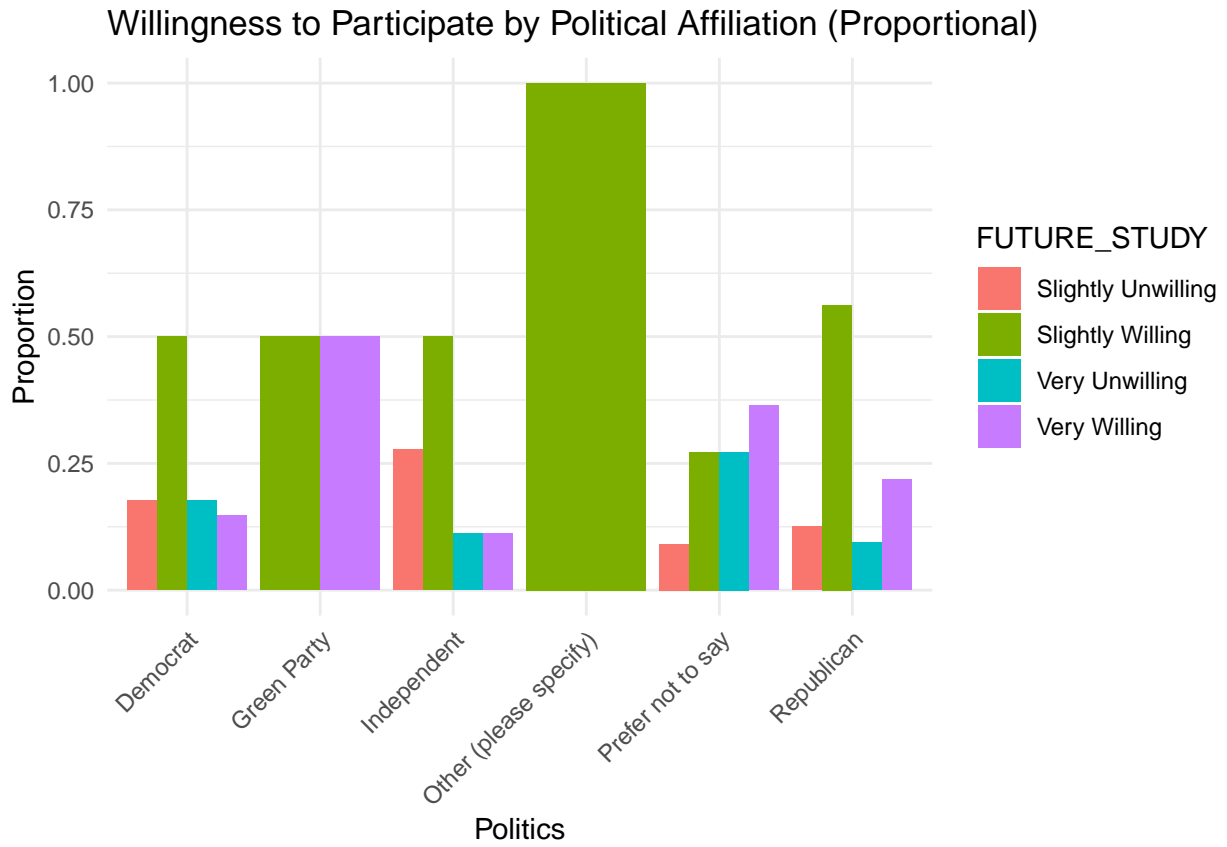
By Gender: For females, 74.5% were Willing (Slightly + Very) vs. 25.5% for Unwilling (Slightly + Very). And for males, 65.8% were Willing (Slightly + Very) compared to 34.2% for Unwilling (Slightly + Very).

