

# DISPARITIES IN VICTIMIZATION RATES AMONG ASIAN BLACK & WHITE AMERICANS FROM 2020-2021



EPPS 6356 Data Visualization  
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# TOPIC OVERVIEW

## DISPARITIES IN VICTIMIZATION RATES AMONG ASIAN, BLACK AND WHITE IN THE CITY OF LOS ANGELES FROM 2020-2021

The objective of our research is to graphically demonstrate the disparities, if any, in victimization rates of Asian and Black Americans as compared to White people in the city of Los Angeles from 2020-2022. This will allow us to understand the impact of the COVID pandemic as well as political and social shifts on victimization rates among these groups.



# LITERATURE REVIEW

## Victimization of Asian Americans

There was a reported increase in hate crimes against Asian-Americans and people of Asian descent during the COVID pandemic. Researchers such as Smith (2020) noted a surge in incidents like verbal harassment, physical assaults, and vandalism specifically directed at individuals of Asian descent.



# LITERATURE REVIEW

## Victimization of Black Americans

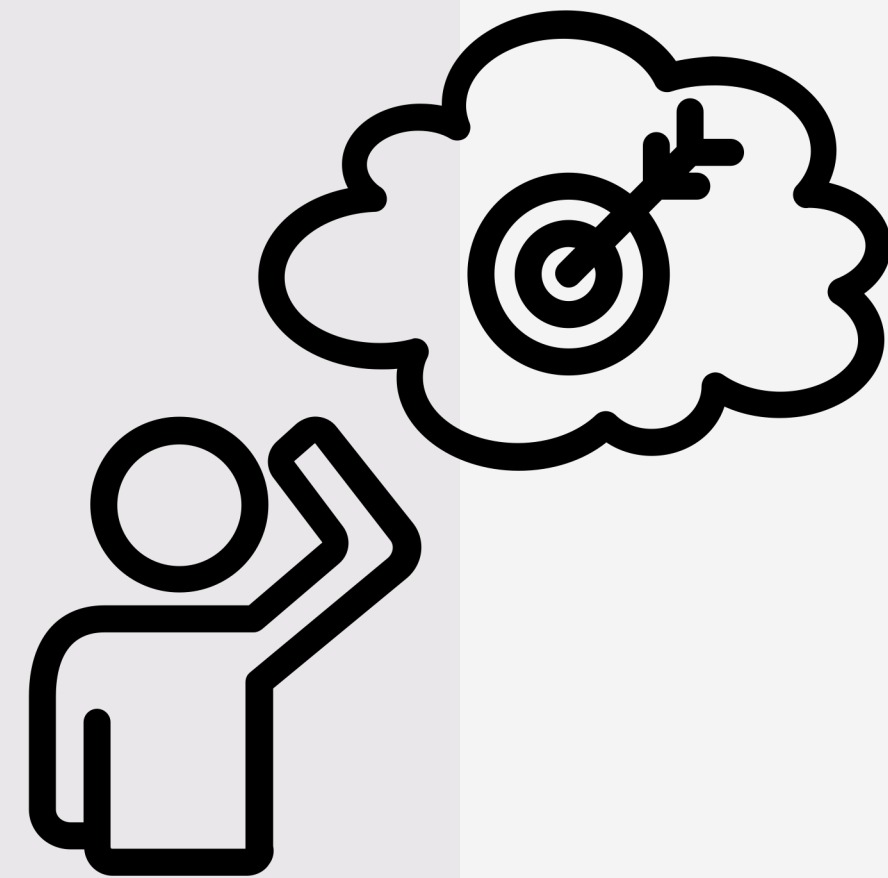


African Americans have been disproportionately affected by hate crimes, a consequence of systemic racism and historical injustices (Smith, 2020). Racial profiling, economic disparities, and a legacy of historical injustices contribute to an environment where hate crimes against this community persist.

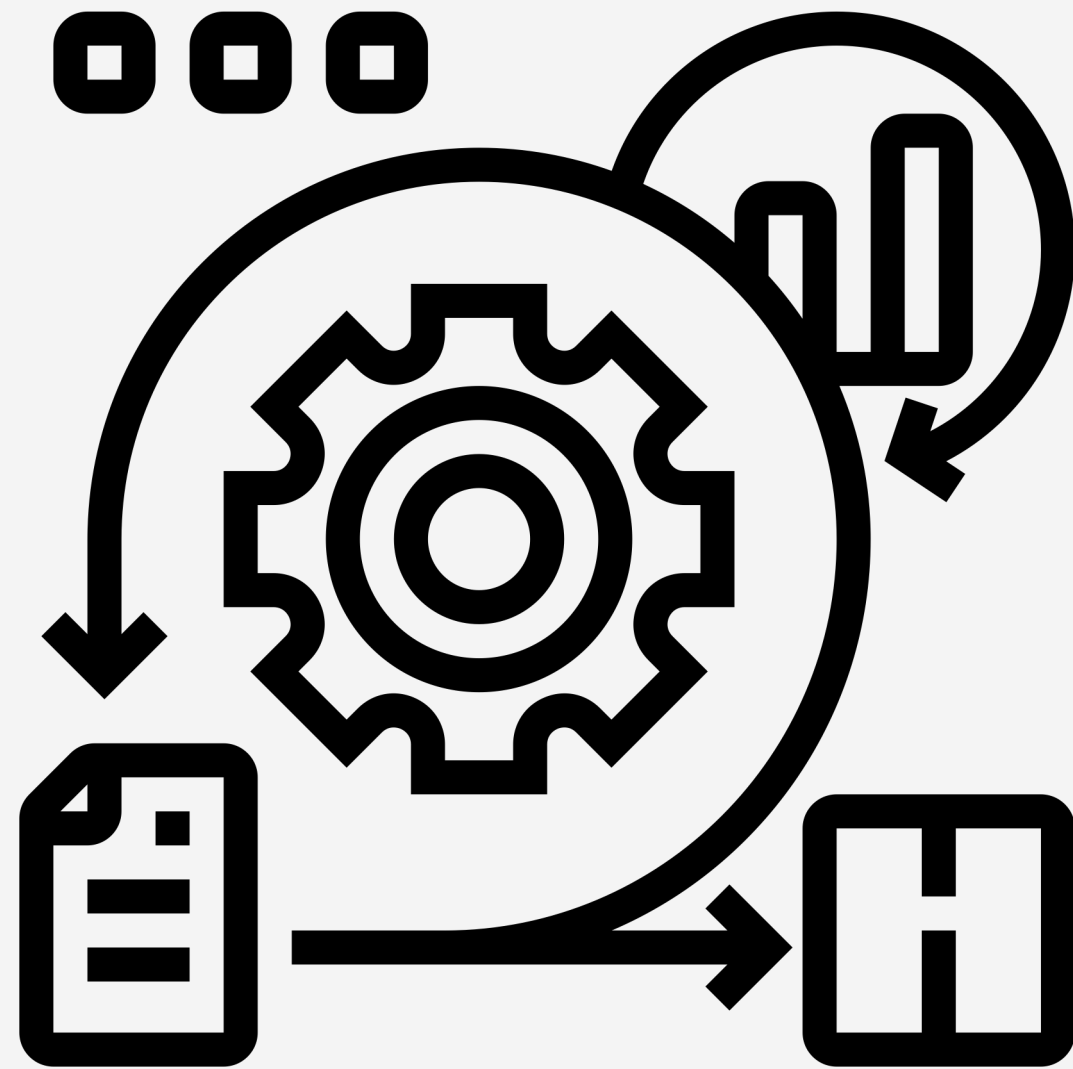
# HYPOTHESIS

**S** **Ha #1:** Over time we will see the disparity in victimization rates increase between Asian Americans and White people in Los Angeles from 2020-2021.

**Ha #2:** Over time we will see the disparity in victimization rates increase between Black people and White people in Los Angeles from 2020-2021.



