Chapter 10: Comparing Two Population Parameters

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| Key Vocabulary: |  |
| two-sample z statistic | 2-SampZTest |
| two-sample t statistic | 2-SampTTest |
| Robust | 2-SampZInt |
| Difference between two means | 2-PropZTest |
| Standard Error | 2-PropZInt |
| Combined Sample Proportion |  |
| pooled |  |

10.1 Comparing Two Proportions (pp.601-620)

1. Give the mean and standard deviation for the sampling distribution of $\hat{p}\_{1}-\hat{p}\_{2}$.
2. What conditions must be met to say the sampling distribution is normal and to use the above formula for the standard deviation?

CYU Page 608

1. Give the formula for the *standard error* when calculating a confidence interval for$\hat{p}\_{1}-\hat{p}\_{2}$, and define each variable in the equation.
2. What conditions must be met to construct a level C confidence interval for the difference between two proportions, $\hat{p}\_{1}-\hat{p}\_{2}$.

CYU page 611

1. State the null hypothesis for a *two proportion z-test.*
2. What does $\hat{p}\_{c}$represent, and how is it calculated?
3. State and use diagrams to illustrate the three possible alternative hypotheses for a *two proportion z-test.*
4. What conditions must be met in order to use *z procedures* for inference about two proportions?
5. Give the formula for the *two-proportion z-statistic*, and define each variable in the equation.

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10.2 Comparing Two Means (pp.627-651)

1. What is the mean and standard deviation of the sampling distribution of $\overline{x}\_{1}-\overline{x}\_{2}$?

CYU page 632

1. Without using technology, how do you estimate the degrees of freedom when using two-sample t-procedures?
2. How do you calculate the confidence interval for $\overline{μ}\_{1}-\overline{μ}\_{2}$? What conditions must be met?
3. What assumption must you check if the sample sizes are small? How would you check?

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CYU page 644

1. If the two sample distributions for a two-sample problem are clearly skewed, how large should the samples be in order to use t procedures?
2. Should you use a pooled two-sample t statistic?
3. Should you use two-sample t procedure on paired data? Why or why not?