

## New Data Table:

Age Group / Housing Type	Apartment	House	Condominium	Townhouse	Villa
18-25	40	20	15	10	5
26-35	30	40	20	15	10
36-45	20	35	25	20	15
46-55	15	30	25	25	20
56+	10	20	30	20	25

**Null Hypothesis (H<sub>0</sub>)** Age Group and Housing Type: "There is an no association between age group and preferred type of housing."

**Alternative Hypothesis (H<sub>1</sub>)** Age Group and Housing Type: "There is an association between age group and preferred type of housing."

Age Group / Housing Type	Apartment	House	Condominium	Townhouse	Villa	Total
18-25	40	20	15	10	5	90
26-35	30	40	20	15	10	115
36-45	20	35	25	20	15	115
46-55	15	30	25	25	20	115
56+	10	20	30	20	25	105
<b>Total</b>	115	145	115	90	75	540

## Expected Data

Age Group / Housing Type	Apartment	House	Condominium	Townhouse	Villa
18-25	19.1666667	24.1666667	19.1666667	15	12.5
26-35	24.4907407	30.87962963	24.49074074	19.1666667	15.97222
36-45	24.4907407	30.87962963	24.49074074	19.1666667	15.97222
46-55	24.4907407	30.87962963	24.49074074	19.1666667	15.97222
56+	22.36111111	28.19444444	22.36111111	17.5	14.58333

O= Observed	E = Expected	O-E	(O-E)^2	((O-E)^2)/E
40	19.1666667	20.83333333	434.0277778	22.6449275
30	24.4907407	5.509259259	30.35193759	1.23932297
20	24.4907407	-4.49074074	20.1667524	0.82344395
15	24.4907407	-9.49074074	90.07415981	3.6778863
10	22.36111111	-12.36111111	152.7970679	6.8331608
20	24.1666667	-4.16666667	17.36111111	0.7183908
40	30.8796296	9.12037037	83.18115569	2.69372258

35	30.8796296	4.12037037	16.97745199	0.54979455
30	30.8796296	-0.87962963	0.773748285	0.02505692
20	28.1944444	-8.19444444	67.14891975	2.38163656
15	19.1666667	-4.16666667	17.36111111	0.9057971
20	24.4907407	-4.49074074	20.1667524	0.82344395
25	24.4907407	0.509259259	0.259344993	0.01058951
25	24.4907407	0.509259259	0.259344993	0.01058951
30	22.3611111	7.63888889	58.35262346	2.60955832
10	15	-5	25	1.66666667
15	19.1666667	-4.16666667	17.36111111	0.9057971
20	19.1666667	0.833333333	0.694444444	0.03623188
25	19.1666667	5.833333333	34.02777778	1.77536232
20	17.5	2.5	6.25	0.35714286
5	12.5	-7.5	56.25	4.5
10	15.9722222	-5.97222222	35.66743827	2.23309179
15	15.9722222	-0.97222222	0.945216049	0.05917874
20	15.9722222	4.027777778	16.22299383	1.01570048
25	14.5833333	10.41666667	108.5069444	7.44047619
			Sum of ((OE)^2)/E	65.9369694

**Percentage Points of the Chi-Square Distribution**

Degrees of Freedom	Probability of a larger value of $\chi^2$								
	0.99	0.95	0.90	0.75	0.50	0.25	0.10	0.05	0.01
1	0.000	0.004	0.016	0.102	0.455	1.32	2.71	3.84	6.63
2	0.020	0.103	0.211	0.575	1.386	2.77	4.61	5.99	9.21
3	0.115	0.352	0.584	1.212	2.366	4.11	6.25	7.81	11.34
4	0.297	0.711	1.064	1.923	3.357	5.39	7.78	9.49	13.28
5	0.554	1.145	1.610	2.675	4.351	6.63	9.24	11.07	15.09
6	0.872	1.635	2.204	3.455	5.348	7.84	10.64	12.59	16.81
7	1.239	2.167	2.833	4.255	6.346	9.04	12.02	14.07	18.48
8	1.647	2.733	3.490	5.071	7.344	10.22	13.36	15.51	20.09
9	2.088	3.325	4.168	5.899	8.343	11.39	14.68	16.92	21.67
10	2.558	3.940	4.865	6.737	9.342	12.55	15.99	18.31	23.21
11	3.053	4.575	5.578	7.584	10.341	13.70	17.28	19.68	24.72
12	3.571	5.226	6.304	8.438	11.340	14.85	18.55	21.03	26.22
13	4.107	5.892	7.042	9.299	12.340	15.98	19.81	22.36	27.69
14	4.660	6.571	7.790	10.165	13.339	17.12	21.06	23.68	29.14
15	5.229	7.261	8.547	11.037	14.339	18.25	22.31	25.00	30.58
16	5.812	7.962	9.312	11.912	15.338	19.37	23.54	26.30	32.00
17	6.408	8.672	10.085	12.792	16.338	20.49	24.77	27.59	33.41
18	7.015	9.390	10.865	13.675	17.338	21.60	25.99	28.87	34.80
19	7.633	10.117	11.651	14.562	18.338	22.72	27.20	30.14	36.19
20	8.260	10.851	12.443	15.452	19.337	23.83	28.41	31.41	37.57
22	9.542	12.338	14.041	17.240	21.337	26.04	30.81	33.92	40.29
24	10.856	13.848	15.659	19.037	23.337	28.24	33.20	36.42	42.98
26	12.198	15.379	17.292	20.843	25.336	30.43	35.56	38.89	45.64
28	13.565	16.928	18.939	22.657	27.336	32.62	37.92	41.34	48.28
30	14.953	18.493	20.599	24.478	29.336	34.80	40.26	43.77	50.89
40	22.164	26.509	29.051	33.660	39.335	45.62	51.80	55.76	63.69
50	27.707	34.764	37.689	42.942	49.335	56.33	63.17	67.50	76.15
60	37.485	43.188	46.459	52.294	59.335	66.98	74.40	79.08	88.38

DOF	(C-1)(R-1)	16
P	0.05	

Calculated Value	65.9369694
Table Value	23.54

<b>If Calculated Value</b>	<b>&gt;</b>	<b>Table Value</b>	<b>We Reject</b>	<b>Null</b>	<b>Hypothesis</b>
65.9369694	>	23.54	We Reject	Null	Hypothesis

This means that there is an association between age group and preferred type of housing.