# METHODOLOGY

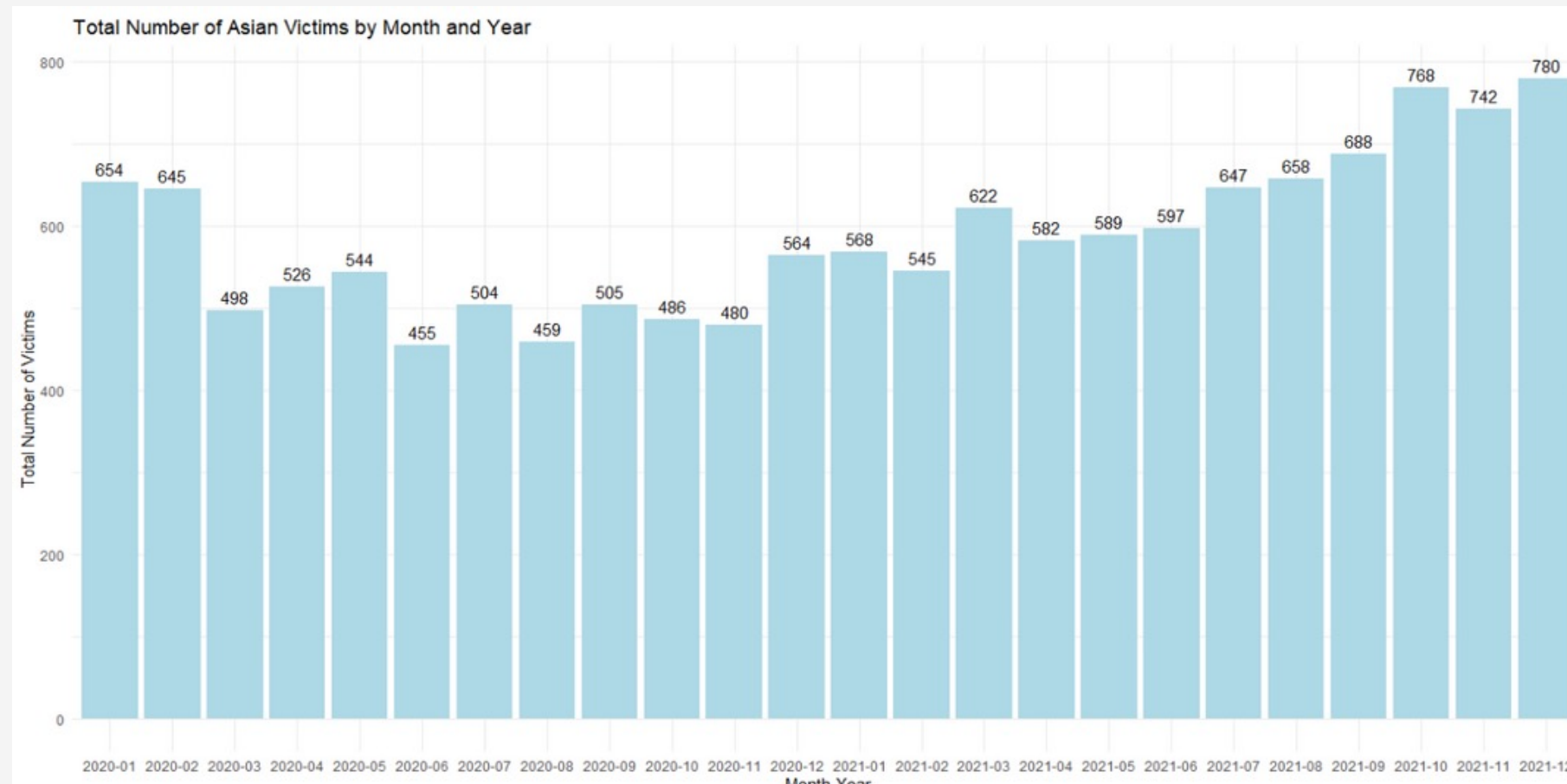


We will be utilizing secondary data on crime in Los Angeles from 2020 to 2021 from Data.gov. We will assess the relationship between race and victimization rates throughout the COVID pandemic and civil unrest that occurred in 2020.

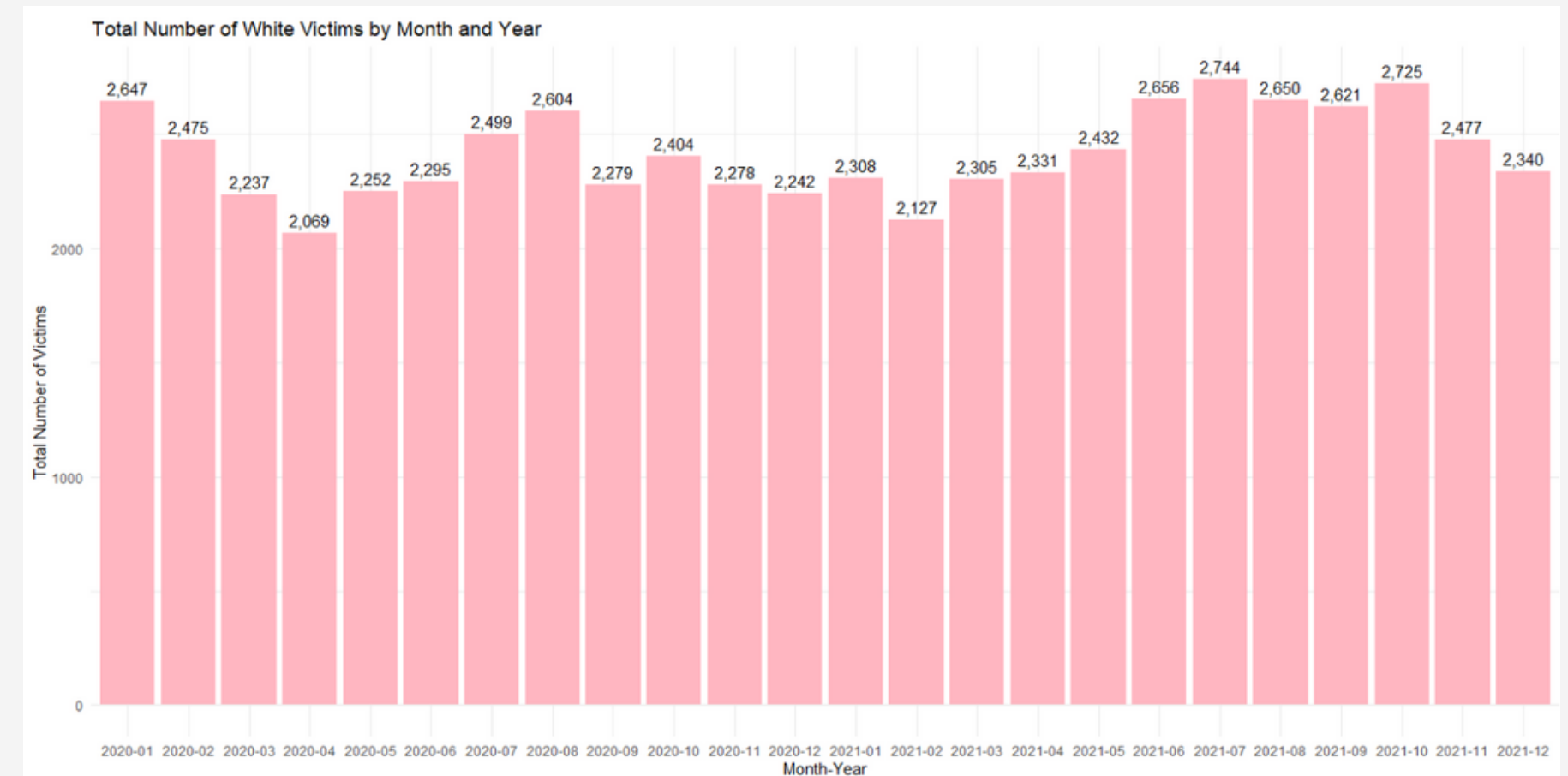
Our visualization techniques will include bar charts, pie charts, scatterplots, and a time series discontinuity design to appropriately depict our analysis and findings.

