

The Effect of Personal Experiences on Race Relations

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Introduction

The past few years have proved to be a volatile time for race relations in the United States. According to a Gallup poll, American's perceptions of race relations have hit an all-time low with only 42% of adults in the United States saying that relations between white and Black Americans is "very" or "somewhat good."¹ This is the most negative view since Gallup started asking this question in 2001. A pew research poll observes similar opinions with 58% of Americans saying race relations are generally bad, a view held by majorities across all racial and ethnic groups.² Among those who believe relations are bad, 69% say that race relations are getting even worse.

A number of factors can explain these changing sentiments, but perhaps none more so than the overdue awakening to the systemic racism embedded in the fabric of American society and institutions. This can arguably be attributed to a number of high-profile cases of police brutality against black men and women. Perhaps the most well-known case is the murder of George Floyd, an African-American man, at the hands of a Minnesota police officer. Floyd's death has caused a dramatic shift in public opinion on racial justice issues. A 2020 Washington Post-ABC News poll found for the first time in the poll's history that a majority of white people said they believe that the justice system is unfair to Black people.³ The poll also found that support for the Black Lives Matter movement increased by 10% among all demographics since 2017.

While an examination of structural racism moving to the forefront of American consciousness is warranted, it is out of the scope of this research. Instead, this research will focus on the experiences and outlooks that have an impact on a person's views of race relations. This research seeks to answer the question of whether personal views of race relations and experiences tied to race cause a person to more

¹ Lardieri, Alexa. "Ratings of White-Black Relations Hit New Low, Gallup Poll Finds" USNews, July 21, 2021. <https://www.usnews.com/news/politics/articles/2021-07-21/ratings-of-white-black-relations-hit-new-low-gallup-poll-finds>.

² Horowitz, Juliana Menasce, Anna Brown, and Kiana Cox. "How Americans See the State of Race Relations." Pew Research Center's Social & Demographic Trends Project. Pew Research Center, September 22, 2021. <https://www.pewresearch.org/social-trends/2019/04/09/how-americans-see-the-state-of-race-relations/>.

³ Payne, Daniel. "White America: Awakened?" POLITICO, May 25, 2021. <https://www.politico.com/news/2021/05/25/white-people-racial-justice-activism-george-floyd-490545>.

likely believe that relations in the United States are generally good or generally bad. I hypothesize that the greater discrimination a person faces and the more race is an issue for their everyday life the more likely they are to believe that race relations in the United States are generally bad.

Data Set and Variables

The dataset used in this study comes from Pew Research Center's American Trends Panel (ATP). The American Trends Panel is a national online survey panel of 10,000 randomly chosen adults from across the United States. The panelists are recruited over years and take surveys frequently. They are randomly selected through address-based recruitment and are then asked to go online to complete a survey, at the end of which they will be invited to join the panel. In order to be nationally representative, the share of non-internet users is captured by providing those households with tablets to take surveys online. When surveying panelist, ATP surveys only a subset of the 10,000 panelists available. Since surveys can be overrepresented in some groups and underrepresented in others, drawing on subsamples can work to address these imbalances to produce a sample that is more representative of the United States as a whole. The Center works with Ipsos, an international market and opinion research firm, to recruit panelists and conduct the surveys. Every year new respondents are added to refresh the panel. Panelists take an annual profile survey where they update information on their profile, including income, number of children, etc. In order to ensure representation on the panel embodies the population, panelists are retired from taking surveys if they are demographically overrepresented.

The data used for this research was collected from panelists for the period from January to February 2019. A total of 6,637 panelists responded out of 9,402 who were sampled. In order to analyze subgroups this survey oversamples Black and Hispanic respondents. Asian respondents are also oversampled; however, weights are used to bring groups back in line with their actual US population share in order to remove any potential bias. The data collected in this survey is primarily concerned with diversity in the United States. Panelists were asked varying questions on race relations and race issues.

Dependent Variable

The dependent variable chosen for the purpose of this study is concerned with respondents' perceptions of race relations in the United States.

