Project 1

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Introduction

The data set we will use in this project refers to a collection of police shooting cases collected by The Washington Post. This data is from 2015 to 2019. It only documents shootings that occurred while the officer was on duty, so people who were shot in custody are not included. Although the FBI and CDC record police shootings, the Post believes that their records are lackluster. Consequently, this data set has documented over twice as many shootings as the annual average recorded by the FBI or CDC.[1]

Variables contained within the data set include four main categories: Person, Incident, Factors, and Shooting. Within each main category, there are several subcategories.

Within the person category, the variables are Person.Name (full name of the individual or unknown if not reported), Person.Age (Age of the individual from or 0 if not reported), Person.Gender (Male, Female, or unknown), and Person.Race (either Asian, African American, White, Hispanic, Native American, Other, or Unknown.)

Within the incident category, the variable are Incident.Date.Month (month 1-12 in which the shooting occurred), Incident.Date.Day (day 1-31 in which the shooting occurred), Incident.Date.Year (Year 2015-2019 in which the shooting occurred), and Incident.Date.Full (Date in which the shooting occurred in the format year/month/day)

Within the factors category, the variables are Factors.Armed (Description of any weapon carried by the person and unknown if not reported), Factors.Mental-Illness (true if factors of mental illness were perceived and false otherwise), Factors.Threat-Level (Threat of the person as perceived, either "attack," "undetermined," "other," or "unknown" if unreported), and Factors.Fleeing (details by which method the person was fleeing, "Not Fleeing" if not fleeing, and "unknown" if unreported)

Finally, within the shooting category, the variables are Shooting.Manner (either "shot" or "shot and Tasered"), and Shooting.Body-Camera (True of body camera recorded the incident, false otherwise)
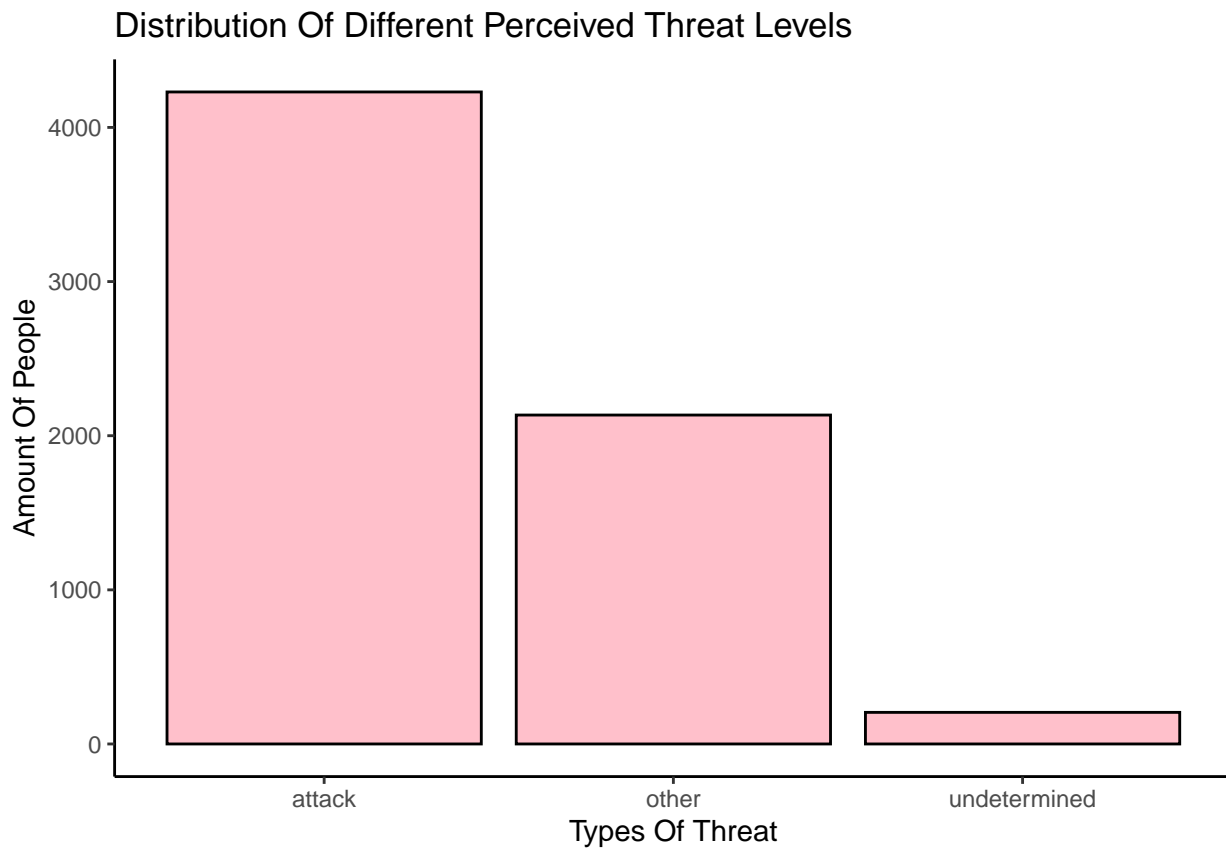
The chosen outcome variable of this report is the perceived threat level of the person. The predictors we will analyze include the person's age, gender, and race.

