Results

Descriptives

Descriptives

|	Dose	Person	Happiness	Puppy_love
N	Control	9	9	9
	15 mins	8	8	8
	30 mins	13	13	13
Missing	Control	0	0	0
	15 mins	0	0	0
	30 mins	0	0	0
Mean	Control	5.00	3.22	3.44
	15 mins	13.5	4.88	3.13
	30 mins	24.0	4.85	2.00
Median	Control	5.00	2.00	4.00
	15 mins	13.5	4.50	2.50
	30 mins	24.0	4.00	2.00
Standard deviation	Control	2.74	1.79	2.07
	15 mins	2.45	1.46	1.73
	30 mins	3.89	2.12	1.63
Minimum	Control	1.00	2.00	1.00
	15 mins	10.0	3.00	1.00
	30 mins	18.0	2.00	0.00
Maximum	Control	9.00	7.00	7.00
	15 mins	17.0	7.00	6.00
	30 mins	30.0	9.00	5.00
Skewness	Control	0.00	1.43	0.319
	15 mins	0.00	0.651	0.635
	30 mins	0.00	0.550	0.271
Std. error skewness	Control	0.717	0.717	0.717
	15 mins	0.752	0.752	0.752
	30 mins	0.616	0.616	0.616
Kurtosis	Control	-1.20	1.34	-0.885
	15 mins	-1.20	-0.732	-0.796
	30 mins	-1.20	-0.161	-0.980
Std. error kurtosis	Control	1.40	1.40	1.40
	15 mins	1.48	1.48	1.48
	30 mins	1.19	1.19	1.19
Shapiro-Wilk W	Control	0.972	0.760	0.921
	15 mins	0.975	0.872	0.919
	30 mins	0.966	0.935	0.912
Shapiro-Wilk p	Control	0.914	0.007	0.400
	15 mins	0.933	0.156	0.425
	30 mins	0.837	0.395	0.195