(1) RACESURV10: Do you think race relations in the United States are:

1. Generally good
2. Generally bad

I recode these responses because binary outcomes must be coded as 0 or 1.

1=Generally good 0=Generally bad

Independent Variables

The key independent variables used in this model are panelists responses to questions on their experiences with race.

(1) RACESURV20: Thinking about your own experience, have you ever personally experienced discrimination or been treated unfairly because of your race or ethnicity?

1. Yes, regularly
2. Yes, from time to time
3. No

I recoded this variable to group the yes responses together.

(2) RACESURV21: How often, if ever, did your family talk to you about CHALLENGES you might face because of your race or ethnicity?

1. Often
2. Sometimes
3. Rarely
4. Never

(3) RACESURV22: How often, if ever, did your family talk to you about ADVANTAGES you might face because of your race or ethnicity?

1. Often
2. Sometimes
3. Rarely
4. Never

(4) RACESURV7: How often, if ever, does race or race relations come up in your conversations with family and friends?

1. Often
2. Sometimes
3. Rarely
4. Never

(5) RACESURV6: When it comes to racial discrimination, which do you think is the bigger problem for the country today?

1. People seeing racial discrimination where it really does NOT exist
2. People NOT seeing racial discrimination where is really DOES exist

Control Variables

Included in the model are a number of demographic attributes used as control variables.

(1) Race: Race-ethnicity.

1. White, non-Hispanic
2. Black, non-Hispanic
3. Hispanic
4. Other
5. Asian, non-Hispanic
99. Refused

Other and refused are dropped for the purposed of this study.

(2) Age: Four-way category based on panelist age as calculated from their date of birth.

1. 18-29
2. 30-49
3. 50-64
4. 65+
99. Refused

Refused response is dropped for the purposes of this study.

(3) Gender:

1. A man
2. A woman
3. In some other way
4. Refused

In some other way and refused are dropped for the purposes of this study.

(4) Education: Three-way category coded from self-reported educational attainment

1. College graduate+
2. Some college
3. High school or less
99. Don't know/Refused

Don't know/Refused are dropped for the purposes of this study.

(5) Party: Political party.

1. Republican
2. Democrat
3. Independent

4. Something else

Something else is dropped for the purposed of this study.

(6) Region: Census region

1. Northeast
2. Midwest
3. South
4. West

(7) Marital: Marital Status

1. Married
2. Living with a partner
3. Divorced
4. Separated
5. Widowed
6. Never been married

Summary of Data

Since descriptive statistics do not apply to this research due to the nature of the data, I will instead provide additional insight into the demographics of the data. First, observing the data on how respondents identify politically it is evident that a majority of all minority groups identify as Democrats while a majority of white respondents identify as Republican. This seems to be in line with the overall US population since the Democratic party tends to be more diverse and the Republican party tends to overwhelmingly white. In terms of age, a majority of those who identified as Democrats came from the 30-49 age group. The majority of those who identified as Republicans were older coming from the 50-64 age group. With regards to gender and party affiliation, there is an even split between men and women who identify as either Republican or Independents; however, an overwhelming majority of women identify as Democrats at 80%. This also seems to be line with the overall US population in that more women than men identify as Democrats.

When respondents were asked if they have personally experienced discrimination or treated unfairly because of race, the respondents from minority groups overwhelmingly responded in the affirmative. A majority of minority groups surveyed also believed that when it comes to racial discrimination, one of the

bigger problems is people not seeing discrimination where it really exists. The majority of white respondents felt that the bigger problem is people seeing racial discrimination where it does not exist. In terms of opinions about the state of race relations in the United States, respondents across all race groups felt that race relations were generally bad. A majority of those identifying as Democrats believed race relations were bad, while Republicans and Independents were split. A majority of those surveyed across all race groups and party affiliations also believed that race relations in the United States are getting worse.