# RESULTS

## COMPARISON BETWEEN VICTIMIZATION RATES OF ASIAN & WHITE AMERICANS FROM 2020-2021: MONTHLY



**ASIAN**

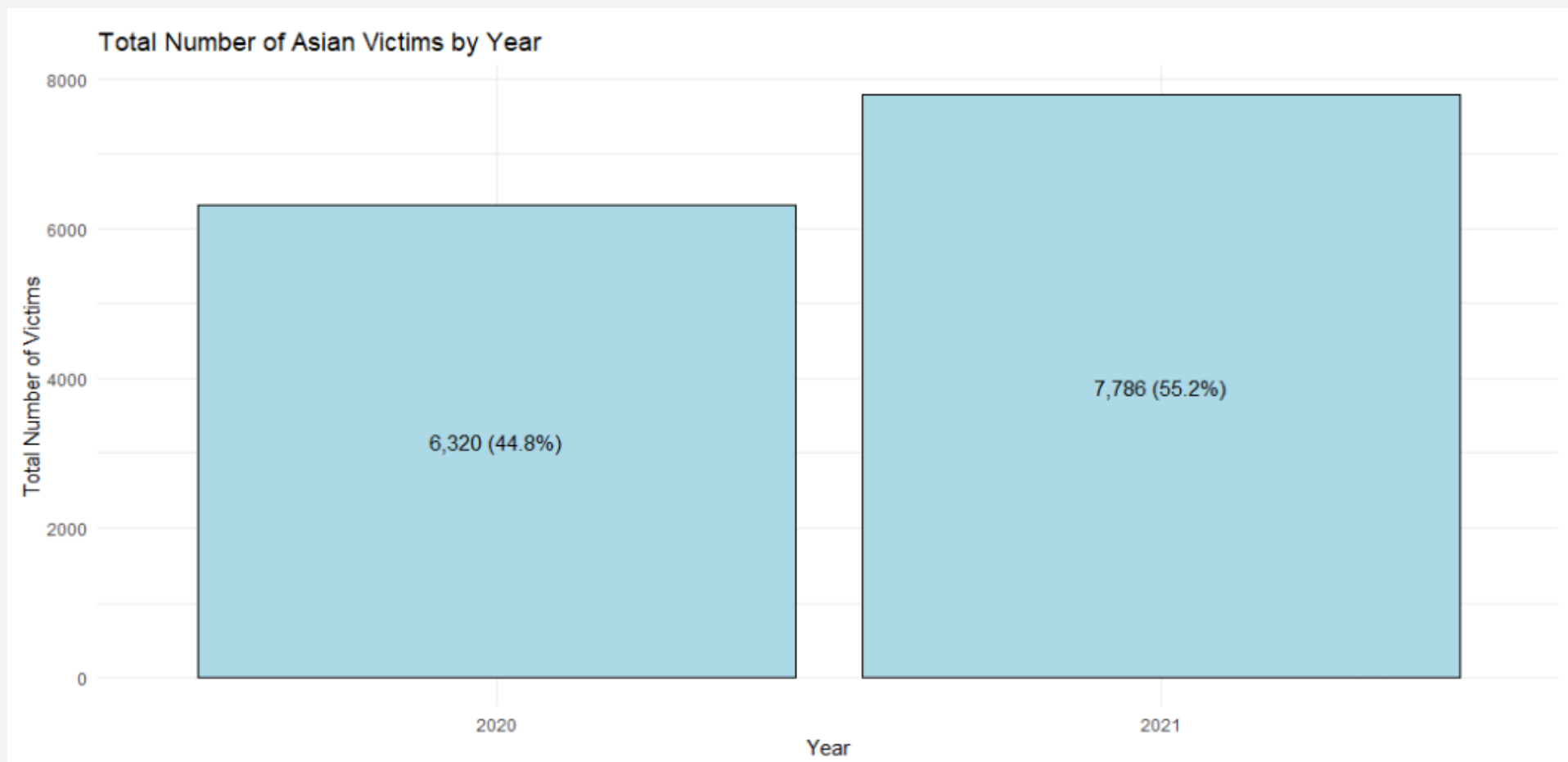


**WHITE**

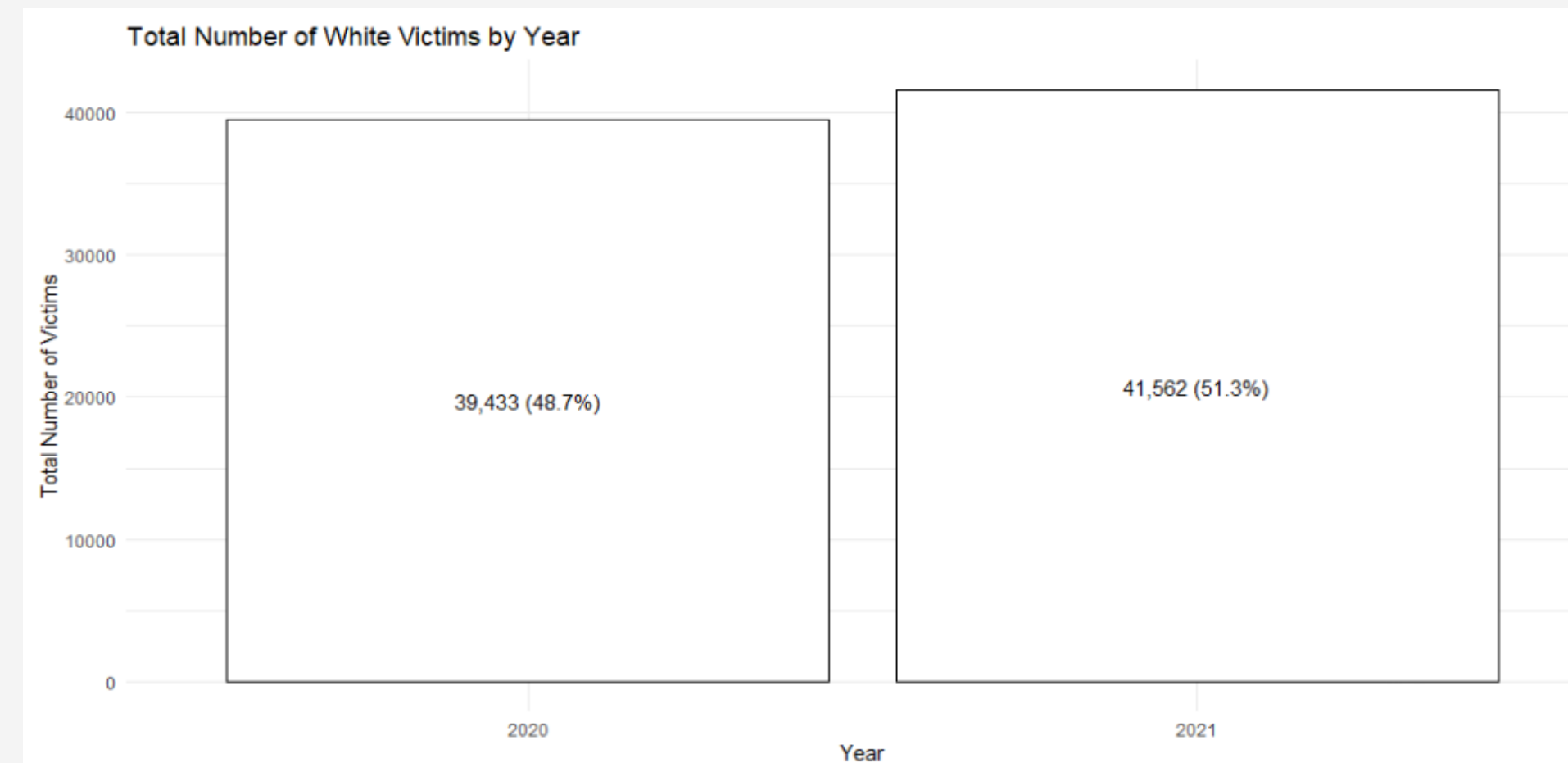


# RESULTS

## COMPARISON BETWEEN VICTIMIZATION RATES OF ASIAN & WHITE AMERICANS FROM 2020-2021: YEARLY



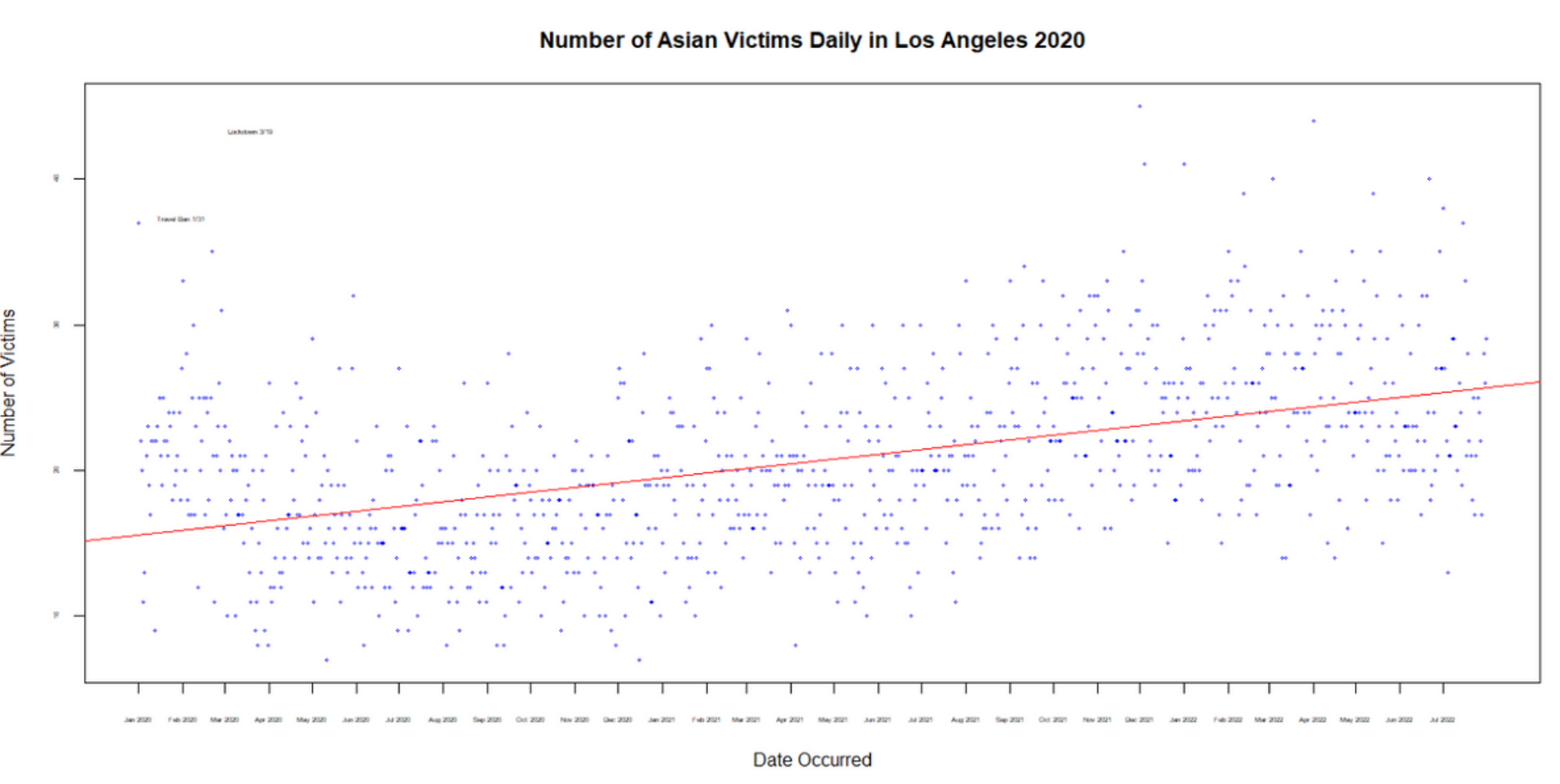
**ASIAN**



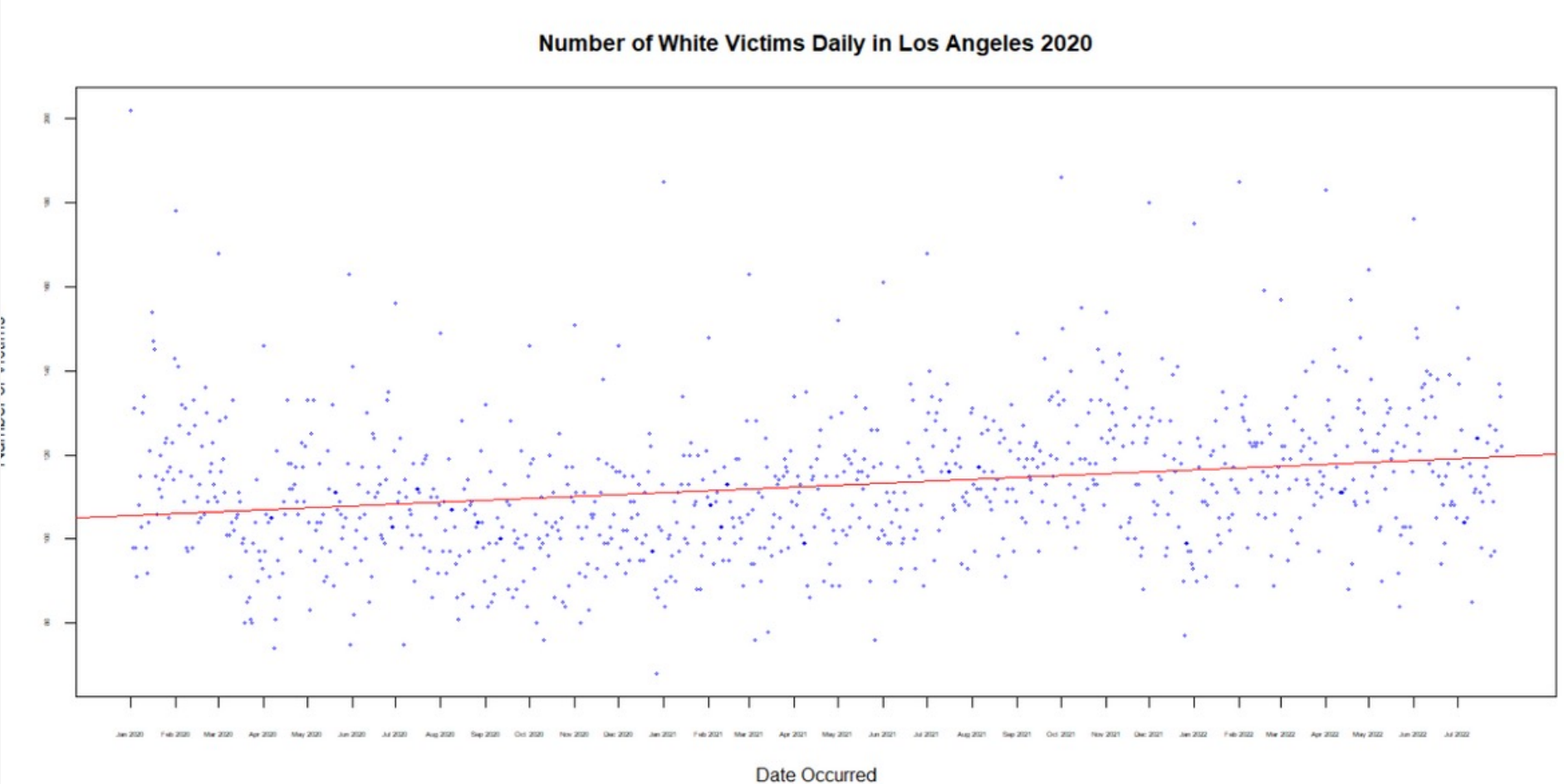
**WHITE**

# RESULTS

## COMPARISON BETWEEN VICTIMIZATION RATES OF ASIAN & WHITE AMERICANS FROM 2020-2021



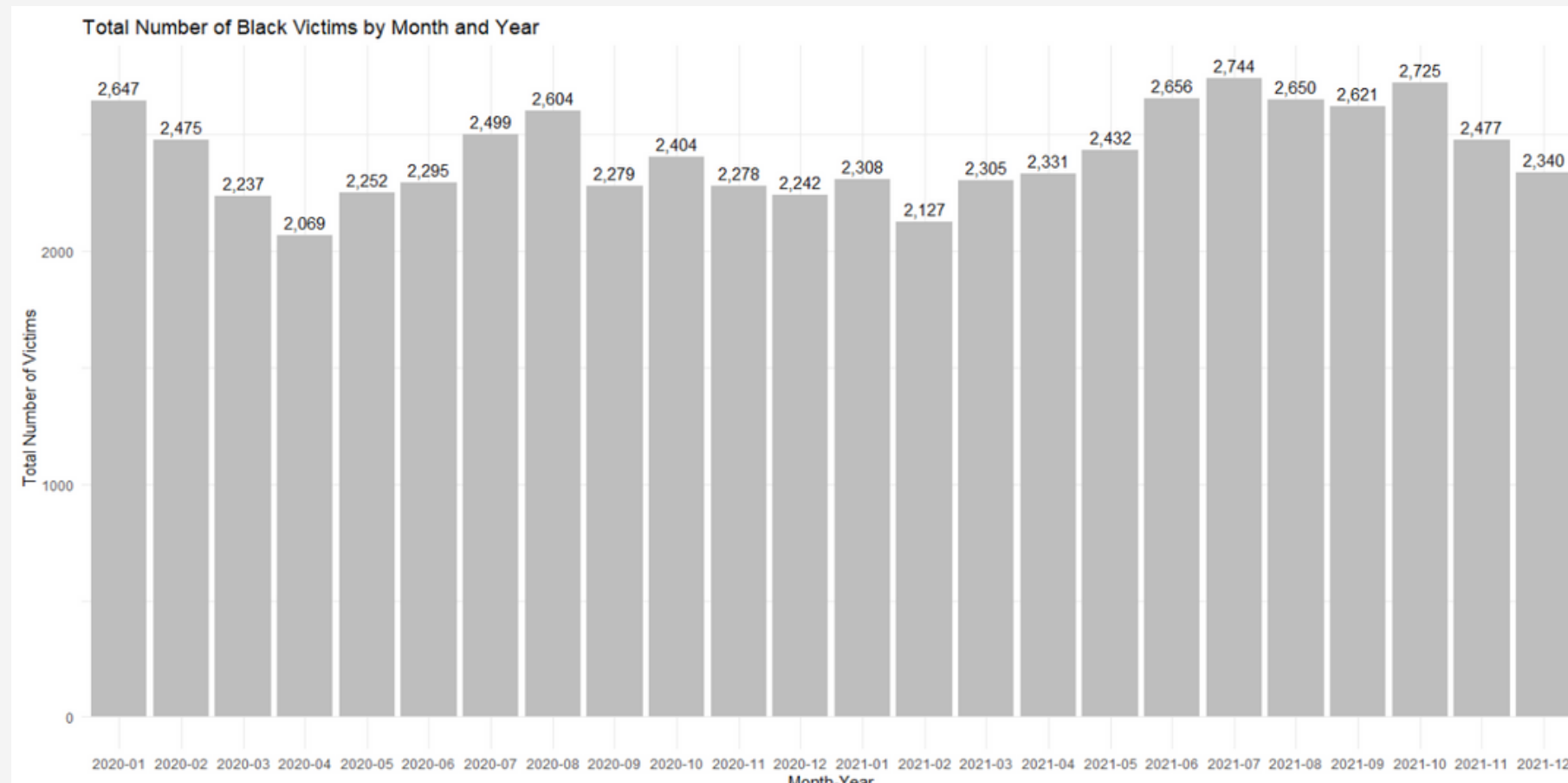
ASIAN



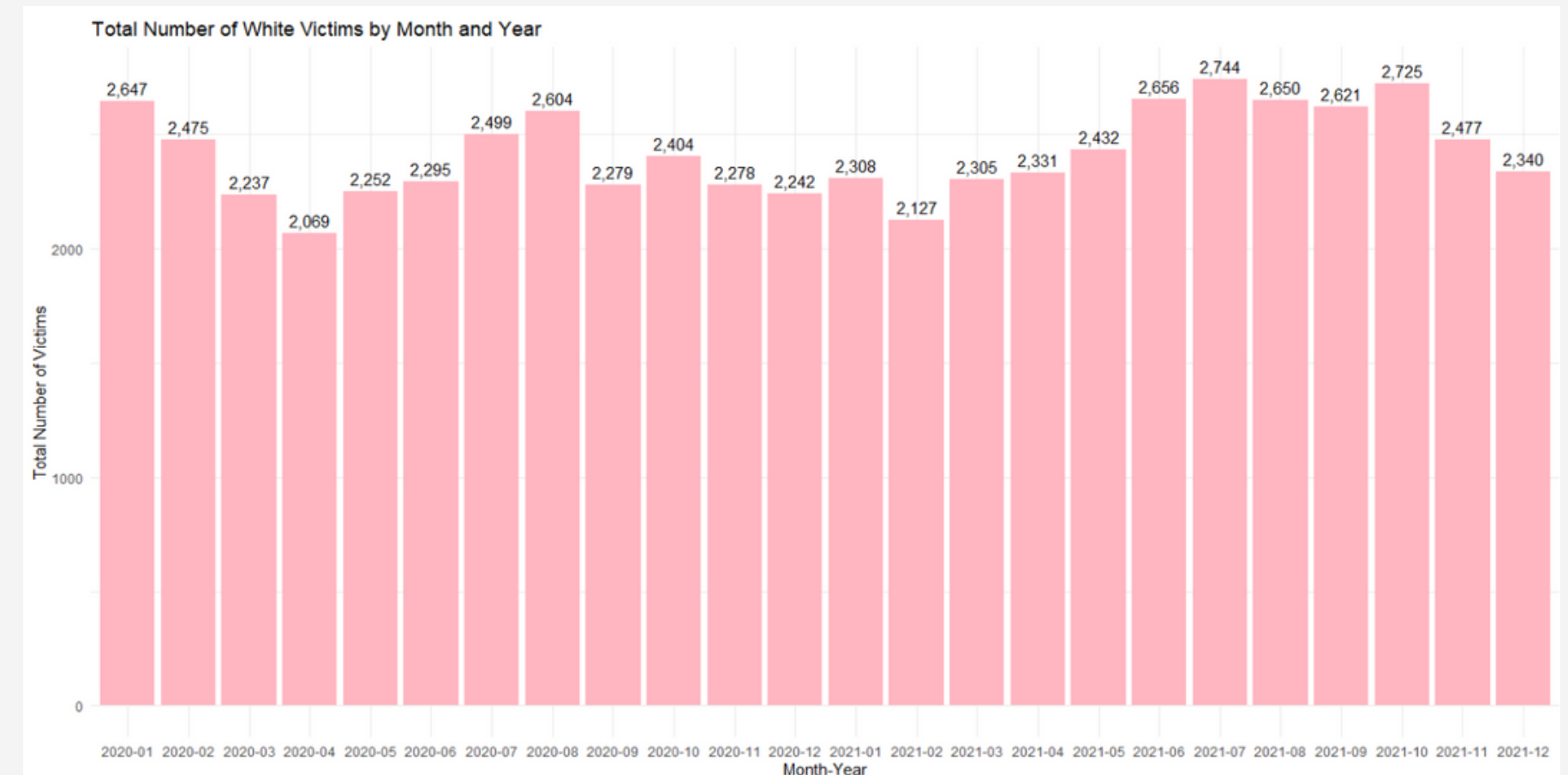
WHITE

