

Análisis estadístico con Jamovi

Parte IV: ANOVA y Regresión

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ANOVA

- 1 vía
 - Posthoc
- 2 vías
 - Interacciones

ANOVA

Hipótesis: Vitamina C y rendimiento: efecto en el umbral de lactato y consumo de oxígeno del corazón.

Experimento: aumento en umbral de lactato (%) en 60 atletas que recibieron tres dosis de vitamina C (0.5, 1, and 2 mg/dia) y dos métodos de administración distintos: zumo de naranja (OJ) o ácido ascórbico (VC)

Datos: vitaminaC.txt (lact, supl, dosis)

ANOVA

ANOVA



dosis



Effect Size

☐ η^2 ☐ partial η^2 ☐ ω^2

> Model

> Assumption Checks

> Contrasts

> Post Hoc Tests

▼ Descriptive Plots

Horizontal axis



dosis

Separate lines



supl

Separate plots

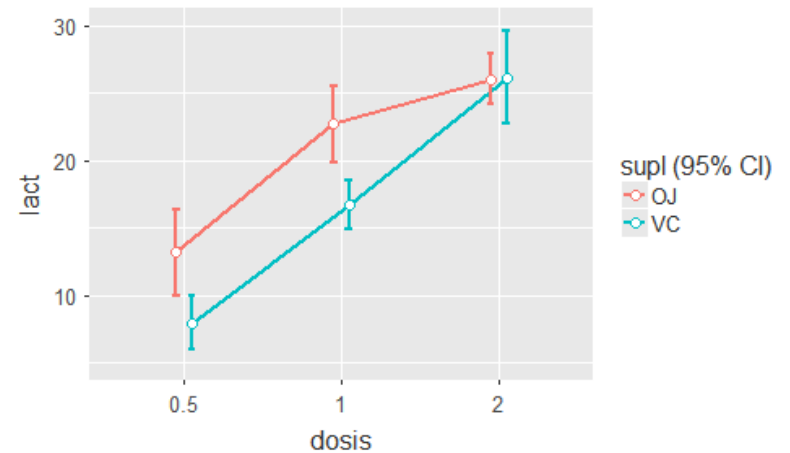


ANOVA

ANOVA

	Sum of Squares	df	Mean Square	F	p
supl	205	1	205.4	15.57	< .001
dosis	2426	2	1213.2	92.00	< .001
supl * dosis	108	2	54.2	4.11	0.022
Residuals	712	54	13.2		

Descriptive Plot



Asunciones

≡

Data

Analyses

Exploration

T-Tests

ANOVA

Regression

Frequencies

Factor

Base R

ANOVA

→

dosis

Effect Size

☐ η^2 ☐ partial η^2 ☐ ω^2

> | Model

▼ | Assumption Checks

☐ Homogeneity tests

☒ Q-Q plot of residuals

> | Contrasts

> | Post Hoc Tests

> | Descriptive Plots

> | Additional Options

Assumption Checks

Q-Q Plot



Test homogeneidad

The screenshot shows the Jamovi software interface. The top menu bar includes 'Data' and 'Analyses'. The 'Data' menu is open, showing options like 'Paste', 'Setup', 'Compute', 'Add', 'Delete', 'Filters', and 'Rows'. The 'Data Variable' section shows 'dosis' as the variable being analyzed. The 'Description' field is empty. The 'Levels' section shows three levels: 0.5, 1.0, and 2.0. The 'Retain unused levels' checkbox is unchecked. The 'ANOVA' section is visible on the right, with the title 'ANOVA' and a subtitle 'ANOVA'.

DATA VARIABLE

dosis

Description

Continuous

Ordinal

Nominal

Nominal Text

Levels

0.5

1.0

2.0

Retain unused levels

	lact	supl	dosis
1	4.2	VC	0.5
2	11.5	VC	0.5
3	7.3	VC	0.5
4	5.8	VC	0.5

ANOVA

ANOVA

Test homogeneidad

The screenshot shows the SPSS ANOVA dialog box on the left and the corresponding output window on the right. In the ANOVA dialog, the 'Post Hoc Tests' section is expanded, and the 'Tukey' option under 'Correction' is selected, indicated by a red arrow. The output window displays summary statistics for the ANOVA and three post-hoc comparison tables.

ANOVA Dialog Box:

- Effect Size:** ☐ η^2 ☐ partial η^2 ☐ ω^2
- Model:** >
- Assumption Checks:** >
- Contrasts:** >
- Post Hoc Tests:** ☒ **Correction:** ☐ No correction ☒ **Tukey** ☐ Scheffe ☐ Bonferroni

ANOVA Summary:

	Sum of Squares	df	Mean Square	F	Sig.
supl * dosis	108	2	54.2	4.11	0.022
Residuals	712	54	13.2		

Post Hoc Tests:

Post Hoc Comparisons - supl

Comparison		Mean Difference	SE	df	t	Ptukey
supl	supl					
OJ	- VC	3.70	0.938	54.0	3.95	< .001

Post Hoc Comparisons - dosis

Comparison		Mean Difference	SE	df	t	Ptukey
dosis	dosis					
0.5	- 1.0	-9.13	1.15	54.0	-7.95	< .001
	- 2.0	-15.50	1.15	54.0	-13.49	< .001
1.0	- 2.0	-6.37	1.15	54.0	-5.54	< .001

Post Hoc Comparisons - supl * dosis

Comparison		Mean Difference	SE	df	t	p
supl	dosis					
OJ	0.5 - OJ 1.0	-9.4700	1.62	54.0	-5.8312	
	- OJ 2.0	-12.8300	1.62	54.0	-7.9002	
	- VC 0.5	5.2500	1.62	54.0	3.2327	
	- VC 1.0	-3.5400	1.62	54.0	-2.1798	
	- VC 2.0	-12.9100	1.62	54.0	-7.9494	
	1.0 - OJ 2.0	-3.3600	1.62	54.0	-2.0689	

Regresión

The image shows the SPSS software interface with the 'Analyses' menu open. The 'Regression' option is highlighted with a red '1'. A dropdown menu is visible, showing 'Correlation Matrix', 'Linear Regression', 'Logistic Regression', '2 Outcomes Binomial', and 'N Outcomes Multinomial'. Three red arrows point from Spanish labels to specific options: 'lineal' points to 'Linear Regression', 'logística' points to 'Logistic Regression', and 'multinomial' points to 'N Outcomes Multinomial'.

lineal

logística

multinomial

	ident	pais		niveledu	fumar	
1	10001	Brasil		64	primaria	ex-fuma
2	10002	Brasil		51	primaria	fumador
3	10003	Brasil		48	ninguno	fumador
4	10004	Brasil		49	ninguno	no fuma
5	10005	Brasil		41	primaria	no fuma
6	10006	Brasil		45	primaria	fumador
7	10007	Brasil		51	primaria	no fuma
8	10008	Brasil	Caso	42	primaria	ex-fuma
9	10009	Brasil	Control	58	primaria	no fuma
10	10010	Brasil	Caso	76	secundaria	no fuma