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Sexuality and Ageism in Survivor

Introduction

Survivor is a popular reality TV show, watched by millions of viewers. There are a total of 46 seasons so far and it is a competition-style show with a cash prize of one million dollars to the last standing contestant. Contestants are split into tribes and must compete in rigorous challenges while being forced to live in a remote location. The tribe that loses a specific challenge must decide what contestant will be sent home. The competitions contain different phases beginning with the Tribal Phase then after a certain amount of eliminations, the tribes will merge into one during the Merge Phase. After another certain amount of elimination, the competition will go into the Individual Phase where contestants will compete in individual challenges. Finally, the Final Phase is when only a few contestants remain and the previously eliminated contestants choose the winner of the game. Overall, the contestants have to be not only physically capable but also must have keen social skills to last in this competition. This paper will examine how sexuality and age play a role in how likely contestants of the reality TV show Survivor will win. This will also show if there is often age and sexuality discrimination since it is the contestants who decide who gets sent home. The data used in this analysis was taken from a paper titled “Surviving Racism and Sexism: What Votes in the Television Program Survivor Reveal About Discrimination”. This paper focuses on how there was clear evidence of not only racism but also sexism in the reality TV show. The data also included the contestant's

age and whether they identified as LGBTQ. In this paper, the focus will shift to see how the age and sexual identity of a contestant impact how well they place in the show.

Previous studies have been done on reality TV shows to see if discrimination plays an active role in the shows. Based on the academic journal, “Surviving Racism and Sexism: What Votes in the Television Program Survivor Reveal About Discrimination” there is already proven evidence of racial and gender discrimination among the contestants. The author states,

“Compared to men, women have greater odds of being voted out of their tribe first, lower odds of making it to the individual-competition stage of the game, and lower odds of winning.

Compared to White contestants, BIPOC contestants have greater odds of being voted out of their tribe first and have lower odds of making it to the individual stage of the game.” (Kunz 2023)

That still leads to the question of is there any other types of discrimination in Survivor. This is what this paper hopes to answer. Looking at these variables gives a deeper understanding of the factors that shape the contestants' success on the show. This paper will discuss the statistical analysis used to show any clear patterns of discrimination. This paper will examine if there is any form of ageism in Survivor. Ageism is defined as discrimination based on a person's age.

Another study titled, “Survival of the Stereotypical: A Study of Personal Characteristics and Order of Elimination on Reality Television” not only examined race and sex but also examined the contestants’ age. They observed whether reality TV contains cultural stereotypes in shows including not only *Survivor* but also *The Apprentice* and *American Idol*. The author states,

“Looking at Survivor Borneo, the first two competitors eliminated from competition..., a 63-year-old white female, and... a 64-year-old white male... Thus, the Survivor programs appear to have perpetuated the age-old patterns of Hollywood... men grow more distinguished with age... while women simply grow older.” (Denham 2008) The article found that from the first

three seasons of Survivor the older contestants were more likely to be eliminated first. This shows that ageism is relevant in a reality TV show like Survivor. They also found that older female contestants experienced even more discrimination since they were deemed as even less useful the older they were compared to male contestants. This previous research does give a clear picture of what the Survivor data will show for age in contestants, but the previous study is only on the first 3 seasons of the show, so our analysis will show if this trend continues in more recent seasons. Ageism is a very common form of discrimination in today's society and analyzing the Survival data will show how ageism impacts how long a Survivor contestant will last in a season.

In the news article “Do Right By Us': Black 'Survivor' Alums Say The Reality Was Harmful Stereotypes,” there is even more discourse on how certain races and genders are treated and depicted on the show. Amaro, a past competitor of the show's first season in 2000 called *Survivor: Borneo* as well as the first Black woman on the show, stated that the show made her “the lazy person, which is the furthest thing from the truth.” This further provides more information that the show had a bias against certain races in the show because of how they were portrayed. They chose to portray the Black character in a negative light of being lazy and unproductive instead of a perspective that showed the true reality of the situation, which was Amaro trying to recover. This example, however, is a bit different because it isn't by the competitors themselves. Instead, it is performed by the individuals running the show and how they choose to portray them. This caused her to be portrayed in a bad light and get voted off by the other competitors. This bias was seen as enforcing stereotypes and affected Amaro's placement in the competition. Hart, a past competitor on *Survivor: Cagayan* in 2014, also expressed concerns about this matter where she was also portrayed in a similar fashion: lazy and unproductive. Hart believes that the show does not do a great job of "telling positive stories and

