Area	Brand
1	B
1	Other
1	A
1	B
1	Other
1	A
1	Other
1	Other
1	Other
1	Other
1	B
1	Other
1	Other
1	A
1	A
1	A
1	B
1	A
1	Other
1	B
1	A
1	B
1	Other
1	Other
1	B
1	B
1	Other
1	Other
1	Other

	A	B	Other	Grand Total
Area 1	11	17	42	70
Area 2	19	30	41	90
Grand Tot	**30**	**47**	**83**	**160**

	A	B	Other
Area 1	13.125	20.5625	36.3125
Area 2	16.875	26.4375	46.6875

Chi-square Calculations

	(O-E)²/E	Contribution to χ²
Area 1, A	(11-13.125)²/13.125 = 0.345	0.345
Area 1, B	(17-20.5625)²/20.5625 = 0.611	0.611
Area 1, Other	(42-36.3125)²/36.3125 = 0.892	0.892
Area 2, A	(19-16.875)²/16.875 = 0.268	0.268
Area 2, B	(30-26.4375)²/26.4375 = 0.475	0.475
Area 2, Other	(41-46.6875)²/46.6875 = 0.693	0.693

Test Statistics

Metric	Formula	Value
Chi-square (χ²)	Σ[(O-E)²/E]	**3.284**
Degrees of Freedom	(Rows-1)×(Cols-1)	2
p-value	0.19359247	**0.193**
Cramer's V	=√(χ²/(n×min(k-1))	**0.143**

A chi-square test of independence found no significant association between geographic area and brand preference, χ²(2, N=160) = 3.28, p = .19. The effect size was small (Cramer's V = .14).