Plots

Person
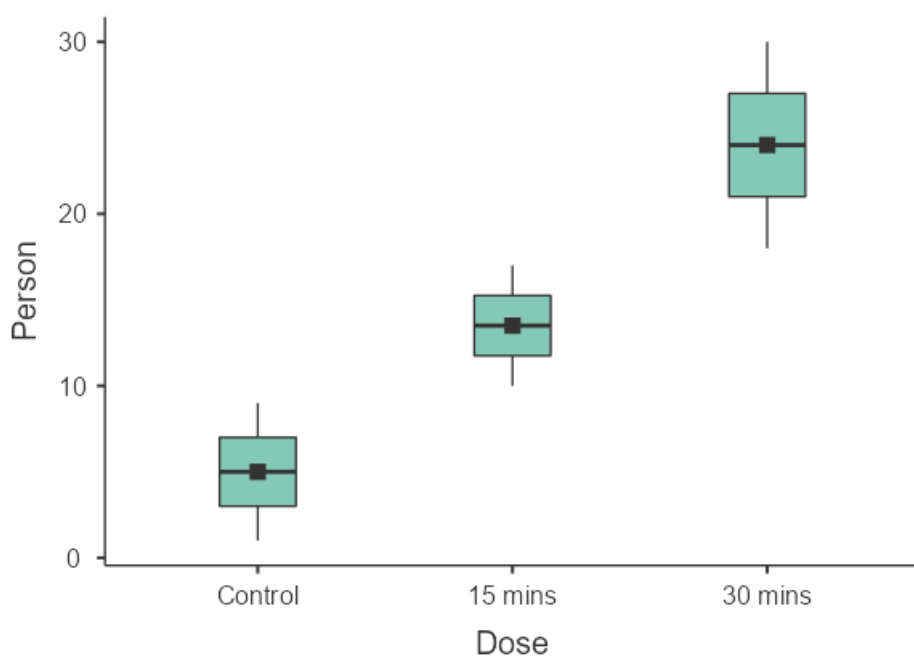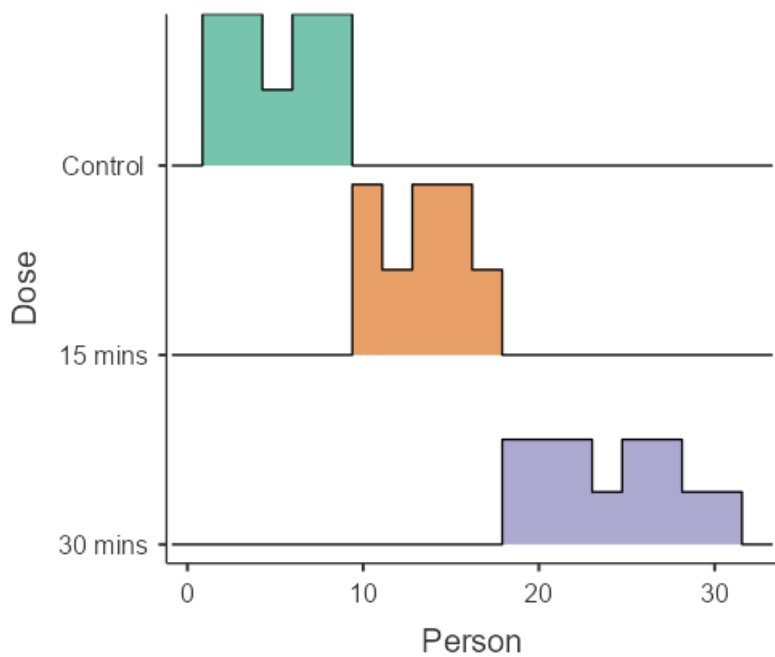
Happiness
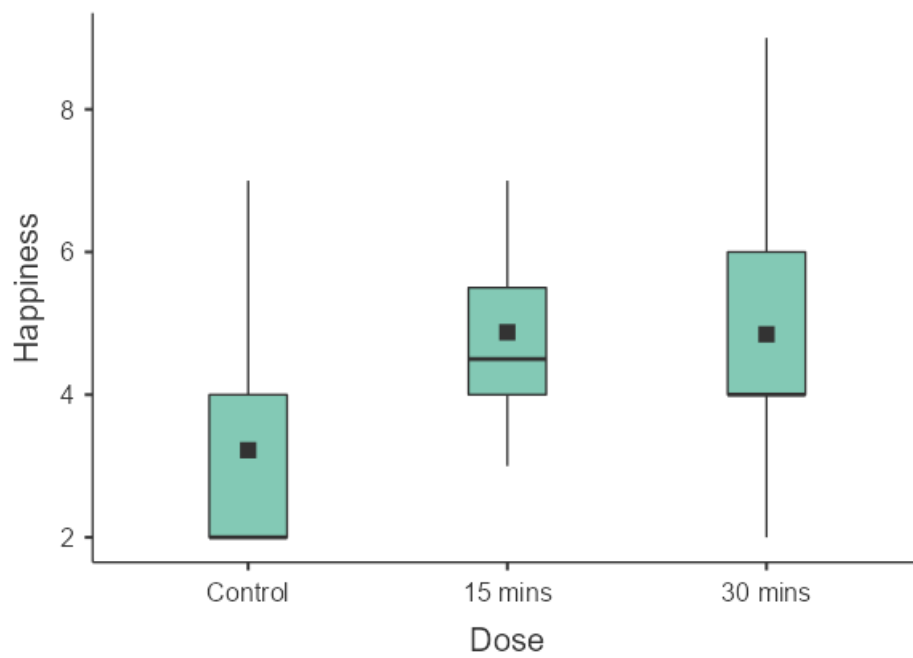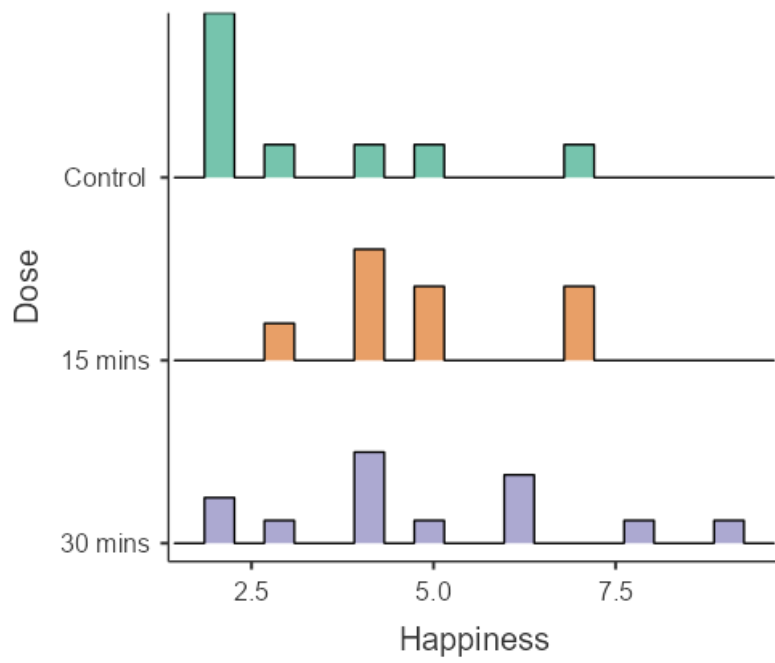
