

**Seat Belt Effectiveness**  
(Children under age of five, 1985–89)

**Raw Data**

	$x_1=0$ survivors	$x_1=1$ fatalities	total
$x_2=0$ no belt	1129	509	1638
$x_2=1$ adult belt	432	73	505
$x_2=2$ car seat belt	733	139	872
total	2294	721	3015

**Joint and Marginal Probability Distributions**

	$x_1 = 0$	$x_1 = 1$	$p_2(x_2)$
$x_2 = 0$	0.374	0.169	0.543
$x_2 = 1$	0.143	0.024	0.167
$x_2 = 2$	0.243	0.046	0.289
$p_1(x_1)$	0.761	0.239	1.000

**Conditional Probability Distributions**

	$x_1=0$ survivors	$x_1=1$ fatalities	total
$P(X_1 X_2 = 0)$	0.689	0.311	1.000
$P(X_1 X_2 = 1)$	0.855	0.145	1.000
$P(X_1 X_2 = 2)$	0.841	0.159	1.000

	$P(X_2 X_1 = 0)$	$P(X_2 X_1 = 1)$
$x_2 = 0$	0.492	0.706
$x_2 = 1$	0.188	0.101
$x_2 = 2$	0.320	0.193
total	1.000	1.000