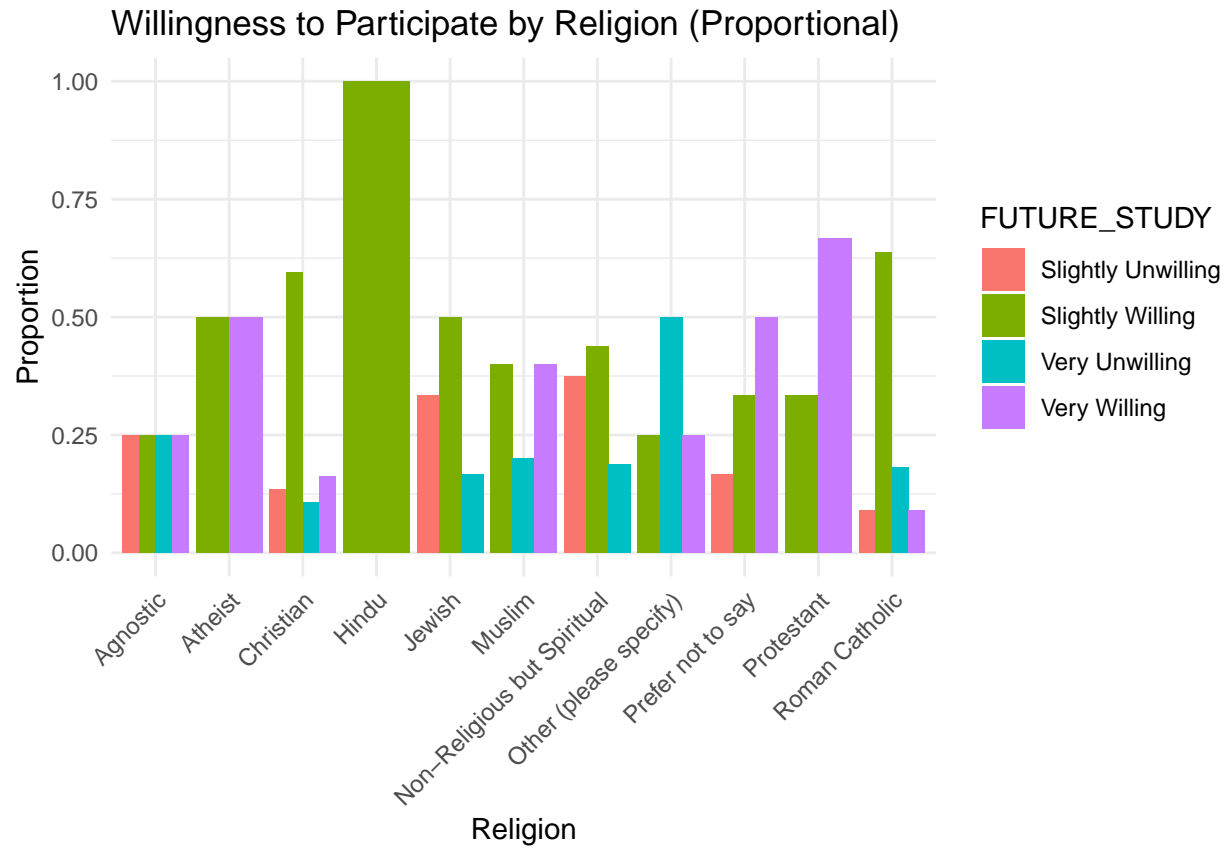
Ethnicity, Religion & Politics - Future Participation Study (All Willing & Unwilling Categories)

