

TESTE DO “BOM AJUSTE” DO QUI QUADRADO



TABELA DE UMA ENTRADA

1	2	3	...	k
f_1	f_2	f_3	...	f_k

EXEMPLO



Em 2003, o número de AVCs masculinos no concelho de Braga foram os reportados na tabela, de acordo com a estação do ano.

Primavera	64
Verão	81
Outono	39
Inverno	28

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3

TESTE DE HIPÓTESES



▪ Hipóteses $H_0 : p_1 = p_{1,0}; p_2 = p_{2,0}; \dots; p_k = p_{k,0}$

$$H_1 : p_i \neq p_{i,0}$$

▪ Estatística

$$Q = \sum_{i=1}^k \frac{(f_i - e_i)^2}{e_i}$$

▪ Região de Rejeição

$$Q > \chi^2_{\alpha}$$

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4

SOLUÇÃO

Região crítica

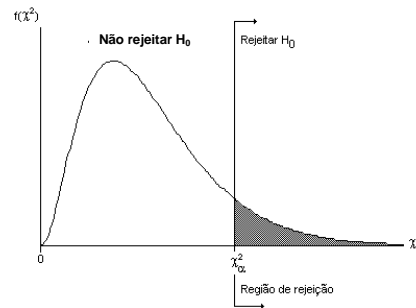
$$\chi^2 \geq \chi_{0.05,3}^2 = 7.81$$

Estatística

$$Q = \sum_{i=1}^k \frac{(f_i - e_i)^2}{e_i} = \frac{(64-53)^2}{53} + \frac{(81-53)^2}{53} + \frac{(39-53)^2}{53} + \frac{(28-53)^2}{53} = 32.57$$

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5



avcs_m.sav [DataSet1] - IBM SPSS Statistics Data Editor

1 : fi	estação	fi	var	var	var	var	var	var	var
1	Primavera	64							
2	Verão	81							
3	Outono	39							
4	Inverno	28							
5									
6									
7									
8									
9									
10									
11									
12									
13									

Weight Cases


Do not weight cases
 Weight cases by
 Frequency Variable:
 Frequências observadas ...

Current Status: Weight cases by fi

OK Paste Reset Cancel Help

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6



avcs_m.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Direct Marketing Graphs Utilities Extensions Window Help

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	estação	Numeric	8	0		1. Primavera	None	8	Right	Nominal	Input
2	fi	Numeric	8	0	Frequências o...	None	None	8	Right	Scale	Input

Value Labels

Value:

Label:

Add Change Remove

1 = "Primavera"
2 = "Verão"
3 = "Outono"
4 = "Inverno"


OK Cancel Help

Data View Variable View

IBM SPSS Statistics Processor is ready Unicode ON Weight On

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7



avcs_m.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Direct Marketing Graphs Utilities Extensions Window Help

Reports
Descriptive Statistics
Tables
Compare Means
General Linear Model
Generalized Linear Models
Mixed Models
Correlate
Regression
Loglinear
Neural Networks
Classify
Dimension Reduction
Scale
Nonparametric Tests
Forecasting
Survival
Multiple Response
Missing Value Analysis...
Multiple Imputation
Complex Samples
Simulation...
Quality Control
ROC Curve...
Spatial and Temporal Modeling...

Legacy Dialogs

Chi-square...

Binomial...
Buns...
1-Sample K-S...
2 Independent Samples...
K Independent Samples...
2 Related Samples...
K Related Samples...

Visible: 2 of 2 Variables

Chi-square...

is ready Unicode ON Weight On

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8



Chi-square Test

Test Variable List: estação

Expected Range: ☒ Get from data ☐ Use specified range

Expected Values: ☒ All categories equal ☐ Values:

OK Paste Reset Cancel Help

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9



NPar Tests

[DataSet1] C:\Users\ACB\OneDrive\Aulas2016_17\EE&IO_MEI\Avaliação\avcs_m.sav

Chi-Square Test

Frequencies

estação			
	Observed N	Expected N	Residual
Primavera	64	53,0	11,0
Verão	81	53,0	28,0
Outono	39	53,0	-14,0
Inverno	28	53,0	-25,0
Total	212		

Test Statistics	
estação	
Chi-Square	32,566 ^a
df	3
Asymp. Sig.	,000

a. 0 cells (0,0%) have expected frequencies less than 5. The minimum expected cell

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10