connecting with the multi-facets of being African American.” Hart believes that the show does not show the different sides of benign African Americans, and decides to stick to showing negative portrayals and stereotypes of them instead. This can negatively affect those competitors' placement in the show and get them voted off earlier than they would be if they weren't portrayed like that or in a different way. This is evident by the way Amaro, Hart, and multiple others stated in the article were treated. Once again, they chose to portray a black female competitor in a negative light as well as in a stereotypical fashion instead of in a truthful lighting. This is probably to gain more viewers and push drama between competitors in the show. These two competitors have one thing in common, which is being black and women. So, these two examples are valid proof that the show has a clear bias towards certain races and genders, and pushes the possibility of other biases being present as well, such as bias and/or discrimination against certain sexualities and ages.

In today's media, the portrayal of sexual identity, especially in TV shows with LGBTQ+ characters has become a sensitive topic. Recently there has been more representation of the LGPTQ community in television, but it still comes with backlash from some viewers. An article titled “Queer Television Studies: Currents, Flows, and (Main)streams”, discusses how television has tried to mainstream queer representation and how queer studies want to challenge these ideologies. The article states, “When LGBT folks 'make it' on television, streamed into the dominant currents within the televisual flow, are they no longer quite queer, that 'mainstreaming' undoing the force of disruption and negativity that makes 'queerness' to begin with?” (Joyrich 2014). The article is simply saying that even when there is representation, TV shows will actively try to minimize their own sexual identity to fit the current norms of society. Based on this article it can give a glimpse of how reality TV shows might behave. As the LGBTQ+

community has become more accepted, the media is providing more representation but only in a way that doesn't fully let a character express their sexual identity. This shows active discrimination since someone who identifies as part of the LGBTQ+ is not able to fully express themselves in the television industry. This poses an interesting question about how a reality TV show like Survivor behaves in sexual identity discrimination. Based on the previous research contestants who actively identify with the LGBTQ community might face discrimination when it comes down to who is eliminated first. Another important aspect is whether gender plays a role in sexual identity discrimination. A study published in the "Social Psychological and Personality Science" journal, titled, "Predictors of Attitudes Toward Gay Men and Lesbian Women in 23 Countries" discusses whether there is a difference in attitudes towards gay men versus lesbian women. The study states, "We found that gay men are disliked more than lesbian women in every country we tested" (Bettinsoli 2020). Based on this, gender may contribute to the discrimination of participants in Survivor who identify as LGBTQ+. The previous research done on sexual identity in television does provide an outlook of what the Survivor data will show, but there are no studies that are specifically about sexual identity in reality TV. Our analysis hopes to answer the question of whether it does play a major role in reality TV, this is especially important since based on the previous article sexual identity is a major topic currently in the television industry.

We will be focusing on analyzing the different sexualities and ages of the contestants and whether or not there was bias and/or discrimination involved throughout the competition. We will also examine if these factors affected their chances of winning and overall placement in the competition. As stated previously, in "Surviving Racism and Sexism: What Votes in the Television Program Survivor Reveal About Discrimination," they examined race as well as

gender and revealed that these factors did affect their chances of being eliminated, so we believe that sexuality and age would also affect their elimination placements. Our thought is that like in “Surviving Racism and Sexism: What Votes in the Television Program Survivor Reveal About Discrimination,” how old a contestant is and what sexuality they are will cause bias in the people watching and cause discrimination because of those attributes. We believe that these two factors did affect which contestants progressed in the competition, which contestants were eliminated, and their overall placement in the competition. However, we are not sure if these are negative or positive effects.