Initial Model

The initial analysis employs a binary logistic regression model to examine the relationship between views on race relations in the United States and personal experiences tied to race. The binary logistic regression model is similar to a linear regression; however, the dependent variable is categorical in nature. It utilizes a log odds of the dependent variable and predicts the likelihood of a binary event occurring by using the logit function. The binary logistic regression model is the most appropriate model to use because the dependent variable is a binary variable with two possible values, in this case race relations are either good or bad. This model will allow for an understanding on how changes in personal experiences with race are associated with changes in the probability of finding race relations to be good or bad in the United States.

Table 1: Binary Logistic Regression Results

Optimization terminated successfully.
Current function value: 0.602966
Iterations 5

Logit Regression Results

Dep. Variable:	RACESURV10	No. Observations:	2729
Model:	Logit	Df Residuals:	2716
Method:	MLE	Df Model:	12
Date:	Mon, 06 Dec 2021	Pseudo R-squ.:	0.07885
Time:	18:03:43	Log-Likelihood:	-1645.5
converged:	True	LL-Null:	-1786.4
Covariance Type:	nonrobust	LLR p-value:	3.210e-53

	coef	std err	z	P> z	[0.025	0.975]
Intercept	0.4184	0.407	1.029	0.303	-0.378	1.215
Gender	-0.2979	0.085	-3.487	0.000	-0.465	-0.130
Race	0.1019	0.044	2.324	0.020	0.016	0.188
Education	0.0501	0.052	0.960	0.337	-0.052	0.152
Party	-0.1352	0.060	-2.272	0.023	-0.252	-0.019
Region	0.0416	0.043	0.969	0.332	-0.043	0.126
Marital	-0.0330	0.021	-1.550	0.121	-0.075	0.009
Age	-0.0172	0.045	-0.378	0.705	-0.106	0.072
RACESURV20	-0.2099	0.099	-2.130	0.033	-0.403	-0.017
RACESURV21	0.0862	0.054	1.589	0.112	-0.020	0.193
RACESURV22	-0.1038	0.056	-1.842	0.065	-0.214	0.007
RACESURV7	0.4113	0.053	7.825	0.000	0.308	0.514
RACESURV6	-0.8135	0.094	-8.700	0.000	-0.997	-0.630

Table 1 shows the results of the binary logistic regression. The results of the regression demonstrate that the older a person is the less likely they are to believe that race relations in the United States is generally good, holding all else constant. Similarly, if someone has faced discrimination due to their race or ethnicity then they are less likely to think race relations are good, holding all else constant. In terms of education, those that are less educated are more likely to believe that race relations are good, holding all else constant. According to results only half of the independent variables are statistically significant using the condition $p \leq 5$. Gender, race, party affiliation, and survey questions on personally facing discrimination, conversations on race, and whether or not people see discrimination as a problem in the country are statistically significant. While we can glean some information for the regression coefficients, it may be more useful to calculate log odds ratios to interpret.

Table 2: Odds Ratios for Initial Model

Variable	Odds Ratio
Intercept	1.52
Gender	.74
Race	1.07
Education	1.05
Party	.87
Region	1.04
Marital	.97
Age	.98
RACESURV20	.81
RACESURV21	1.09
RACESURV22	.90
RACESURV7	1.51
RACESURV6	.44