Puppy_love
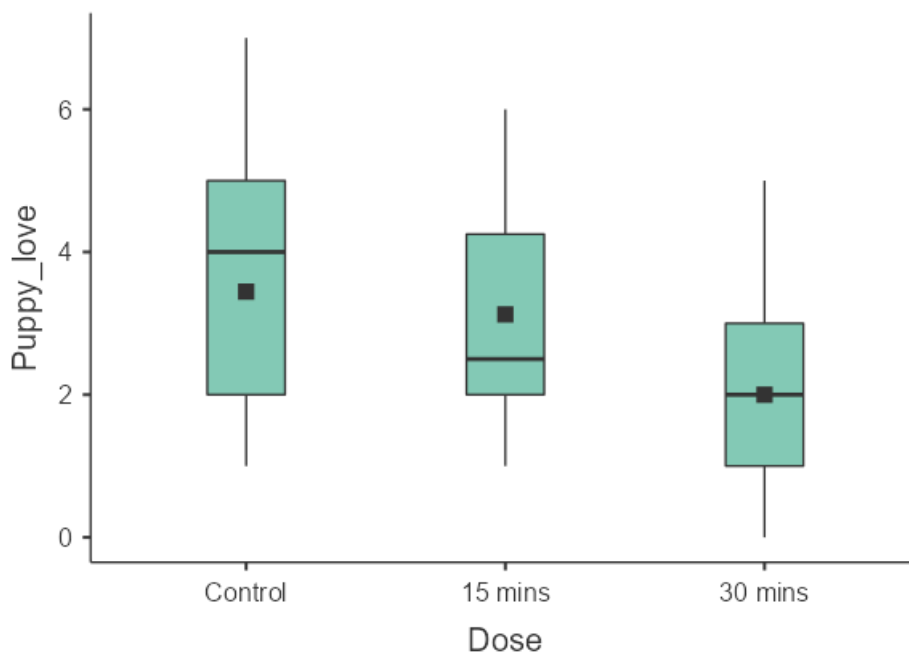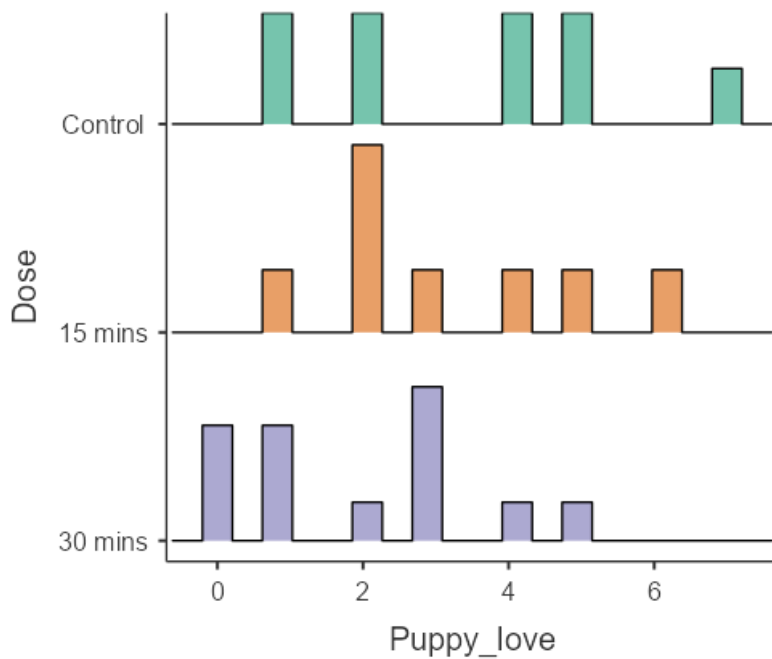
# Relationships, Prediction, and Group Comparisons