Source: istockphoto.com

[1] https://github.com/washingtonpost/data-police-shootings

Looking At The Outcome Variable

Distribution Of Different Perceived Threat Levels

Level Of Perceived Threat	Proportions
attack	0.64
other	0.32
undetermined	0.03

The proportion of people that were perceived as fitting the "attack" level of threat was roughly 0.64. The proportion of people that fit the "other" level of threat was about 0.32, and the proportion that fit the "undetermined" category was approximately 0.03. Indeed, the majority of people shot were recognized to be aggressors that posed an immediate threat to life.

Looking At Each Predictor

Age vs Perceived Threat Level
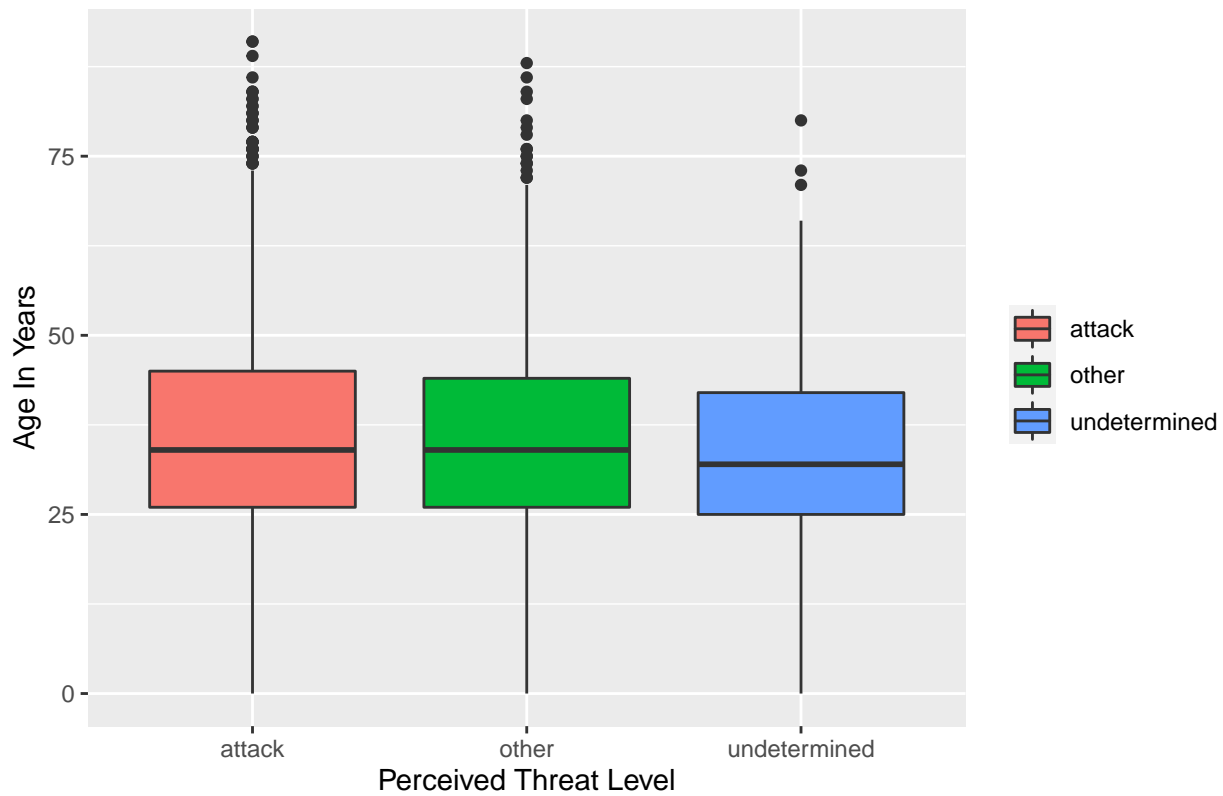
Five Number Summary	Attack	Other	Undetermined
Minimum	0	0	0
Q1	26	26	25
Median	34	34	32
Q3	45	44	42
Maximum	91	88	80

All three threat types have similar distributions. Although, in general, the ages of undetermined threat types tend to be slightly younger, it appears that there is no significant relationship between age and perceived threat level since all three plots are similar in spread and located around the same medians.

