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**JURY SELECTION**

The study by the ACLU of Northern California concentrated on the racial diversity of jury panels in Alameda County. 1453 people submitted jury service applications.

The ACLU obtained demographic information on each of these potential jurors and compared it to the demographics of all eligible jurors across the nation.

The column attributes we have

1. Eligible
2. Panel
3. Ethnicity

##### NULL HYPOTHESIS: *Panels were selected at random from the population of eligible jurors.*

##### *ALTERNATIVE HYPOTHESIS:* panels were not selected at random

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##### As you can see from the accompanying bar graph, the eligible and panel bars for most ethnicities are not the same. As you can see from the accompanying bar graph, the eligible and panel bars for most ethnicities are not the same.

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total variation distance is 0.14

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##### The random sample distribution in this instance is not likely to match the panel distribution but is near to the eligible population [as the green bars are closer to blue bars than the orange bars]

##### The observed test statistic has a value of 0.14, which is more than the total distance between the eligible population and the random sample, which is 0.0168.

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##### The overall distance between a random sample size of 1453 and the population of potential jurors varies for each row in df\_4.

The observed statistics indicates the variance of 0.14, which is distant from the distribution, whereas the empirical histogram of the simulated distances (drawing 1453 jurors from the pool of eligible applicants at random) rarely deviates from the eligible jurors by more than 0.05

As a result, the data in the panels contradict the statistic's projected values based on the assumption of random selection. As a result, the panels did not accurately reflect the distribution made available to potential jurors.

The null hypothesis is rejected