# RESULTS

## COMPARISON BETWEEN VICTIMIZATION RATES OF BLACK & WHITE AMERICANS FROM 2020-2021: MONTHLY



**BLACK**

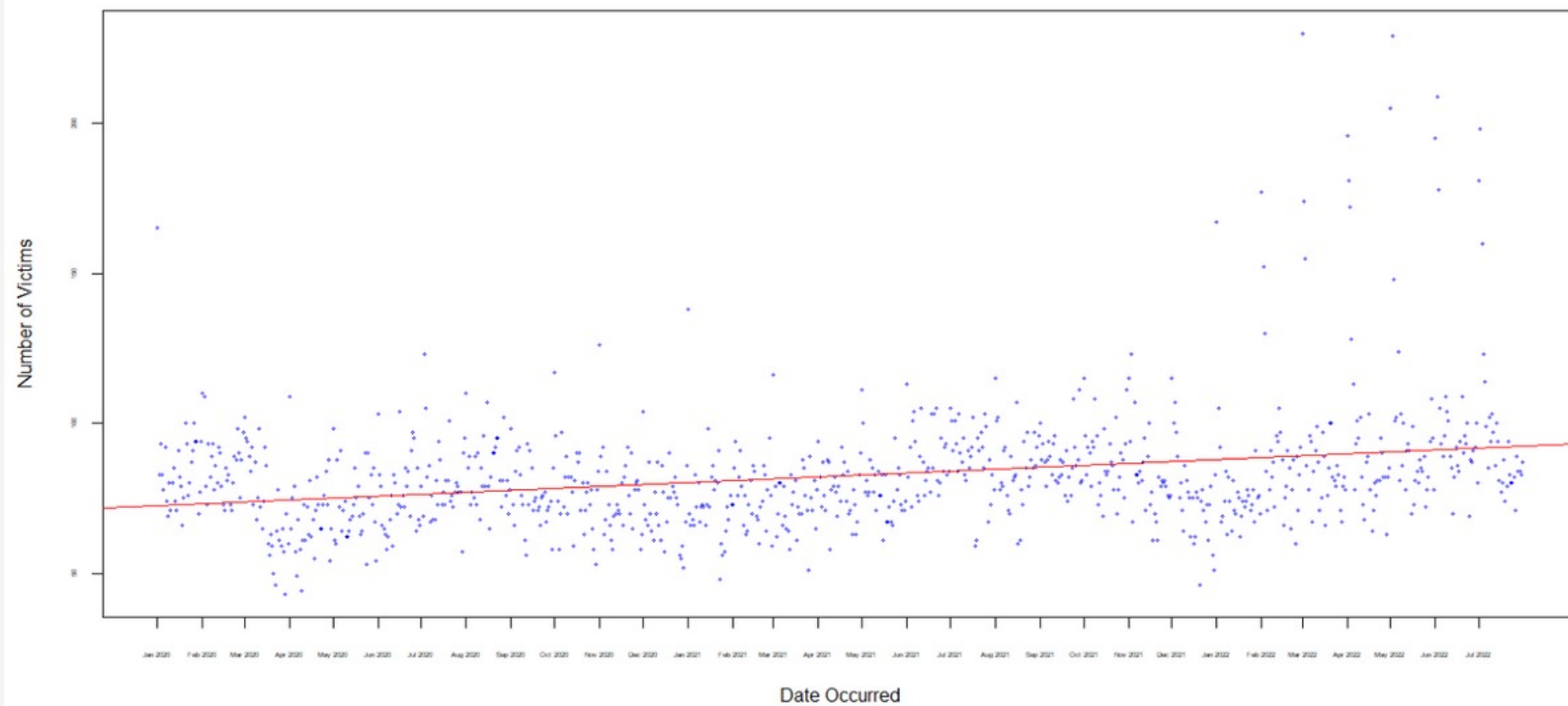


**WHITE**

# RESULTS

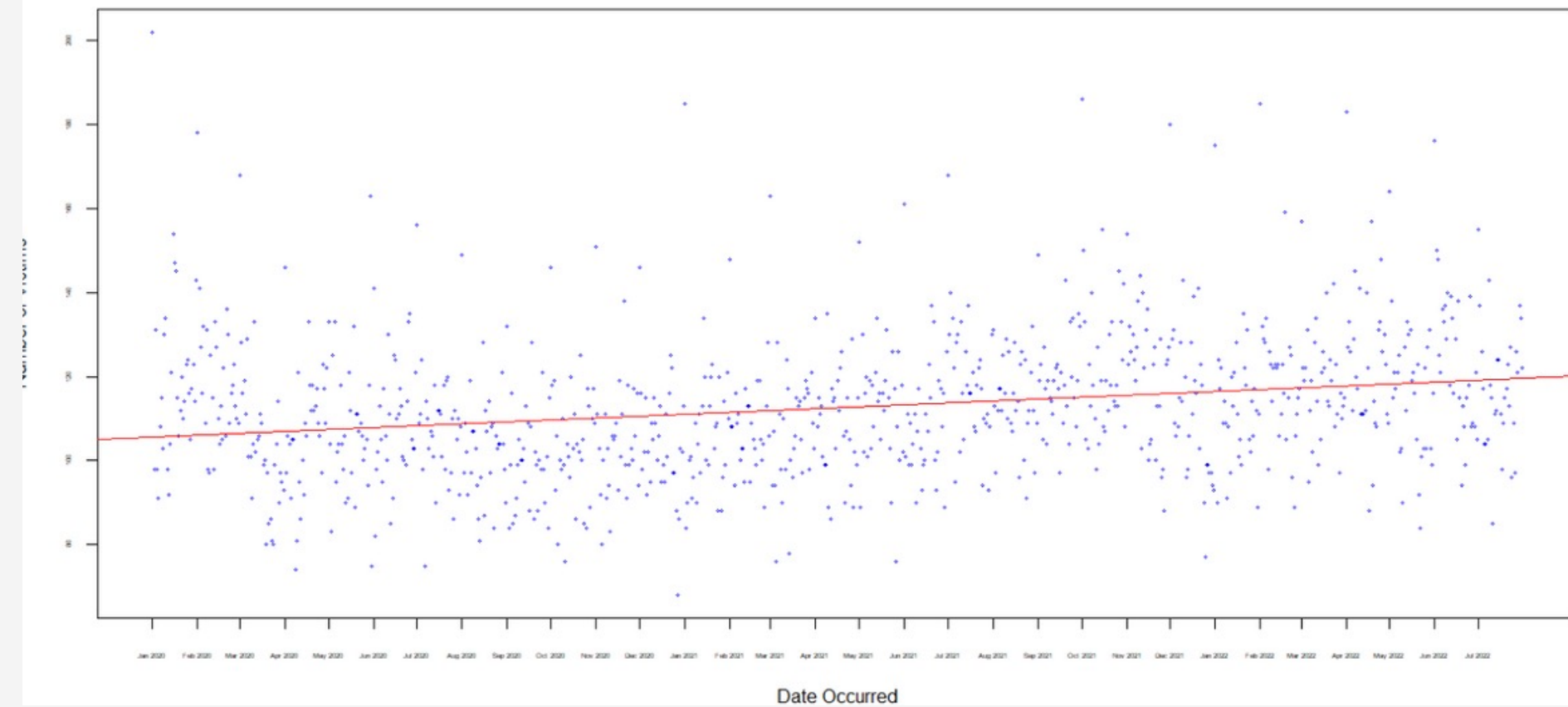
## COMPARISON BETWEEN VICTIMIZATION RATES OF BLACK & WHITE AMERICANS FROM 2020-2021