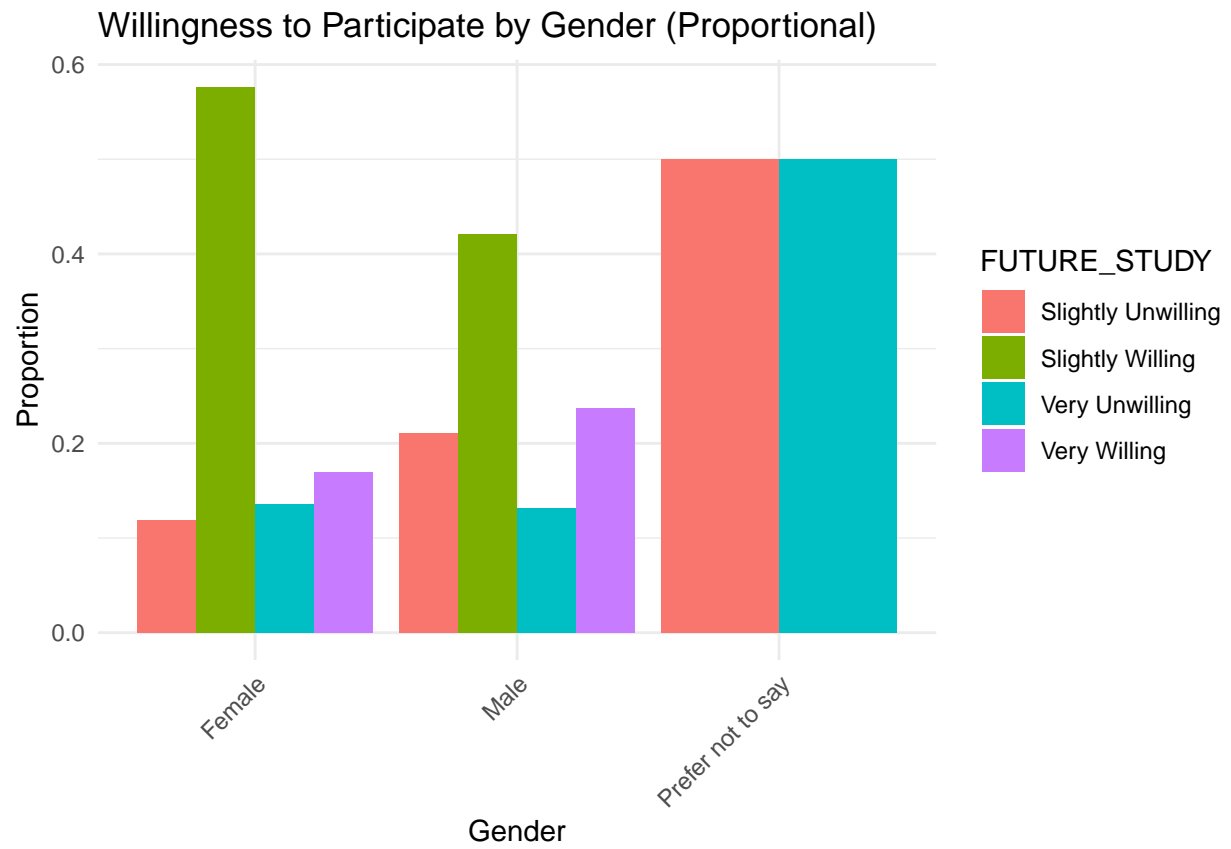