Method

To analyze whether or not traits outside of race, specifically sexuality or age, were an important factor in whether or not contestants on Survivor reached finals, we used an RScript with libraries ggplot2, dplyr, and tidyr to create linear regression models, bar plots, calculate mean values, and compare statistical data for finalists and all contestants. To answer whether or not a specific trait or characteristic is more likely among finalists or causes a disproportionate chance of becoming a finalist, we used mean values of the ratings of each trait for contestants and finalists. Once we found that personality traits and characteristics were not significant for the contestants to reach finals, we moved on to sexuality and age. Using a linear model for both age and sexuality respectively, we noticed the insignificant p-values allowed us to reject the hypothesis that reaching finals is dependent on the factors of age and sexuality. Afterward, we utilized mean calculations of contestants in each age range (divided by 10 years from 0 to 100 years old) and compared them to the mean number of finalists in each of the age ranges. We also calculated the mean number of contestants who identified as LGBTQ or not and compared those averages to the mean number of finalists who identified as LGBTQ or not.

Results

To answer whether or not a specific trait or characteristic is more likely among finalists or causes a disproportionate chance of becoming a finalist, we analyzed the average ratings of characteristics among finalists (Table 1A) and compared them to the average ratings of characteristics among non-finalists (Table 1B). The ranking of their characteristics was quantified by Kunz et al using a Likert scale. The scale was from 1-5 with 1 being the least displaying of the trait or 5 being the most displaying of this trait. To gain these ratings, a sample of 182 participants rated contestants' perceived physical strength and intelligence and then evaluated contestants based on the characteristics of trustworthy, loyal, physically attractive, egoic/self-centered, hardworking, bossy, fake/phony, and mischievous. The finalists are any contestants who ended the season in the last three positions (1,2,3). The average ratings of characteristics and traits all seemed to be very similar. From the mean ratings, finalists aren't particularly skilled at anything, the means for finalists are just barely higher than the means for non-finalists, which shows that the characteristics may not play a major role in comparison. Every contestant, regardless of being a finalist or not, landed around 2.5 to 3.5. However, the only attributes with lower means among finalists in comparison to non-finalists are Physical Attractiveness, Mischievousness, and Self-Centeredness. Using the averages of all the characteristics of the contestants versus the finalists, we created a bar chart to visualize the comparison. The chart clearly shows the insignificant difference between the average ranking of the contestants and the finalists' characteristics which proves these are not factors in whether or not a contestant is more or less likely to finalize (Table 1C).

