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Question 1

You want to know if the proportion of female performers on Austin City Limits Live has changed in the past two years.

1. Create a new variable in the dataset called "Recent" that is equal to a 1 for rows from years 2012 or 2013 and is equal to 0 for all other rows.
2. Make a table that shows the number of male and female performers in "recent" and non-recent years.
3. Use this data to answer the following questions.

Use the "AustinCityLimits.csv" dataset to answer the following questions. Instructions for installing "AustinCityLimits.csv" can be found under the **Examine the Data** unit in this week's **Pre-Lab** section.

You'll need to use the following code to help:

```
acl$Recent[acl$Year < 2012] <- 0  
acl$Recent[acl$Year >= 2012] <- 1
```

1a. How many **female** performers have been on the show in the past two years (2012 and 2013)?

Help

Answer: 12

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(1 point possible)

1b. What is the appropriate method to test if representation by female performers is different before 2012 compared to since 2012?

☐ Chi-Square Goodness of Fit

☒ Chi-Square Test of Independence



☐ t-test for Independent Samples

☐ t-test for Dependent Samples

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1c. Report expected counts for the following performer groups.

Females **before 2012**

 26.55

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Females **in 2012 and 2013**

 8.45

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(1 point possible)

Males **before 2012**

 61.45

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(1 point possible)

Males **in 2012 and 2013**

19.55[Hide Answer](#)*You have used 0 of 1 submissions***Help**

(1 point possible)

1d. What is the **Chi Square statistic**? *(Round to 2 decimal places.)***Answer:** 2.82[Hide Answer](#)*You have used 0 of 1 submissions*

(1 point possible)

1e. What is the **p-value** for the test? *(Round to 2 decimal places.)***Answer:** 0.09

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(1 point possible)

1f. What is the appropriate conclusion for this test, assuming $\alpha = 0.05$?

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- ☒ We fail to reject the null hypothesis; gender is independent of performance before or after 2012. ✓
- ☐ We reject the null hypothesis; gender is not independent of performance before or after 2012


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