Number of Black Victims Daily in Los Angeles 2020



**BLACK**

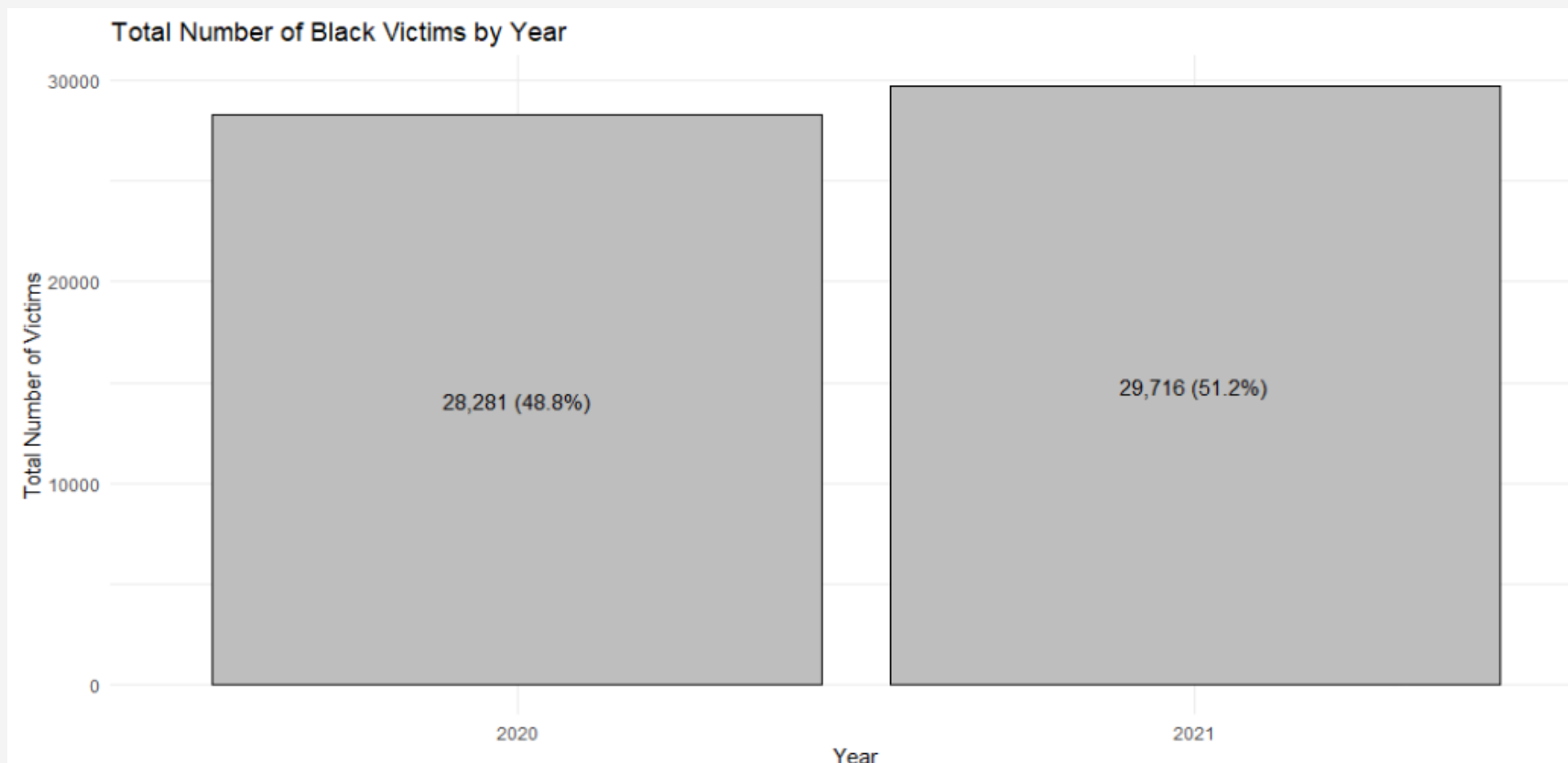
Number of White Victims Daily in Los Angeles 2020



