

Answer on Question #46492 - Math - Statistics and Probability

The results of a survey regarding radio listeners preference for different types (5) of music are given in the following table with listeners classified by age group. Test at 5% level of significance whether type of music is dependent on the age group.

Type of Music	Age Group		
	19-25	26-35	Above 36
Preferred			
National Music	60	60	30
Foreign Music	190	264	96
Indifferent	50	76	74

Solution

Null hypothesis: Type of Music is not dependent on the Age Group.

Alternative hypothesis: Type of Music is dependent on the Age Group.

Determine degrees of freedom: $(3-1)*(3-1) = 4$

Chi-square test results:

chi-squared = 36.1227, df = 4, p-value = 2.73e-07

p-value < 0.05, it is enough evidence to reject null hypothesis.

R code:

```
tab <- rbind(c(60,60,30),c(190,264,96),c(50,76,74))
```

```
chisq.test(tab)
```