Table 1A

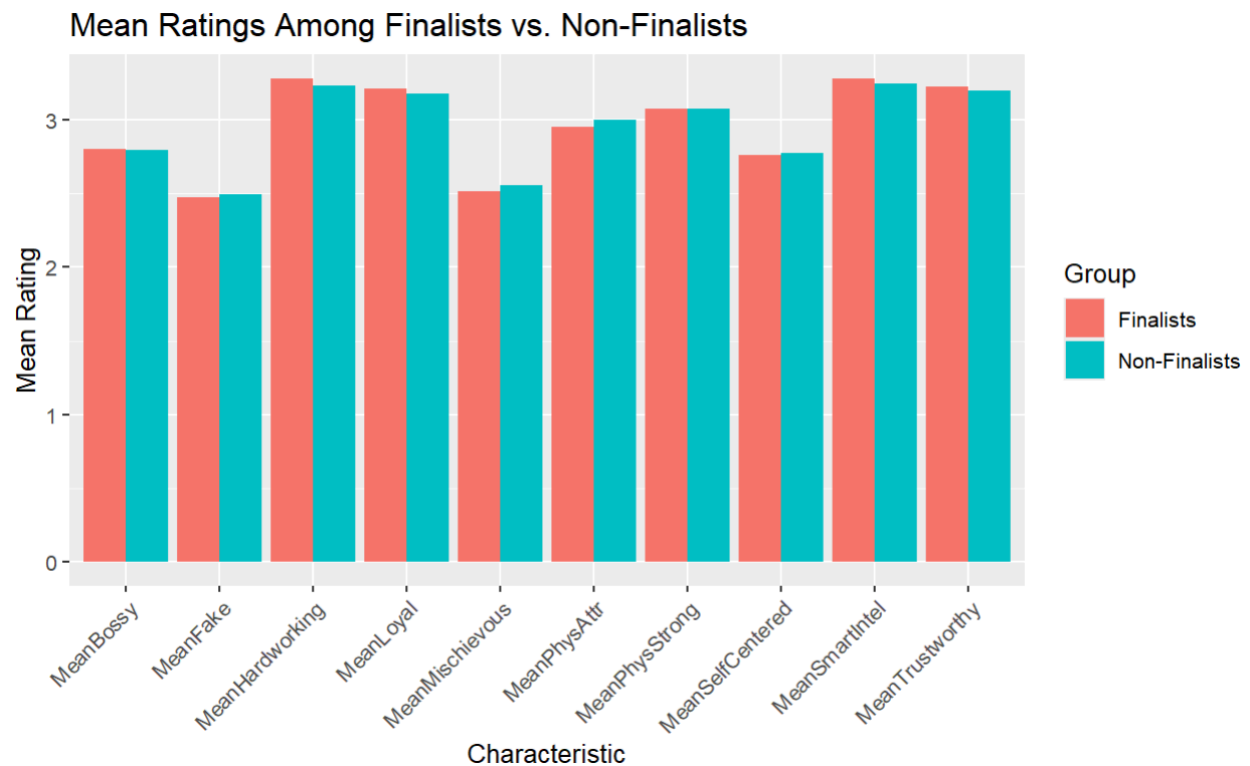
CHARACTERISTICS	MEAN RATINGS AMONG FINALISTS
MeanTrustworthy	3.225385
MeanLoyal	3.216923
MeanSmartIntel	3.284274
MeanPhysAttr	2.952051
MeanPhysStrong	3.07453
MeanSelfCentered	2.765128
MeanHardworking	3.279402
MeanBossy	2.80188
MeanFake	2.472137
MeanMischievous	2.516667

Table1B

CHARACTERISTICS	MEAN RATINGS AMONG NON-FINALISTS
MeanTrustworthy	3.19361
MeanLoyal	3.169424
MeanSmartIntel	3.237898
MeanPhysAttr	3.013893
MeanPhysStrong	3.077729
MeanSelfCentered	2.776458
MeanHardworking	3.22261
MeanBossy	2.79239

MeanFake	2.500932
MeanMischievous	2.563983

Table 1C



After answering whether or not the contestants' traits ratings were impactful to their finalizing on the show, we analyzed whether the contestants' sexuality or age impacted their reaching a finalist position. We began by creating linear regression models for both age groups and the sexuality of contestants to see the likelihood through the p-values of them reaching a finalist position. The age groups were divided into young adults, middle-aged adults, and older adults with young adults ranging between 0 to 29 years old, middle-aged adults being aged 29 to 49 years old, and older adults being 49 to 100 years old. For both models, the p-values were not statistically significant, allowing us to reject the idea that age or sexuality impacts their chances of finalizing. The p-value was .381 for LGBTQ contestants reaching finals, a p-value of .455 for middle-aged