You have entered a numeric dependent variable, one or more categorical (nominal/ordinal) independent variables, and one or more numeric control variables. Hence, an ANCOVA seems to be a good option for you! In order to run this analysis in jamovi, go to: ANOVA > ANCOVA

- Drop your numeric dependent variable in the box below Dependent Variable
- Drop your nominal/ordinal independent variables in the box below Fixed Factors
- Drop your numeric control variables in the box below Covariates

Scatter Plots of Bivariate Relationships - Dependent/Independent Variables

Dose

Scatter Plots of Bivariate Relationships - Dependent/Control Variables

Person

Happiness

ANCOVA

ANCOVA - Happiness
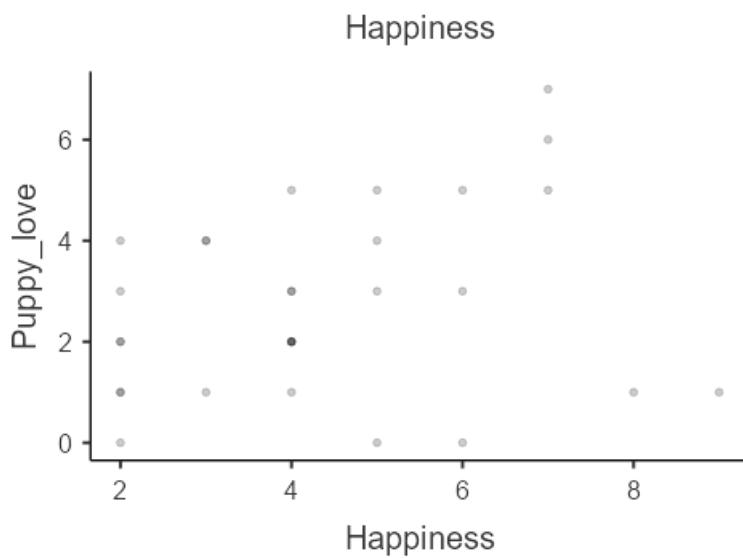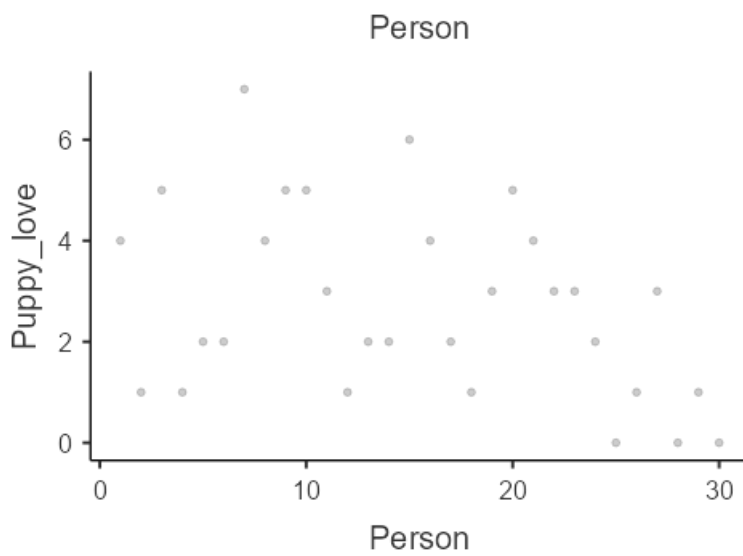
	Sum of Squares	df	Mean Square	F	p	ω^2
Dose	36.6	2	18.28	7.48	0.003	0.234
Puppy_love	17.2	1	17.18	7.03	0.014	0.109
Dose ✻ Puppy_love	20.4	2	10.21	4.18	0.028	0.115
Residuals	58.6	24	2.44			