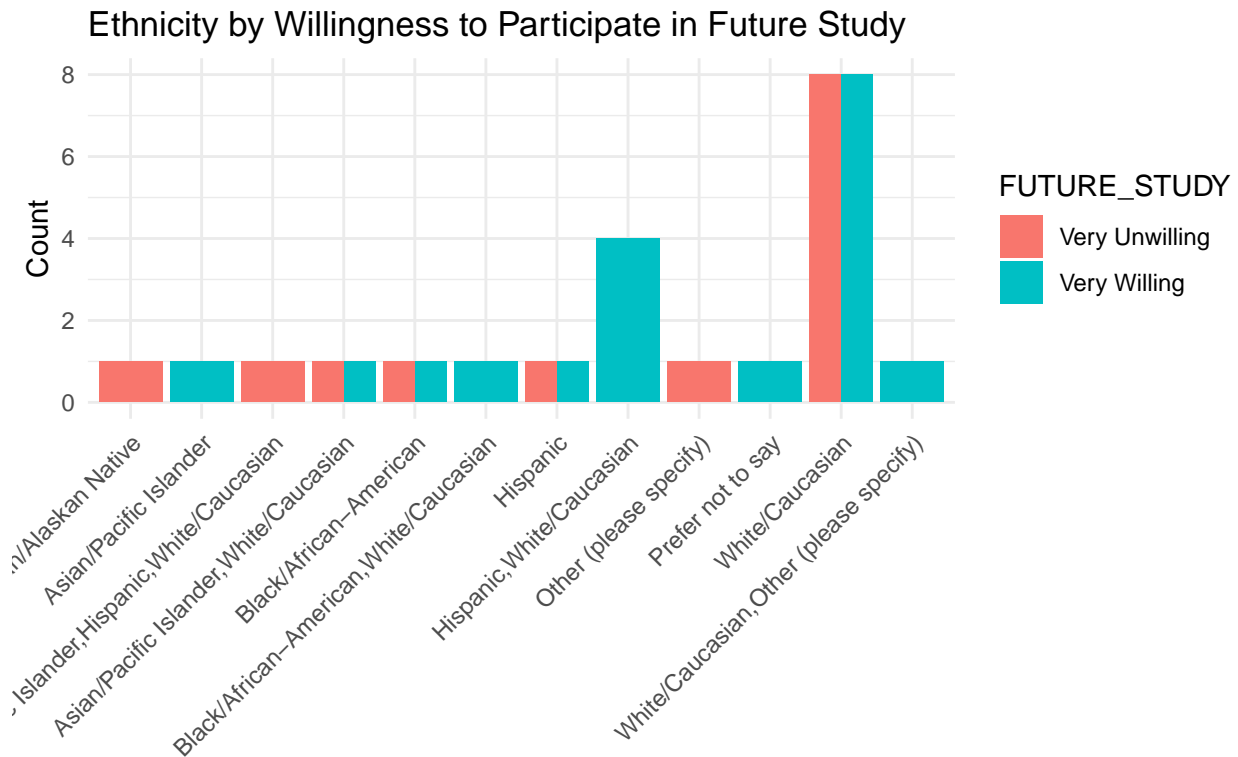
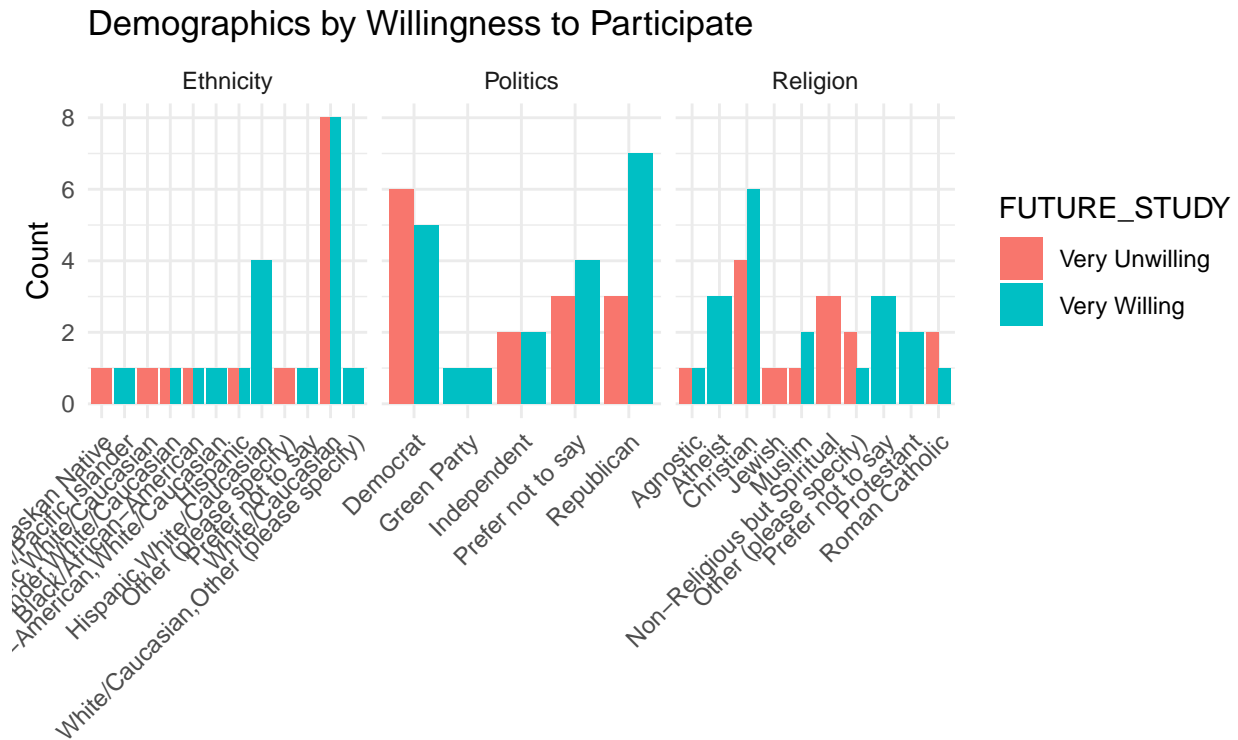