adults, and a p-value of .506 for older adults determining the contestants' placement in finals. Compared to young adults with a p-value of $5.42e-12$, middle-aged adults and older adults were not less likely to reach finals according to our model's results. Additionally using a multiple regression interaction model, we analyzed the effects of both age and sexuality impacting the contestants' chances of reaching finals. In the regression model, the intercept, estimated at 0.15141, represents the baseline probability of young adults who are not LGBTQ becoming finalists. This coefficient is statistically significant, with a p-value of $1.35e-11$. Regarding age group adjustments, the coefficient for middle-aged adults is 0.02931, suggesting a marginally higher probability of becoming a finalist compared to the baseline group; however, this effect is not statistically significant (p-value = 0.329). Similarly, the additional probability for older adults is quantified as 0.02047, with a p-value of 0.690, indicating that the effect is also statistically non-significant. The coefficient for LGBTQ status is -0.01808, indicating a decrease in the probability of being a finalist for LGBTQ individuals relative to their non-LGBTQ counterparts within the same age group. This effect is not statistically significant (p-value = 0.854). For middle-aged LGBTQ individuals, there is a negative coefficient of -0.09122, suggesting a reduced probability of being a finalist compared to non-LGBTQ middle-aged adults, but this too lacks statistical significance (p-value = 0.457). Conversely, the coefficient for older LGBTQ adults is 0.13191, implying an increased probability of being a finalist compared to their non-LGBTQ peers. However, like the other coefficients, this effect does not reach statistical significance (p-value = 0.458), indicating that age group, LGBTQ status, and their interactions do not significantly influence the likelihood of becoming a finalist in this analysis. To further analyze the data of contestants based on these categories, we created binary values for whether or not the contestants identify as LGBTQ or not and found the percentages of individuals from both

LGBTQ and not LGBTQ who finalized. For non-heterosexual finalists, there have been 6 total out of only 50 contestants which is 12%, and a relatively small sample size in comparison to 114 finalists out of 681 heterosexual contestants, which is 16.7% (Table 2A). To further break down the age ranges in which contestants seem to finalize, we categorized the contestants from the three age groups with the total contestants in each group, the total finalists in each group, and the percentage of finalists in each group. Young adults had 45 finalists with 15.05% reaching finals, middle-aged adults had 62 finalists with 17.2% reaching finals, and older adults had 13 finalists with 18.3%. (Table 2B). From this data, there does not seem to be much of an advantage or disadvantage based on sexuality and age. More specifically, survivor contestants do not seem to be discriminated against due to homophobia or ageism when it comes to becoming a finalist.

Table 2A

sexuality_group	TOTAL	FINALISTS	PERCENTAGE
LGBTQ	50	6	12.00000
straight	681	114	16.74009

Table 2B

age_group	TOTAL	FINALISTS	PERCENTAGE
Young Adults	299	45	15.05017
Middle_Aged Adults	360	62	17.22222
Older Adults	71	13	18.30986

The next analysis we performed was focused on the impact of sexuality and age on the placement of contestants by the end of the season. Using the median placements of each age group and whether or not the contestant identified as LGBTQ, it can be seen that there is not much of an advantage or disadvantage whether contestants are heterosexual or not and based on their age groups. The three age groups have mean values very close to each other in value. The young adults' mean is 9.69, the middle-aged adults' average is 9.71, and the older adults' average is 9.79. (Table 3A). Outside of averages, non-heterosexual contestants have about half the chance of becoming a finalist as heterosexual contestants (Table 3B). Using bar plots, we created visualizations of the averages of the placements for contestants within each age category and whether or not they identified as LGBTQ. These visualizations all show very close average placement values and no outliers emphasizing that age group and sexuality are not important factors in contestants reaching the finals.