## Amount Of People Perceived As Types Of Threat Separated By Gender
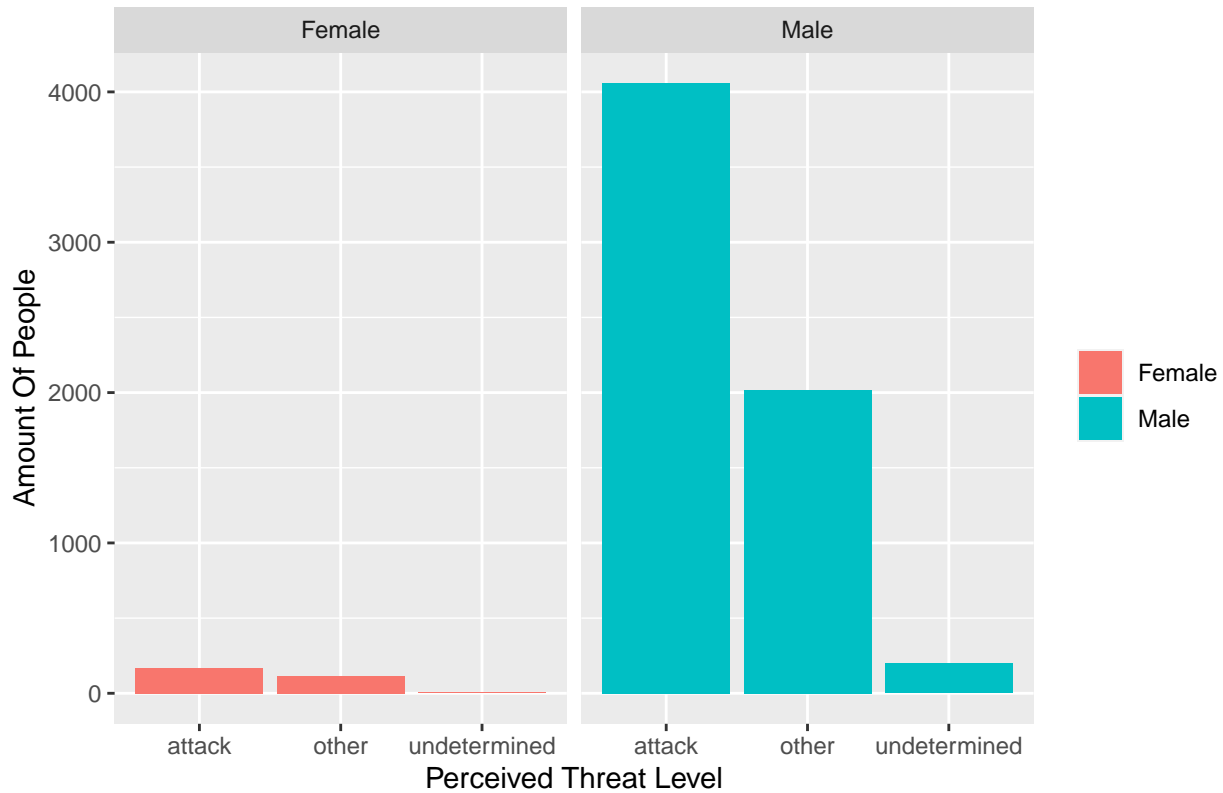
Level Of Perceived Threat	Proportion Of Men	Proportion Of Women
attack	0.65	0.59
other	0.32	0.39
undetermined	0.03	0.02

The proportion of women that were perceived as fitting the "attack" category was about 0.58, whereas the proportion of men fitting the same category was roughly 0.65. Moreover, the proportion of men and women that were of an "undetermined" threat level was approximately the same, being 0.03 and 0.02, respectively. Indeed, men were slightly more likely to be viewed by the officer as posing a threat to life.