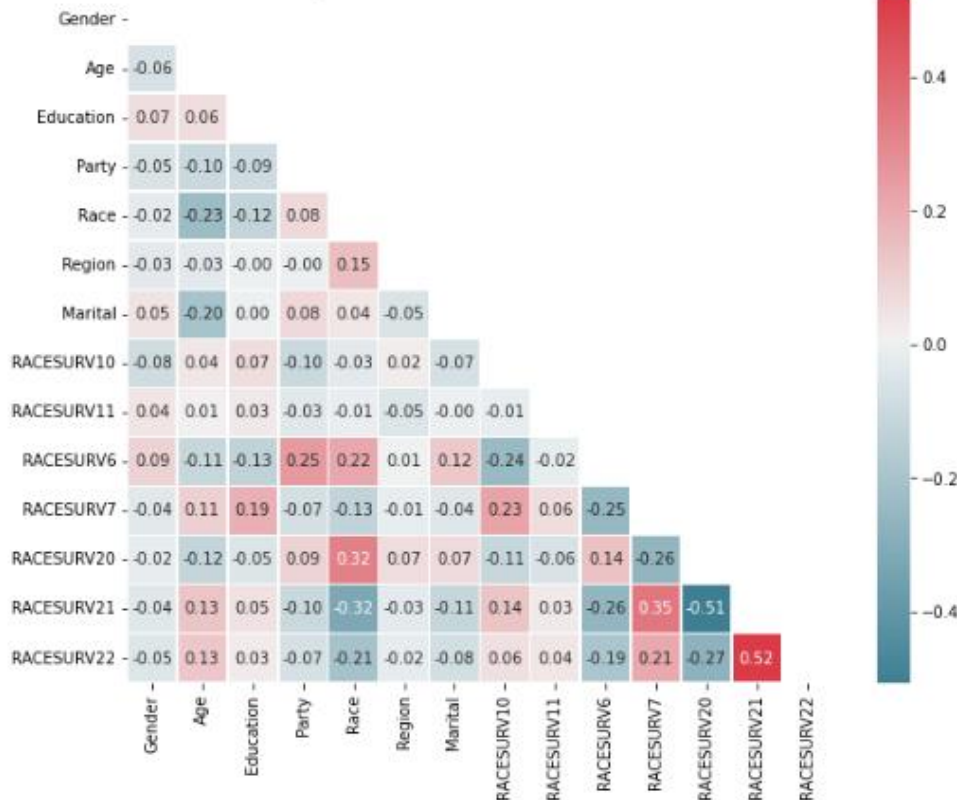
Table 2 shows the results of the odds ratio calculations. We can see that if a person has faced discrimination due to their race or ethnicity the chances that they think race relations in the United States is generally good go down by 19%. Similarly, as a person gets older their belief that race relations are good go down by 2%. For those less likely to discuss the challenges faced due to race, their chances of viewing race relations as good increase by 9%. The less educated a person the chances they see relations as good go up by 5%. Similarly, the less likely that race relations come up in conversations with family and friends the chances of responding good increase by 51%.

Final Model

One major assumption of binary logistic regression is that there should not be high intercorrelations among the independent variables. I run diagnostics for both collinearity and multicollinearity in hopes that it may improve my model. First, I check for collinearity by plotting a heatmap of a Pearson correlation coefficient matrix. As is evident from Figure 1 below, for the most part there is very little collinearity between the independent variables; however, there is correlation between a few of the survey questions on issues of race. The survey question, RACESURV20, asking respondents if they have faced discrimination because of race or ethnicity is correlated with the question, RACESURV21, on how often a respondent has spoken to their family about the challenges faced because of their race. The question on challenges is also correlated with the question, RACESRUV22, on how often the respondent talks to their

family about the advantages they might have due to their race. Since correlations above 0.4 indicate a relatively strong relationship I chose to remove only the variable in common which is the question on challenges faced due to race.

Figure 1: Correlation Plot



I also choose to check for multicollinearity by estimating the variance inflation factor (VIF). VIF measures “how much the variance of the estimated regression coefficient is “inflated” by the existence of correlation among the predictor variables in the model.”⁴ It is important to address any issues of multicollinearity because high correlations can lead to unstable estimates of regression coefficients. A VIF of 1 indicates that there is no correlation and a VIF between 5 and 10 indicates high multicollinearity among variables. The calculations for the VIF can be found in Table 3 below. It is clear that there are no issues of multicollinearity between the independent variables since VIF estimates are all close to 1.

⁴ Collinearity Diagnostics, Model Fit & Variable Contribution. Accessed December 7, 2021. https://cran.r-project.org/web/packages/olsrr/vignettes/regression_diagnostics.html.

