



Interpretations & Assumptions for Two Population Proportion Intervals

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Swimming Lessons Confidence Interval

“range of reasonable values for our parameter”

With 95% confidence, the population proportion of parents with white children who have taken swimming lessons is 11.23 to 24.77% higher than the population proportion of parents with black children who have taken swimming lessons.

Intervals for Differences

Is there a difference between two parameters?

If parameters are equal \rightarrow difference is **0**

If parameters are unequal \rightarrow difference is not **0**

Look for **0** in the range of reasonable values

Assumptions

We need to assume that we have two independent random samples.

We also need large enough sample sizes to assume that the distribution of our estimate is normal. That is, we need $n_1\hat{p}_1$, $n_1(1-\hat{p}_1)$, $n_2\hat{p}_2$, and $n_2(1-\hat{p}_2)$ to all be at least 10. central limit theorem

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