

Threeway Tables

Grinnell College

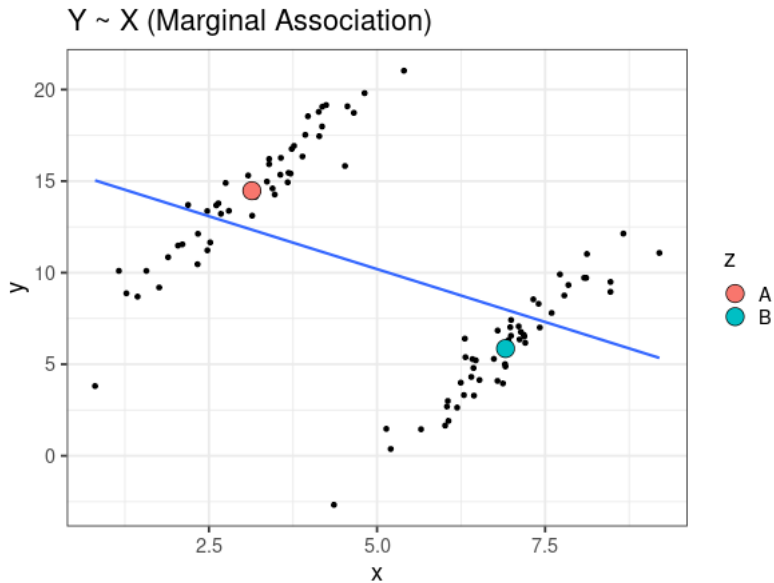
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Warm-up

Suppose we have three variables, X , Y , and Z . What types of distributions are implied by the following:

- ▶ $P(X, Y, Z)$
- ▶ $P(X, Y)$
- ▶ $P(X, Y|Z)$
- ▶ $P(Y|X)$
- ▶ $P(X), P(Y), P(Z)$

Marginal (Simpson's Paradox)



Conditional (Simpson's Paradox)

$Y \sim X + Z$ (Conditional Association)