Table 3: Variance Inflation Factors (VIF)

Variable	VIF
Intercept	95.63
Gender	1.03
Race	1.27
Education	1.07
Party	1.09
Region	1.03
Marital	1.07
Age	1.22
RACESURV20	1.42
RACESURV21	1.87
RACESURV22	1.39
RACESURV7	1.23
RACESURV6	1.23

In order to address the collinearity issues brought to light by the heatmap matrix of correlation coefficients, I choose to remove the question on challenges from my final model. The final regression results can be found below in Table 4.

Table 4: Binary Logistic Regression Results

Optimization terminated successfully.
Current function value: 0.603431
Iterations 5

Logit Regression Results

Dep. Variable:	RACESURV10	No. Observations:	2729
Model:	Logit	Df Residuals:	2717
Method:	MLE	Df Model:	11
Date:	Mon, 06 Dec 2021	Pseudo R-squ.:	0.07814
Time:	18:03:48	Log-Likelihood:	-1646.8
Converged:	True	LL-Null:	-1786.4
Covariance Type:	nonrobust	LLR p-value:	2.110e-53

	coef	std err	z	P> z	[0.025	0.975]
Intercept	0.6017	0.390	1.541	0.123	-0.163	1.367
Gender	-0.3008	0.085	-3.523	0.000	-0.468	-0.133
Race	0.0923	0.044	2.120	0.034	0.007	0.178
Education	0.0468	0.052	0.898	0.369	-0.055	0.149
Party	-0.1363	0.060	-2.289	0.022	-0.253	-0.020
Region	0.0431	0.043	1.002	0.316	-0.041	0.127
Marital	-0.0347	0.021	-1.635	0.102	-0.076	0.007
Age	-0.0171	0.045	-0.377	0.706	-0.106	0.072
RACESURV7	0.4263	0.052	8.243	0.000	0.325	0.528
RACESURV6	-0.8273	0.093	-8.880	0.000	-1.010	-0.645
RACESURV20	-0.2646	0.093	-2.860	0.004	-0.446	-0.083
RACESURV22	-0.0644	0.051	-1.274	0.203	-0.163	0.035

The results are similar to the initial binary regression model. However, the magnitudes of the regression coefficients have changed slightly. The same conclusions can be made as in the initial model. Older people and those who have faced discrimination are less likely to believe that race relations are good in the United States, when holding everything constant. Also, those that are less educated are still more likely to believe that race relations are good, when holding everything constant. Using $p \leq 5$ as a condition for statistical significance reveals the same six variables are still statistically significant with no new additions.

Table 5: Odds Ratios for Final Model

Variable	Odds Ratio
Intercept	1.83
Gender	.74
Race	1.10
Education	1.05
Party	.87
Region	1.04
Marital	.97
Age	.98
RACESURV20	.77
RACESURV22	.94
RACESURV7	1.53
RACESURV6	.44

Table 5 shows the updated odds ratios for the binary regression model after removing the highly correlated variable. We can see that in some cases the odds ratios have not changed. For example, the older someone gets their belief that race relations are good still go down by 2%. Also, the less educated a person the chances they see relations as good go up by 5%. However, in some cases a few of the odds ratios have changed significantly after removing the correlated variable. For example, if we examine the question on discrimination, we see that when a person has faced discrimination their belief that race relations are good decrease by 33%, as opposed to the initial calculation of 19%. Also, the less likely race relations come up in conversations with family and friends the chances of responding good increases by 53%, as opposed to 51% from the initial calculation. It seems that removing the highly correlated variable allowed for a better sense of the likelihood of perceiving race relations as good or bad.

Conclusion

Over the last few years, America's consciousness has been heightened when it comes to issues of race. Given this heightened awareness, this research sought to understand the likelihood that someone would find relations to be generally good or generally bad. The findings from this work do prove the hypothesis put forward in this work to have merit. By employing a binary logistic model and calculating odds ratios this work was able to estimate the probability that a person would find relations to be good or bad. The most significant findings include the fact that facing discrimination because of race will lead a person to less likely have a good view of relations. Also, the more that race is an issue for their everyday life the more likely they are to have a pessimistic view of race relations in America. While the results of this research may seem intuitive, it is still valuable to have statistical research that can confirm what we think to be true.

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