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The *R* Workshop

Applying the Integrated Suite of Software Facilities for Statistical Computing and Graphics

University of Georgia
Department of Workforce Education, Leadership, and Social Foundations
College of Education Research Office

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10. Categorical Data Analysis

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Any evidence of association between **education level** and **income level**? If any, **how strong** is it?

Education	Income		sum
	Low	High	
High school	25	12	37
College	11	14	25
sum	36	26	62

To test whether

*there is **no** association between factors*

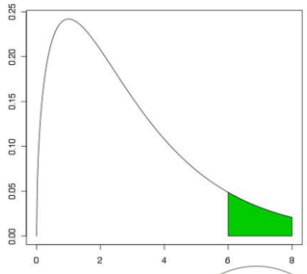
- or -

*there **is** an association between factors*

Observed cell count

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

Expected cell count



Categorical Data Analysis

```
M <- as.table(rbind(c(25, 12), c(11,14)))
dimnames(M) <- list(education=c("High School","College"),
                    income=c("Low","High"))
res <- chisq.test(M)
res$expected
res
```

Categorical Data Analysis