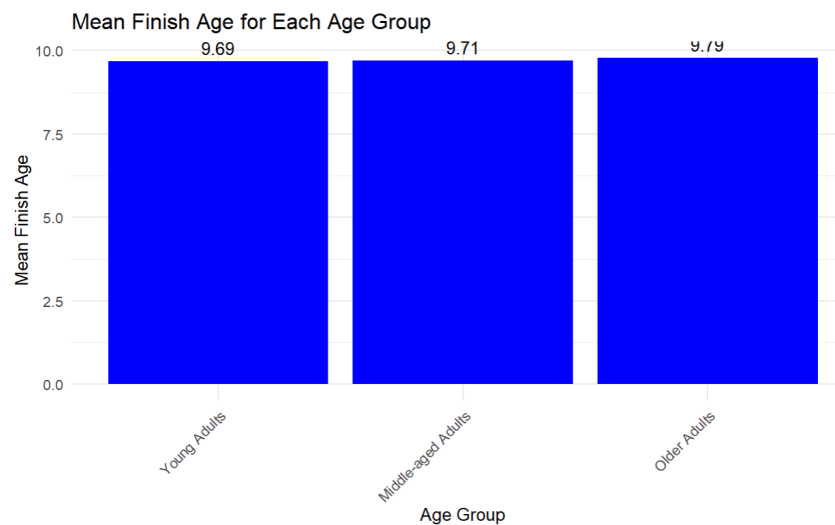


Table 3A

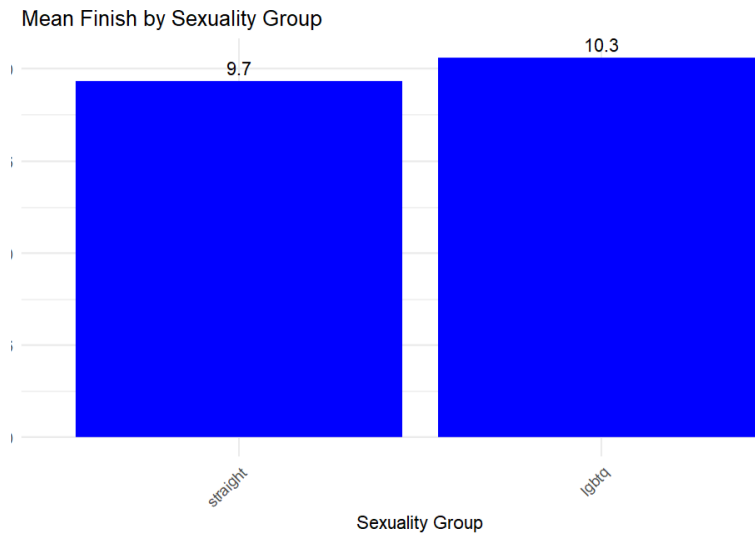


Table 3B

The next analysis of age and sexuality was based on the proportions of those identifying as LGBTQ and their ages across all seasons. We identified the trends for the entirety of the dataset over time in age categories and sexuality of contestants. Over the seasons there has been a higher proportion of LGBTQ contestants on average, but there are a lot of highs and lows over the seasons (Table 4A). The data is not incredibly sufficient in showing the increase because even after the increased average, there is not a large difference in the total number of LGBTQ contestants in a season. After all, it is only between 0-3 every season. For age, the average age of contestants has slightly trended downwards over the seasons (Table 4B). But over 40 seasons the average age has more or less consistently sat around 33 years old and there are seasons with drastic jumps in ages, but for the most part they sit in the 30-37 year old range. This would explain why a majority of finalists fall into the middle-aged adult category.

