

22.5: Odds Ratios

We can also represent the relative likelihood of different outcomes in the contingency table using the odds ratio that we introduced earlier, in order to better understand the size of the effect. First, we represent the odds of being stopped for each race:

$$\begin{aligned} odds_{searched} | black &= \frac{N_{searched \cap black}}{N_{not\ searched \cap black}} = \frac{1219}{36244} = 0.034 \\ odds_{searched} | white &= \frac{N_{searched \cap white}}{N_{not\ searched \cap white}} = \frac{3108}{239241} = 0.013 \\ odds\ ratio &= \frac{odds_{searched} | }{black} = 2.59 \end{aligned}$$

The odds ratio shows that the odds of being searched are 2.59 times higher for black versus white drivers, based on this dataset.

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