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<u>Analyzing Trends and Insights in the NYPD Arrests Dataset (2022-2023)</u>

The NYPD Arrests Dataset for 2021-2023 provides a detailed record of arrests in New York City. It is a valuable resource for understanding crime patterns and trends within the city. The dataset encompasses a wide range of information, including the demographic details of individuals arrested, the types of crimes committed, and the locations where arrests occurred. Our objective is to provide a comprehensive understanding of the dynamics within the dataset, using visualizations and statistical analysis to present clear and actionable insights. By uncovering patterns and trends, we aim to contribute valuable information to inform policy decisions, resource allocation, and future research initiatives. Our project answe the questions "How have arrest rates changed over the years?", "Are there trends in the types of arrests over time?", "Are there specific precincts or locations with higher arrest rates?", "What age group, race, and sex committed the most crime? The least?", and "Are there seasonal or temporal patterns in arrests?"

In comparison, there is a notable spike in 2022, marking the highest number (189,774). Black individuals consistently top the list of arrests. The data also shows that White Hispanics, Whites, Black Hispanics, and Asian or Pacific Islanders also feature prominently.

The top arrests are Assault 3, Larceny/Petit From Open Areas, Assault 2,1, Robbery Open Areas, and Public Administration. NYC Assault in 3 degree is the highest throughout each month expected in between Sept 2022 and March 2023. Assault 3 is the most common charge and occurs when one person fights with another person. There is a slight increase in fall and then a decrease in almost all 5 arrests in December 2021 and 2022. After December, when spring is about to start, there is an increase in the crime rate. We predict that it is due to the weather, which we will explain later on. But also, December is the time of the year when there are several holidays and celebrations like Christmas and New Year, which most people will want to spend more time with families and this could reduce policing.

Further research is made to prove that there are fewer arrests based on a different type of temperature. A noteworthy aspect of our research is the correlation between temperature and arrest rates. Our report indicates that there are fewer arrests in extreme hot and cold temperatures. This suggests that temperature can be a significant factor in influencing criminal activity. Extreme weather conditions may discourage individuals from engaging in criminal behavior or reduce the opportunities for certain types of crimes.

In conclusion, the NYPD Arrests Dataset for 2022-2023 provides a wealth of information for understanding crime patterns and trends in New York City. The data reveals interesting insights into changes in arrest rates over time, the types of crimes committed, the demographics of arrestees, geographical variations, and seasonal and temporal patterns. Additionally, the influence of weather and temperature on crime rates is a crucial finding that should be considered in future policy decisions and law enforcement strategies.