[3]

Assumption Checks

Homogeneity of Variances Test (Levene's)

F	df1	df2	p
8.19	2	27	0.002

[3]

Normality Test (Shapiro-Wilk)

Statistic	p
0.948	0.145

Q-Q Plot

Post Hoc Tests
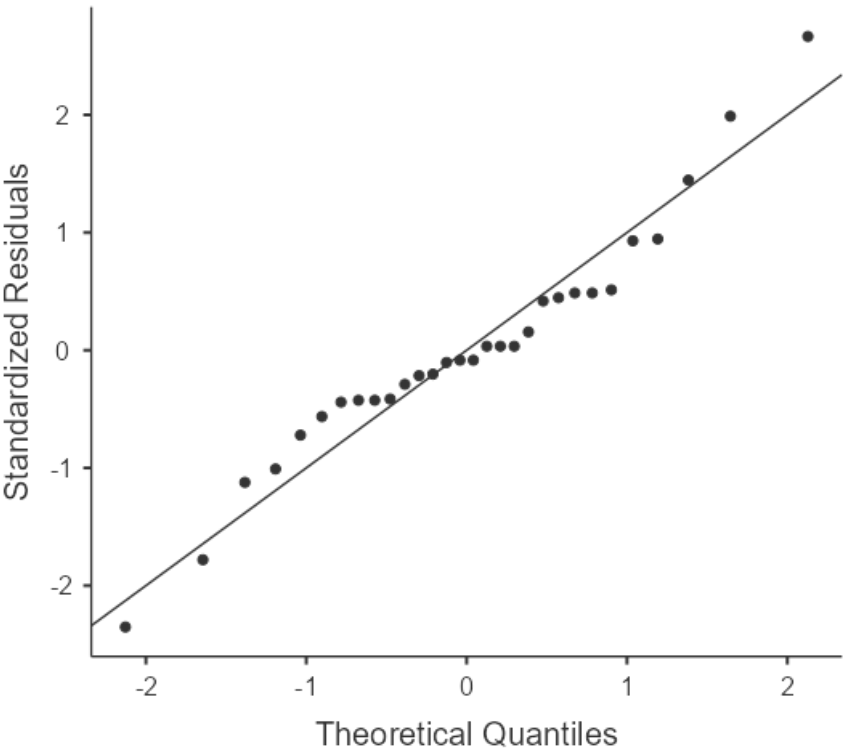
Post Hoc Comparisons - Dose

Comparison		Mean Difference	SE	df	t	p_{tukey}	Cohen's d
Dose	Dose						
Control	- 15 mins	-1.874	0.794	24.0	-2.360	0.067	-1.1991
	- 30 mins	-2.006	0.732	24.0	-2.739	0.030	-1.2836
15 mins	- 30 mins	-0.132	0.743	24.0	-0.178	0.983	-0.0845

Note. Comparisons are based on estimated marginal means

[4]