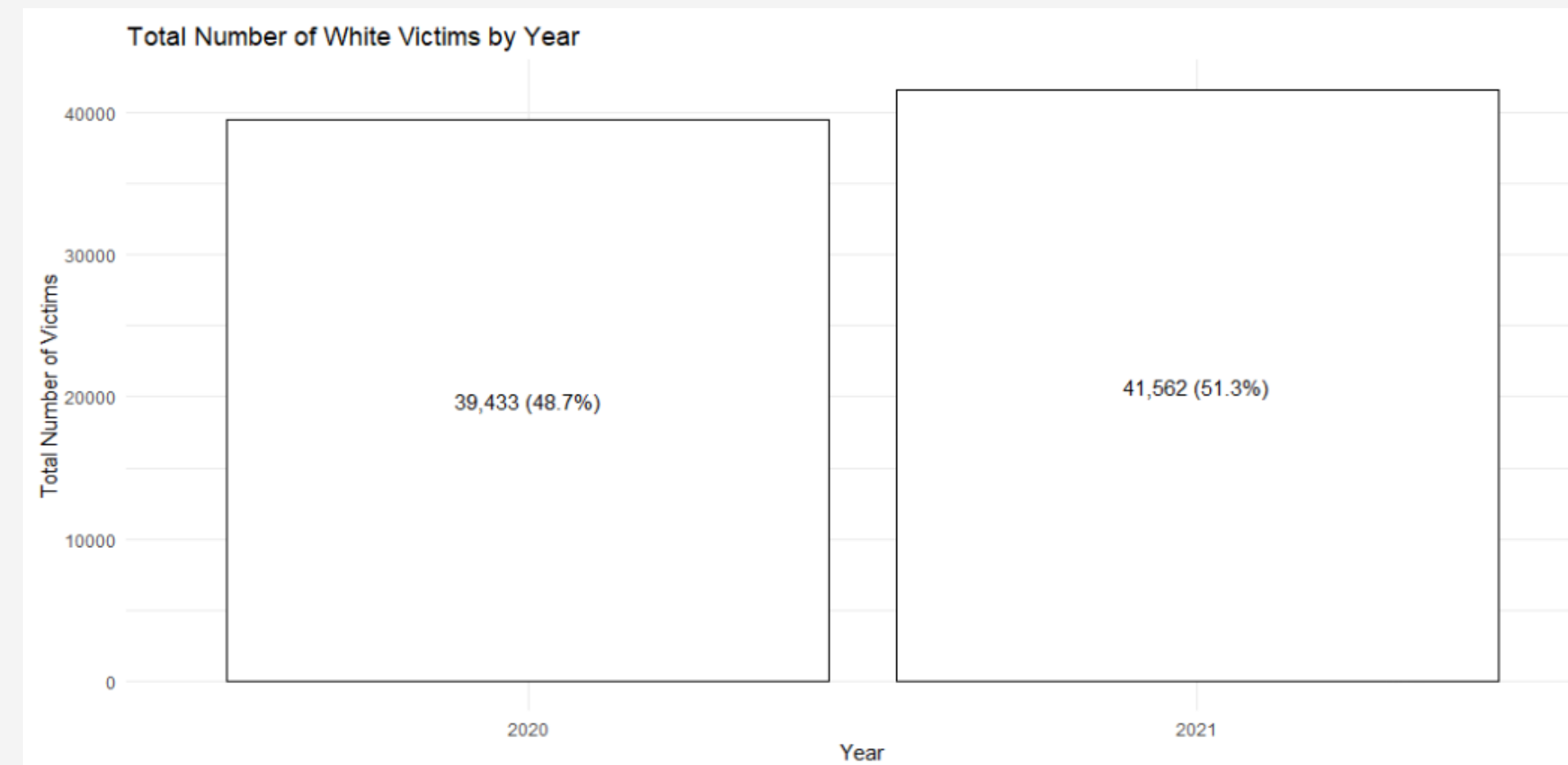
**WHITE**

# RESULTS

## COMPARISON BETWEEN VICTIMIZATION RATES OF BLACK & WHITE AMERICANS FROM 2020-2021: YEARLY



**BLACK**



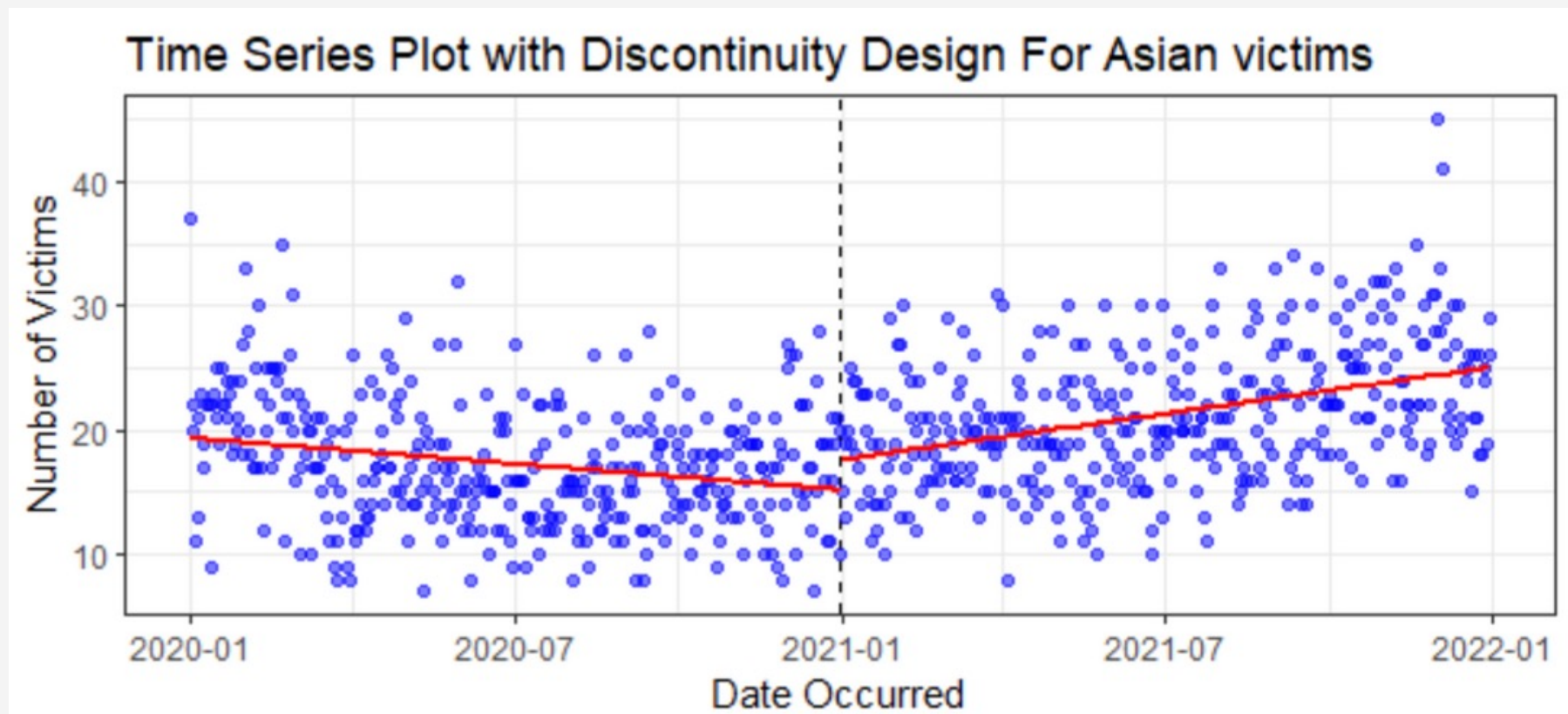
**WHITE**



# RESULTS

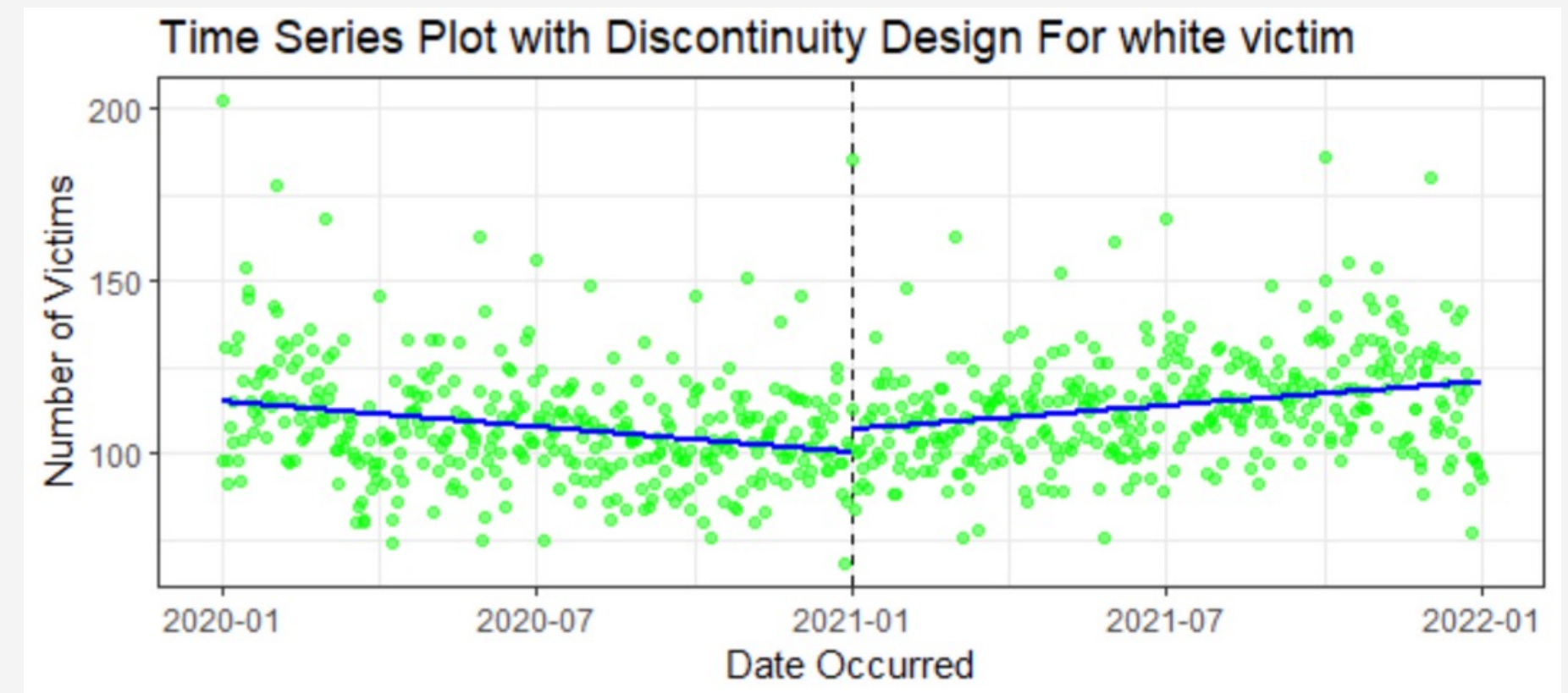
## TREND COMPARISON OF DAILY VICTIMIZATION RATES OF ASIAN & WHITE AMERICANS IN LOS ANGELES 2020-2021