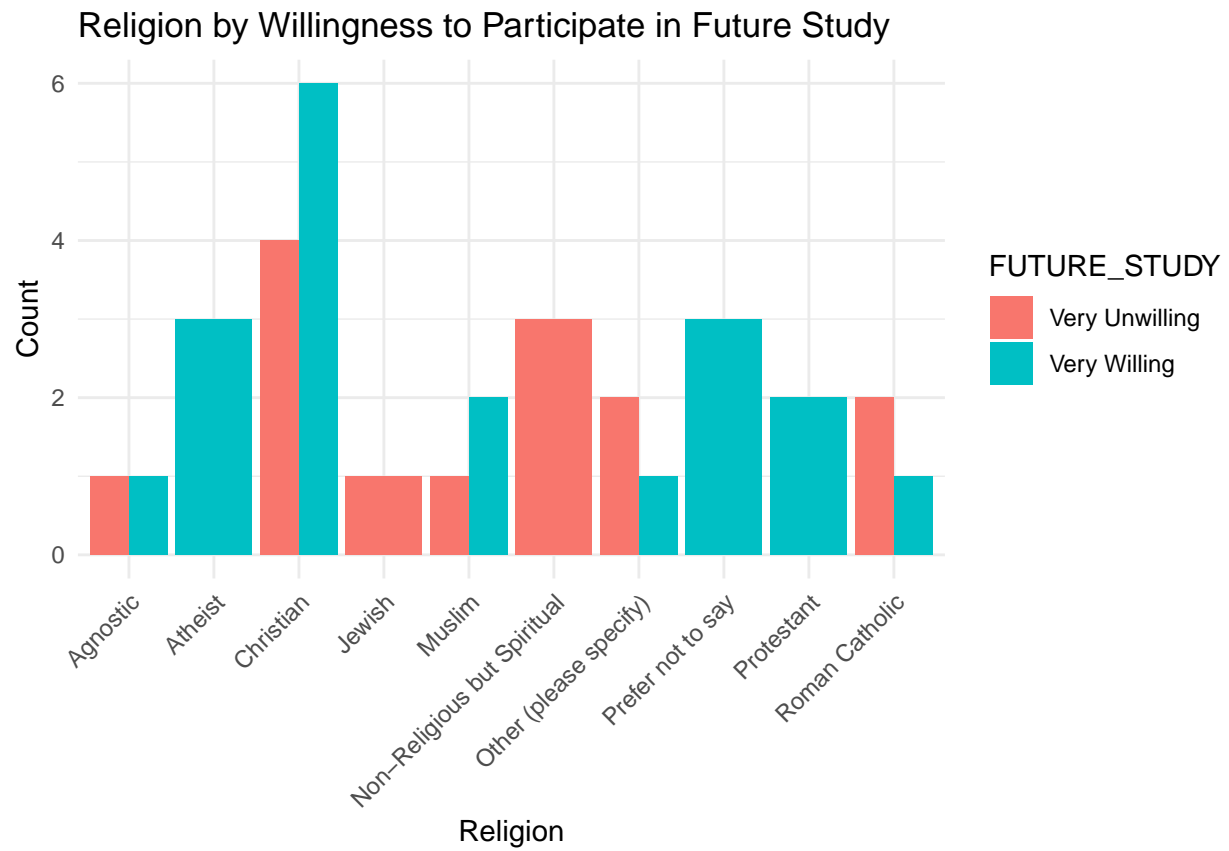


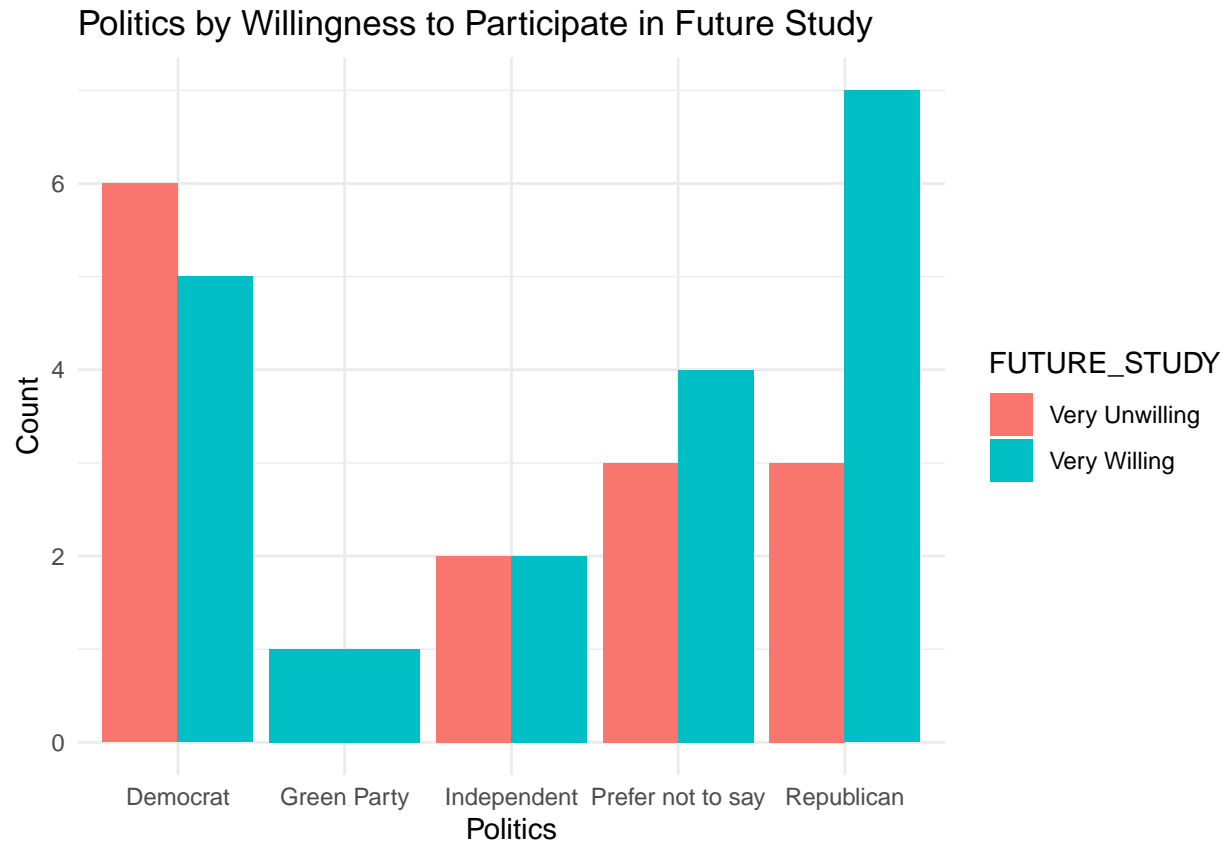




Ethnicity, Religion & Politics - Future Participation Study (“Very Willing” & “Very Unwilling”)







Future Direction

Use that software to perform thematic analysis. Gather more data. And also get multiple annotators then compare with a composite score (Ginni index?) between annotators to have a more objective evaluation of the qualitative data/responses.

The audio ad seems to have something to do with the results being really weird across every category measurable.

Conclusions

The visual ads, whether for control or not, seemed to have some positive influence on the participants.

References