

# Chi-squared Test

## Chi-square test on Percentage of Faculty Rank

```
rank_sample <- c(23, 28, 49)
rank_population <- c(27.6, 30.3, 42.1)

Rank <- data.frame(rank_sample, rank_population)
Rank_test <- chisq.test(Rank)
Rank_test
```

```
##
## Pearson's Chi-squared test
##
## data: Rank
## X-squared = 1.0315, df = 2, p-value = 0.597
```

## Chi-square test on Percentage of Gender

```
gender_sample <-c(32, 68)
gender_population <-c(35.3, 64.7)
Gender <- data.frame(gender_sample, gender_population)
Gender_test <- chisq.test(Gender)
Gender_test
```

```
##
## Pearson's Chi-squared test with Yates' continuity correction
##
## data: Gender
## X-squared = 0.11847, df = 1, p-value = 0.7307
```

## Chi-square test Percentage of Gender on different Faculty Rank

```
sample_FR_G = c(9, 14, 11, 17, 12, 37)
population_FR_G = c(11.9, 15.7, 11.9, 18.4, 11.5, 30.6)

Data_s_p <- data.frame(sample_FR_G, population_FR_G)
faculty_gender <- chisq.test(Data_s_p)
faculty_gender
```

```
##
## Pearson's Chi-squared test
##
## data: Data_s_p
## X-squared = 1.207, df = 5, p-value = 0.9442
```