Scatterplot
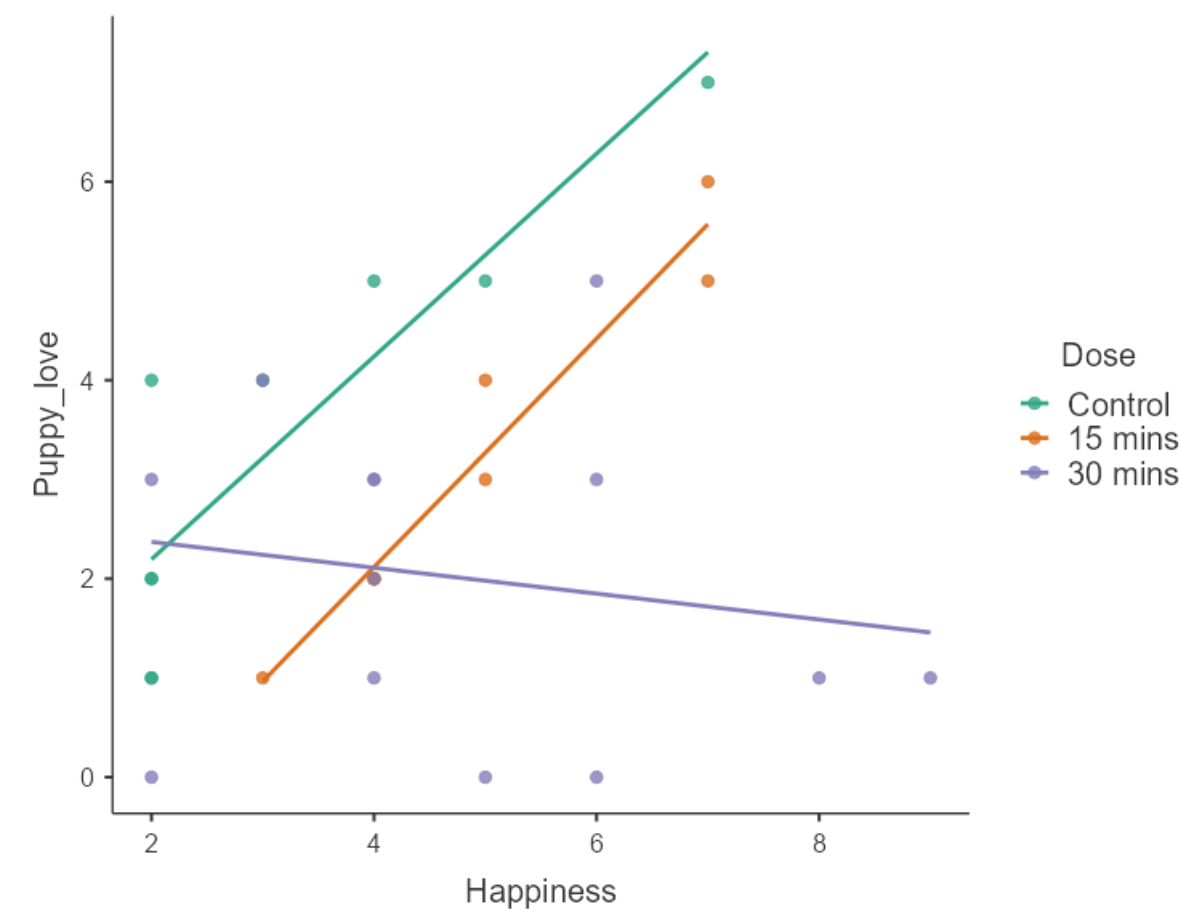
ANCOVA

ANCOVA - Happiness

	Sum of Squares	df	Mean Square	F	p	ω^2
Dose	25.2	2	12.59	4.14	0.027	0.156
Puppy_love	15.1	1	15.08	4.96	0.035	0.098
Residuals	79.0	26	3.04			

[3]

Assumption Checks

Homogeneity of Variances Test (Levene's)

F	df1	df2	p
4.62	2	27	0.019

[3]

Normality Test (Shapiro-Wilk)