Race

Amount Of People Perceived As Types Of Threat Separated By Race
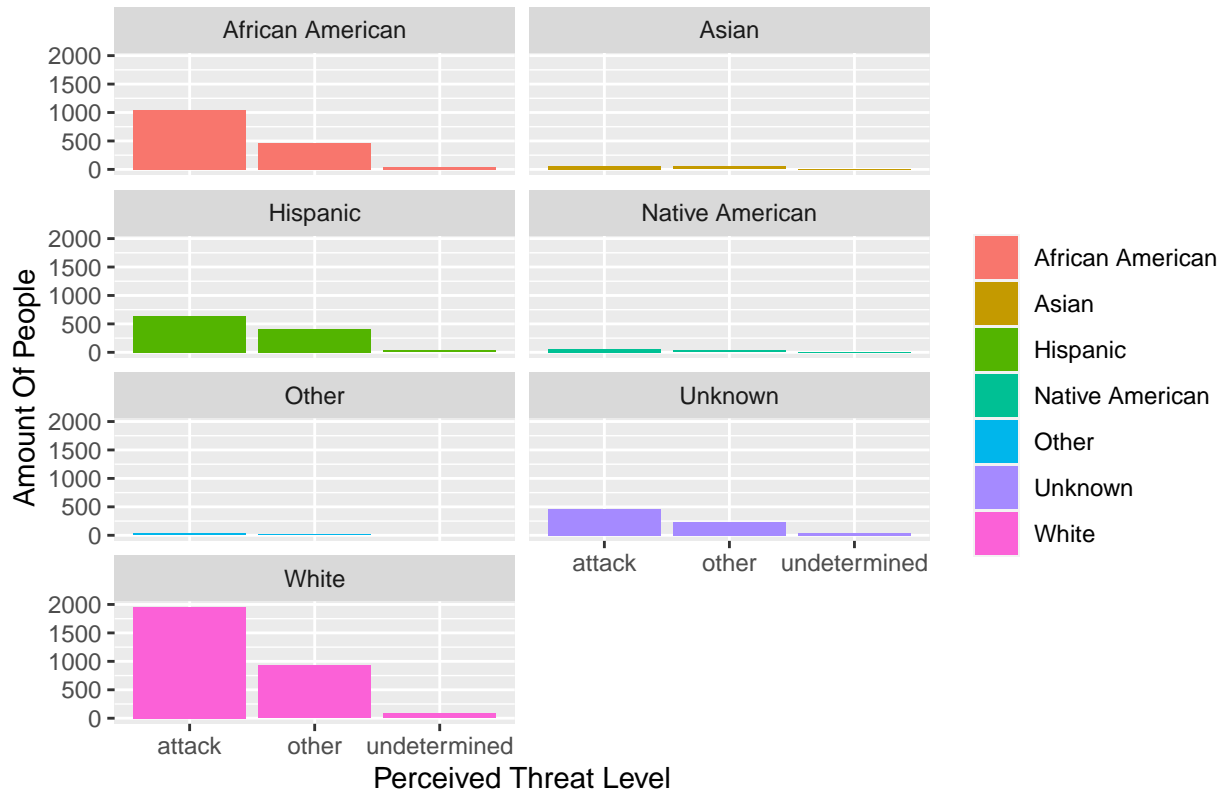
Type	African American	Asian	Hispanic	Native American	Other	Unknown	White
attack	0.67	0.53	0.59	0.58	0.66	0.63	0.66
other	0.30	0.46	0.38	0.36	0.34	0.31	0.31
undetermined	0.03	0.01	0.03	0.05	0.00	0.06	0.03

Most groups had similar proportions of people perceived as "attack," "other," or "undetermined." However, there is a noticeable difference that African American people had the highest proportion (0.67) of people perceived as "attack," and Asian people had the lowest proportion of people perceived the same way (0.53). Moreover, White people and those whose race was classified as other or unknown had similar proportions to African American people, whereas those who were classified as Hispanic or Native American had similar proportions to Asian people. People with an unknown race also had the highest proportion of people with an undetermined threat level.

Conclusion

Overall, a higher proportion of men are perceived as threats than women. Furthermore, a higher proportion of African American people are perceived as being threats than any other race, with Asian people having the lowest proportion of people perceived that way. Age does not appear to be a significant factor in threat level. Hence, an African American man is likely more subject to being perceived as dangerous than an Asian woman. This may have artificially increased the number of African American men shot by police in the line of duty.

Future research may want to do further investigation on the backgrounds of the police officers. For example, an African American officer and a White officer may view the same African American man as a different level of threat due to their respective backgrounds.[2] Moreover, an older officer may perceive any given person as more dangerous than a younger officer would. Another avenue of possible research is the criminal background of the people shot. For example, a person with a known criminal background is likely to be viewed as more dangerous than any person without a criminal past.

References

Washingtonpost. "Washingtonpost/Data-Police-Shootings: The Washington Post Is Compiling a Database of Every Fatal Shooting in the United States by a Police Officer in the Line of Duty since 2015." GitHub, https://github.com/washingtonpost/data-police-shootings.

Chaney, Cassandra, and Ray V. Robertson. "Racism and Police Brutality in America - Journal of African American Studies." SpringerLink, Springer US, 12 Jan. 2013, https://link.springer.com/article/10.1007/s12111-013-9246-5.

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[2] https://link.springer.com/article/10.1007/s12111-013-9246-5