Trend of LGBTQ Representation Across Seasons

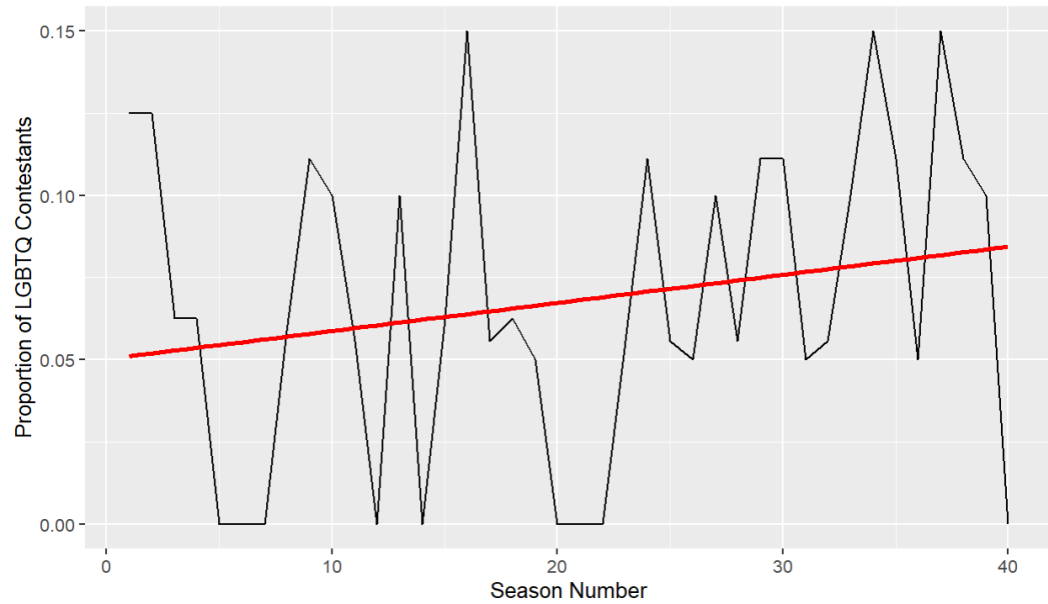


Table 4A

Mean Age of Contestants Across Seasons with Trend Line

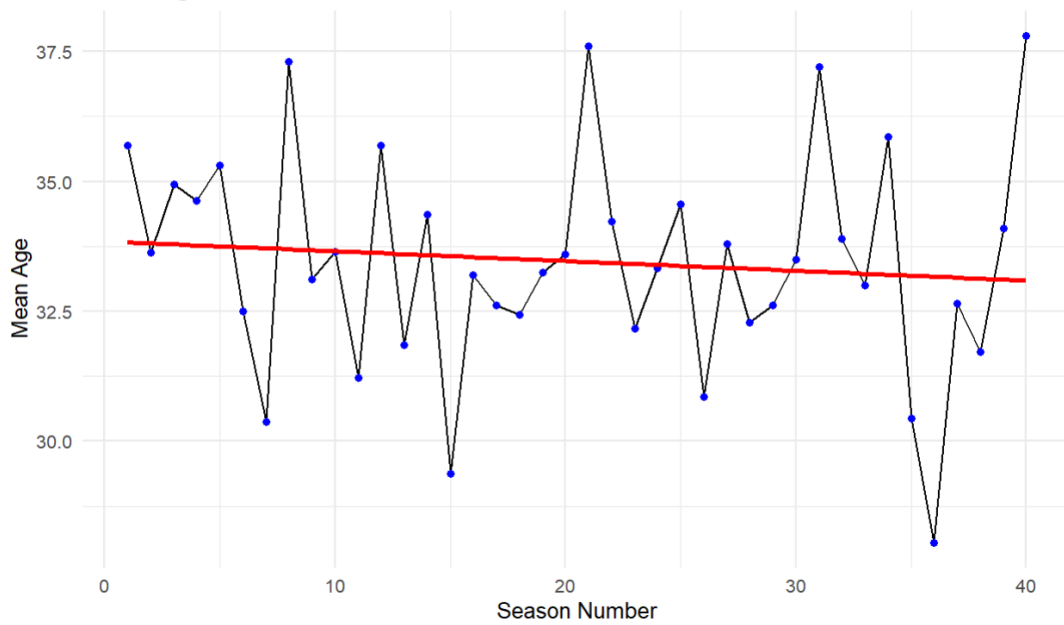


Table 4B

The final analysis investigated the difference in contestants identifying as male and LGBTQ versus female and LGBTQ becoming finalists. By using a multiple regression interaction model, we looked at the interaction between gender and sexuality. The intercept of 0.163324 quantitatively represents the base probability that a non-LGBTQ female will become a finalist. This estimate is statistically highly significant, with a p-value of 9.55×10^{-16} . The coefficient for LGBTQ status, denoted as `lgbtqyes` and valued at -0.096657, indicates a lower likelihood of LGBTQ individuals, as compared to non-LGBTQ counterparts of the same gender, reaching finalist status. However, the non-significant p-value of 0.324 suggests this predictor does not significantly impact the model. Similarly, the coefficient for gender (`genderm` = 0.008882) implies a marginal increase in the probability of males becoming finalists compared to females, but this too lacks statistical significance with a p-value of 0.755. Furthermore, the interaction term `lgbtqyes:genderm`, with a value of 0.067309, explores the specific impact of being an LGBTQ male relative to the baseline group of non-LGBTQ females. This coefficient, although indicating a positive effect, does not achieve statistical significance, as reflected by a p-value of 0.569. Collectively, these findings, including the analysis of residuals ranging broadly from -0.1722 to 0.9333, suggest that there is no evidence of discrimination based on gender or sexuality affecting the likelihood of contestants reaching the finals, as the model does not demonstrate significant variability in finalist outcomes based on these predictors. When using the `predict` function, we see that it is much less likely for a woman identifying as LGBTQ to be a finalist compared to a man regardless of their sexuality (Table 5).