Statistic	p
0.943	0.111

Q-Q Plot
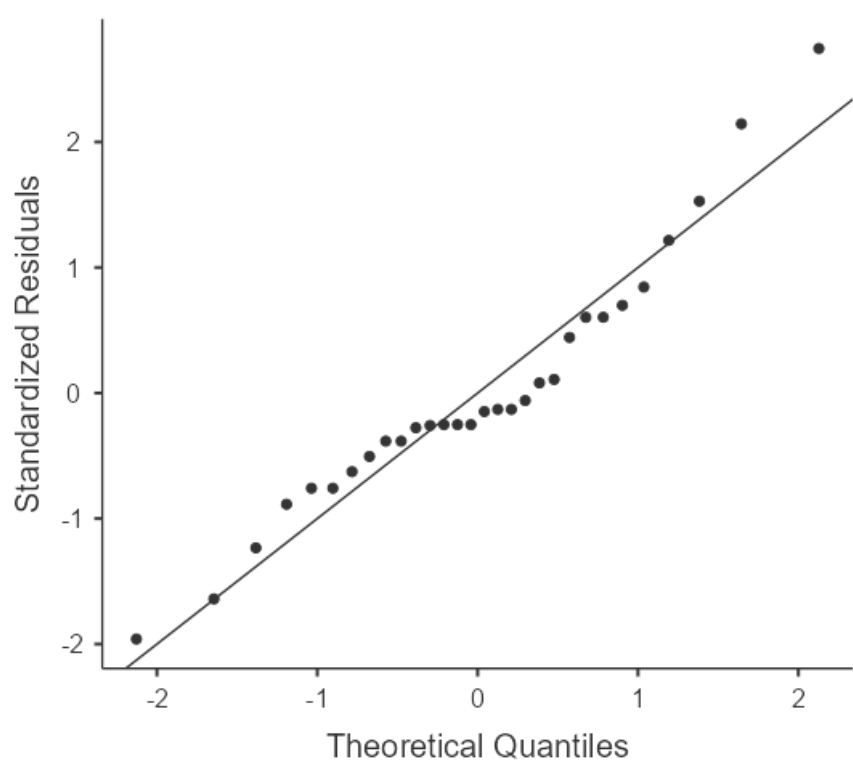
Contrasts

Contrasts - Dose

	Estimate	SE	t	p
15 mins - Control	1.79	0.849	2.10	0.045
30 mins - Control	2.22	0.803	2.77	0.010

Post Hoc Tests

Post Hoc Comparisons - Dose

Comparison							
Dose		Dose	Mean Difference	SE	df	t	$p_{bonferroni}$
Control	-	15 mins	-1.786	0.849	26.0	-2.102	0.136
	-	30 mins	-2.225	0.803	26.0	-2.771	0.031
15 mins	-	30 mins	-0.439	0.811	26.0	-0.541	1.000

Note. Comparisons are based on estimated marginal means

[4]

Estimated Marginal Means
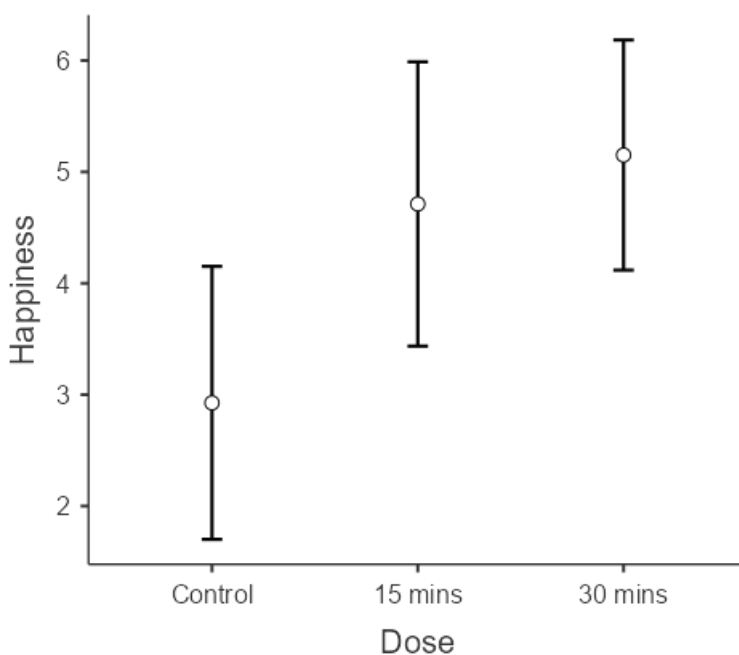
Dose

Estimated Marginal Means - Dose

			95% Confidence Interval	
Dose	Mean	SE	Lower	Upper
Control	2.93	0.596	1.70	4.15
15 mins	4.71	0.621	3.44	5.99
30 mins	5.15	0.503	4.12	6.18

[4]

References

[1] The jamovi project (2021). *jamovi*. (Version 2.2) [Computer Software]. Retrieved from https://www.jamovi.org.

[2] R Core Team (2021). *R: A Language and environment for statistical computing*. (Version 4.0) [Computer software]. Retrieved from https://cran.r-project.org. (R packages retrieved from MRAN snapshot 2021-04-01).

[3] Fox, J., & Weisberg, S. (2020). *car: Companion to Applied Regression*. [R package]. Retrieved from https://cran.r-project.org/package=car.

[4] Lenth, R. (2020). *emmeans: Estimated Marginal Means, aka Least-Squares Means*. [R package]. Retrieved from https://cran.r-project.org/package=emmeans.