**TIME SERIES PLOT WITH DISCONTINUITY DESIGN FOR ASIAN VICTIMS**



**ASIAN**

**TIME SERIES PLOT WITH DISCONTINUITY DESIGN FOR WHITE VICTIMS**

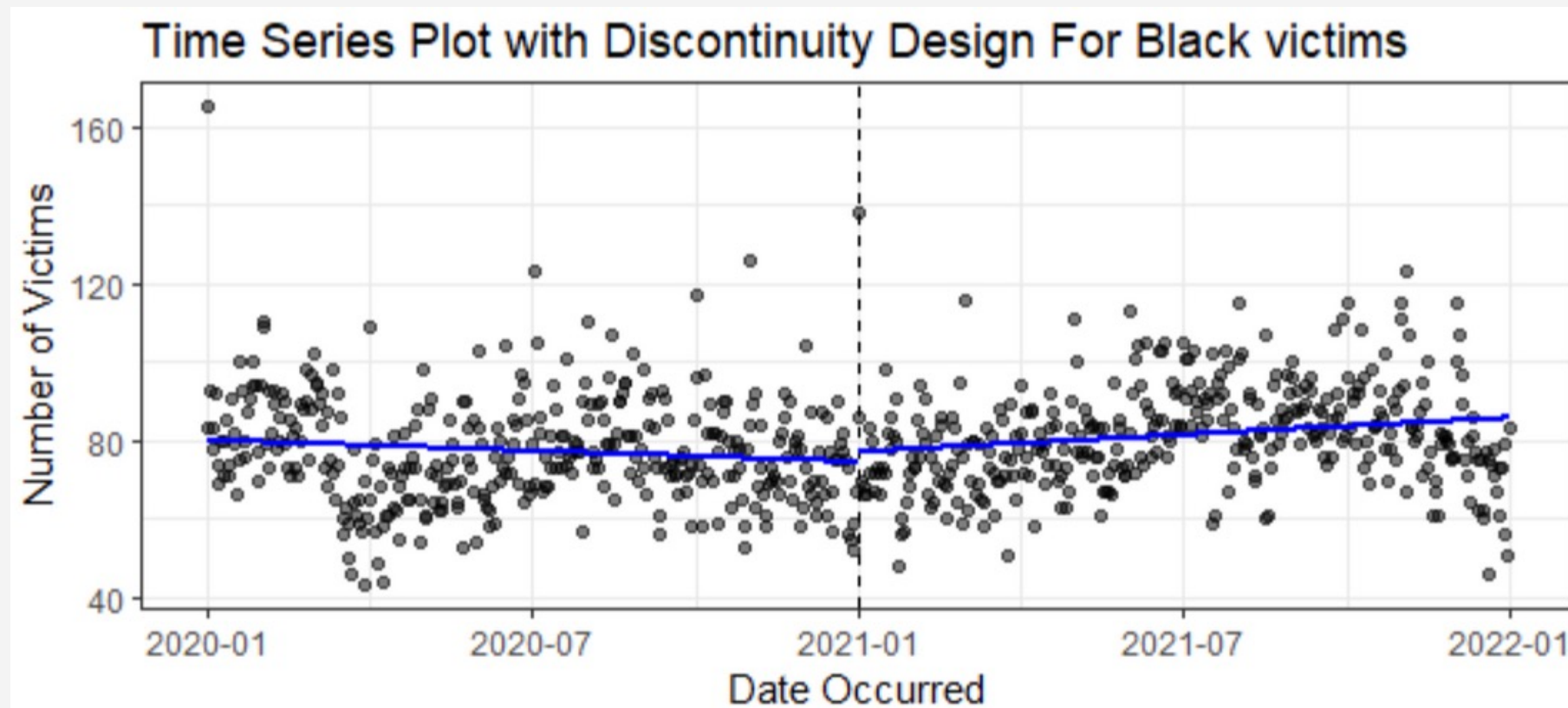


**WHITE**

# RESULTS

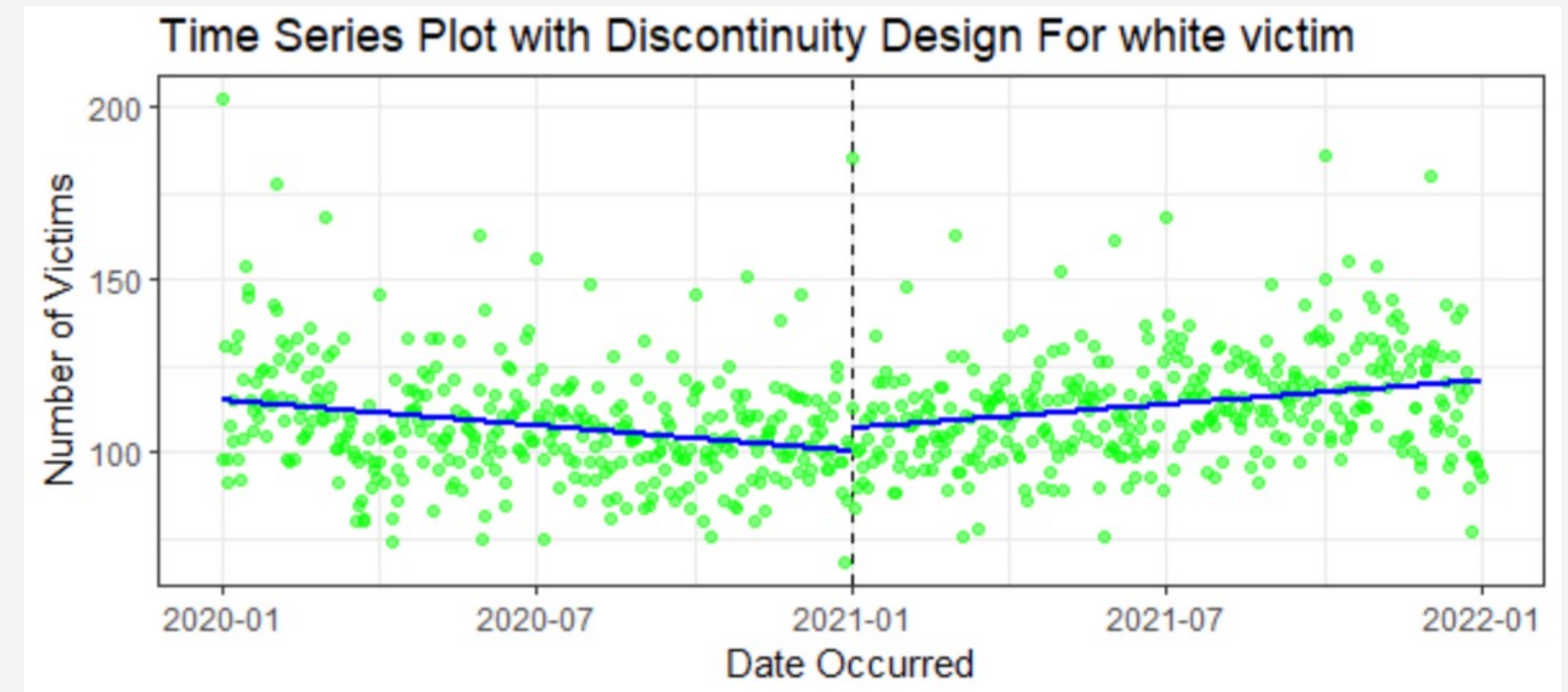
## TREND COMPARISON OF DAILY VICTIMIZATION RATES OF BLACK & WHITE AMERICANS IN LOS ANGELES 2020-2021

**TIME SERIES PLOT WITH DISCONTINUITY DESIGN FOR BLACK VICTIMS**



**BLACK**

**TIME SERIES PLOT WITH DISCONTINUITY DESIGN FOR WHITE VICTIMS**



**WHITE**

# RESULTS

## CHOW TEST

Chow test of discontinuity design for Asian Victims

Chow test

F = 47.07, p-value < 2.2e-16

### ASIAN

Chow test of discontinuity design for Black Victims

Chow test

F = 9.5743, p-value = 7.866e-05

### BLACK

Chow test of discontinuity design for White Victims

Chow test

F = 28.599, p-value = 1.107e-12

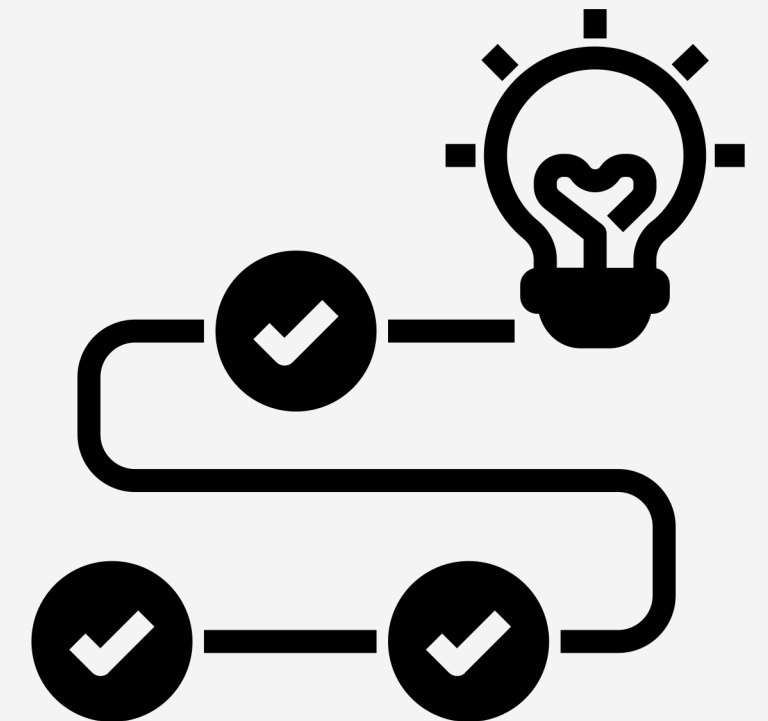
### WHITE



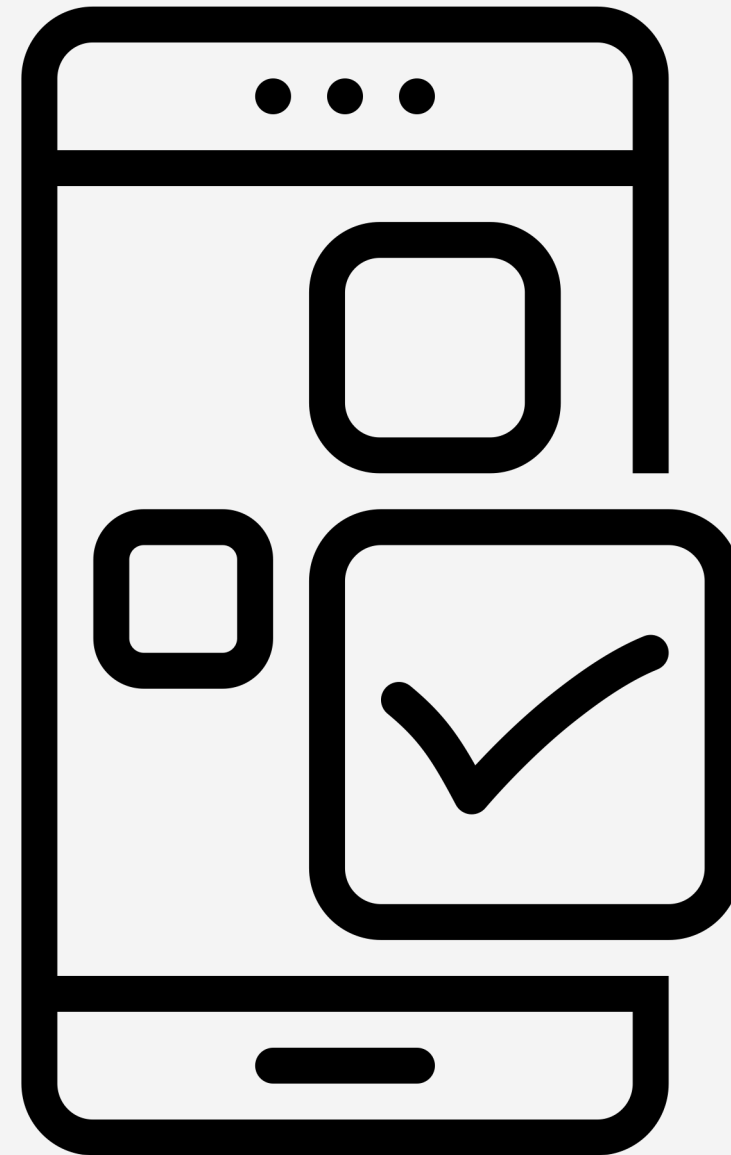
# CONCLUSION

The hate crimes against Asian Americans during the COVID-19 pandemic, alongside the pivotal events of 2020, including the 2020 U.S. Presidential Election and the Black Lives Matter (BLM) protests, have each left a distinctive mark on the American societal landscape.

According to the data visualization analysis, from 2020 to 2022 there was a slight discontinuity in hate crimes against Asian Americans in the city of Los Angeles before and after a certain time point. Still, the regression line of black hate crime almost remained consistent. However, the Chow test rest shows both groups suffered a significant change in victim rate, We fail to reject both hypothesis#1, and hypothesis#2



# SHINY APP DEMO



# WORKS CITED

SMITH, D. (2020). THE BLACK LIVES MATTER MOVEMENT AND ITS IMPACT ON POLICING AND POLICY CHANGES. JOURNAL OF PUBLIC POLICY AND SOCIAL CHANGE, 25(1), 12-30.