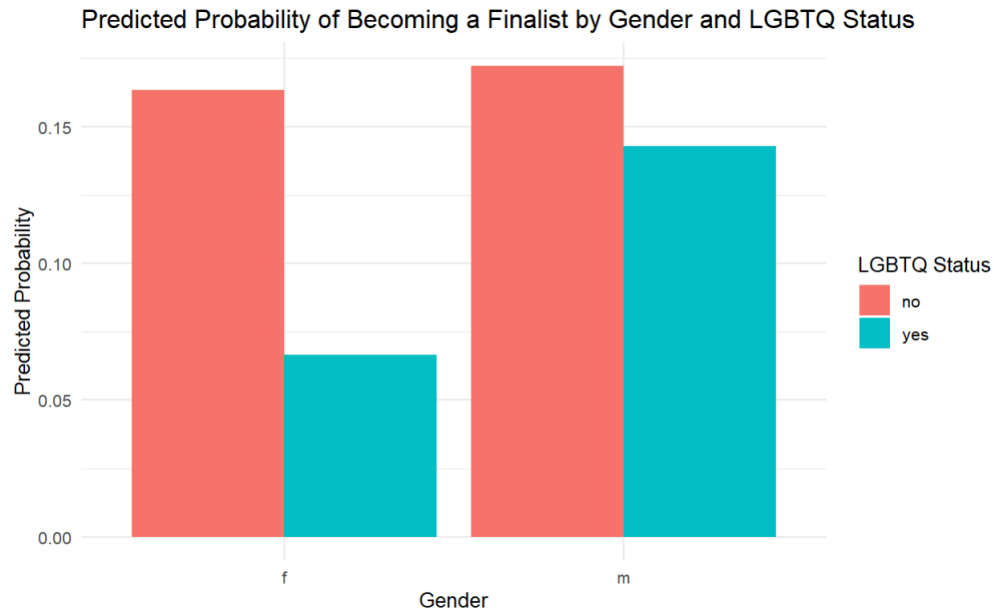


Table 5

Discussion

Overall, our results show that there is no visible ageism or sexism observed. There isn't any positive or negative correlation between the finalists and non-finalists and their age or sex. However, this conclusion is different from what the literature said. The articles that spoke about observing contestants of different ages and seeing this discrimination act in real-time are the opposite of what we saw. We saw zero correlation between how far the contestants got in regards to their age or sex. In regards to their sexualities, we also found no correlations between their chances of being a finalist and their chances of being eliminated early on. This result is also different from the literature because it explains how there is a mediocre chance that there is an association between the contestants' sexuality and their chances of being a finalist or getting eliminated. The literature overall is not consistent with the data and is the quite opposite of the results we found. Our results show that these are good implications for the future of *Survivor*.

Now that we've found out the results have shown no correlations, then it reveals that the show itself will become more diverse and inclusive to people than it already is because these results show that there isn't a bias. However, we did have some limitations. Our first limitation was that we had to form results from a certain small group of people. This limited our results and this may not help accurately represent the larger population. Our second limitation was that we did not collect the data ourselves. Instead, we received our data to find results from secondary sources and data sets. We also had missing values in the data set, that would have affected our results and caused us to possibly overlook valuable insights that could potentially have led us to a different result. With the missing variables, we could've possibly found a small correlation between age, sex, and sexuality and their chances of becoming a finalist or getting eliminated. This means that, in the future, we could extend this research and analysis to figure out if there is a bias regarding age, gender, and sexuality and their chances of winning or becoming eliminated in different reality shows, exposing different shows of their bias.

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