

Is there a correlation
between a father's
postsecondary plans
and his child's?

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Research Question

- ❑ There are stereotypes that the man have the most “control” in a family
- ❑ In 2001, The Condition of Education employees carried out this studied and found a correlation between the 2 variables of High School students across the country

Data Collection

We randomly selected classes during 5th hour and surveyed the seniors in that class. We used the cluster sampling method because we randomly chose some groups of seniors and left the others out.

Data Analysis

Observed

	4 year	2 year	Other
4 year	55	3	7
2 year	9	4	11
Other	2	1	0

Expected

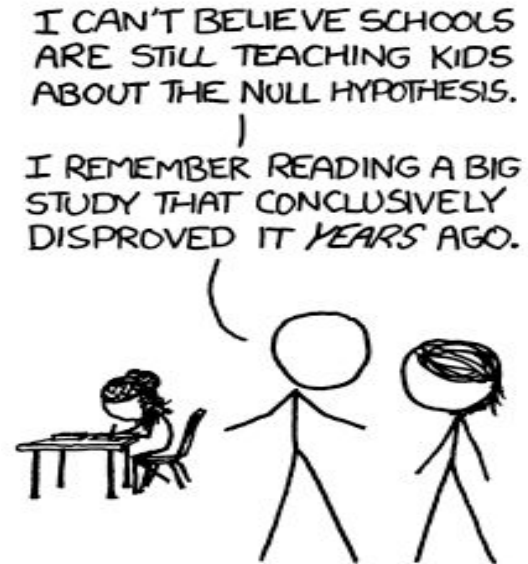
	4 year	2 year	Other
4 year	44.2553191	5.53191489	12.4468085
2 year	16.8	2.04255319	4.59574468
Other	2.04255319	0.25531915	0.57446809

Parameters

We are interested if there is a correlation between fathers and senior students at Washburn High School.

Hypothesis

- ❑ Ho: There is no association between a father's post secondary plans and their 12th grade student's postsecondary plans
- ❑ Ha: There is an association between a father's post secondary plans and their 12th grade student's postsecondary plans



Assumptions

Random- ✓ The classrooms we surveyed were randomly selected

Normal- ✓ We surveyed 94 students which is less than the population of all high school seniors

Large Counts- ✗ there are a couple where the expected value is less than 5. Selvy said it was okay though

Chi Square Test of Association

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

$$\chi^2 = \frac{(55-44.2553191)^2}{44.2553191} + \frac{(3-5.53191489)^2}{5.53191489} + \dots \frac{(0-.57446809)^2}{0.57446809}$$

22.1487

P-value

$$df = (3-1)(3-1) = 4$$

$$P\text{-value} = 0.0001872$$



Conclusion

Because the P-value is significant at the $\alpha = .05$ level, we reject the null hypothesis. There is significant evidence that there is an association between a father's and his senior's postsecondary plans.



Possible Error

- ❑ Our samples only included 1 school which isn't a good representation of all high school seniors
- ❑ Because we only surveyed during 5th hour, we were not able to completely randomize the classes and students. The majority of the classes were IB so that may have impacted the results.
- ❑ In some of our surveys people chose multiple answers
- ❑ A teacher didn't let us survey
- ❑ Some expected values were less than 5
- ❑ For the future studies, getting data from all different ethnic and economic groups will conclude more of the overall population of High School students

THANK YOU!