

Stat 201: Statistics I

StatCrunch: Chapter 9



Chapter 9

Inferences from Two Samples

Section 9.1

Two Proportions

Hypothesis tests for two proportions in StatCrunch

- Stat → Proportion Stats → Two Samples → With Summary
- Enter “# of successes” and “# of observations” for sample 1 and sample 2
- Select “Hypothesis test for $p_1 - p_2$ ”
- The null hypothesis should always be $H_0 : p_1 - p_2 = 0$
- Enter the appropriate value for the alternative hypothesis.
- Click “Compute!”
- The test statistic and p-value are found in “Z-Stat” and “P-value”

Confidence intervals for difference of proportions in StatCrunch

- Stat → Proportion Stats → Two Samples → With Summary
- Enter “# of successes” and “# of observations” for sample 1 and sample 2
- Select “Confidence interval for $p_1 - p_2$ ”
- Enter the appropriate confidence level.
- Click “Compute!”
- The confidence interval bounds are found in “L. Limit” and “U. Limit”

Section 9.2

Two Means: Independent Samples

Hypothesis tests for two means in StatCrunch

- Stat → T Stats → Two Samples → With Summary
- Enter “Sample mean”, “Sample std. dev.” and “Sample size” for both samples
- Leave “Pool variances” unchecked
- Select “Hypothesis test for $\mu_1 - \mu_2$ ”
- The null hypothesis should always be $H_0 : \mu_1 - \mu_2 = 0$
- Enter the appropriate value for the alternative hypothesis.
- Click “Compute!”
- The test statistic and p-value are found in “T-Stat” and “P-value”

Confidence intervals for difference of means in StatCrunch

- Stat → T Stats → Two Samples → With Summary
- Enter “Sample mean”, “Sample std. dev.” and “Sample size” for both samples
- Leave “Pool variances” unchecked
- Select “Confidence interval for $\mu_1 - \mu_2$ ”
- Enter the appropriate confidence level.
- Click “Compute!”
- The confidence interval bounds are found in “L. Limit” and “U. Limit”

Section 9.3

Two Dependent Samples (Matched Pairs)

Hypothesis tests for matched pairs in StatCrunch

- Stat → T Stats → Paired
- Select columns of data for both samples
- Select “Hypothesis test for $\mu_D = \mu_1 - \mu_2$ ”
- The null hypothesis should always be $H_0 : \mu_D = 0$
- Enter the appropriate value for the alternative hypothesis.
- Click “Compute!”
- The test statistic and p-value are found in “T-Stat” and “P-value”

Confidence intervals for matched pairs in StatCrunch

- Stat → T Stats → Paired
- Select columns of data for both samples
- Select “Confidence interval for $\mu_D = \mu_1 - \mu_2$ ” item Enter the appropriate confidence level.
- Click “Compute!”
- The confidence interval bounds are found in “L. Limit” and “U. Limit”