

## Results

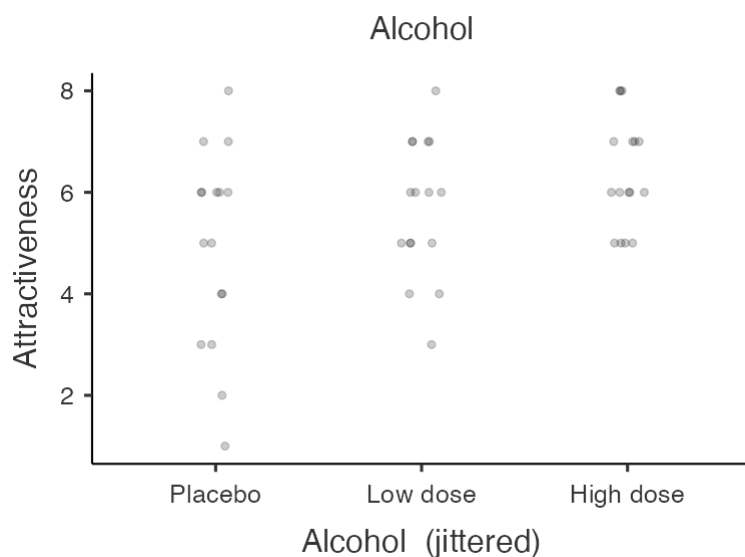
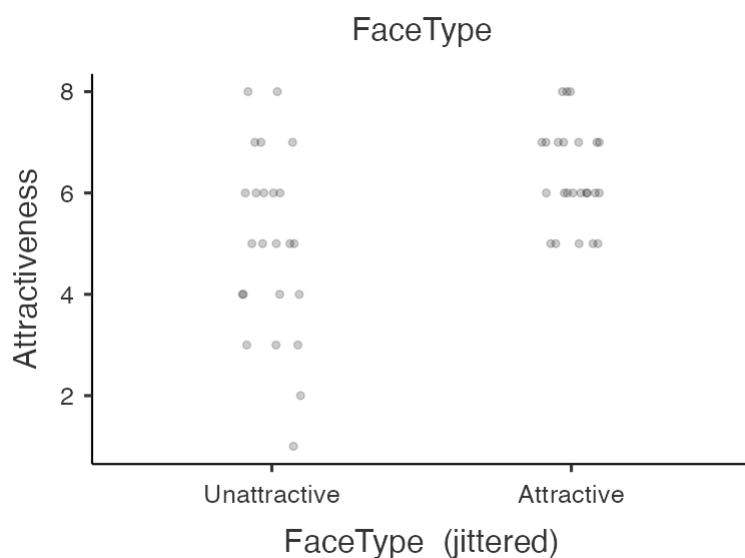
### Relationships, Prediction, and Group Comparisons

You have entered a numeric dependent variable and two categorical (nominal/ordinal) independent variables. Hence, a [two way ANOVA](#) seems to be a good option for you! In order to run this analysis in jamovi, go to: ANOVA > ANOVA

- Drop your numeric dependent variable in the box below Dependent Variable and your two independent (grouping) variables in the box below Fixed Factors

Click on the link to learn more about this method!

### Scatter Plots of Bivariate Relationships - Dependent/Independent Variables



## ANOVA

ANOVA - Attractiveness

	Sum of Squares	df	Mean Square	F	p	$\omega^2$
FaceType	21.3	1	21.33	15.58	< .001	0.166
Alcohol	16.5	2	8.27	6.04	0.005	0.115
FaceType * Alcohol	23.3	2	11.65	8.51	< .001	0.171
Residuals	57.5	42	1.37			

[3]

Assumption Checks

Homogeneity of Variances Tests

	Statistic	df	df2	p
Levene's	0.702	5	42	0.625
Bartlett's	3.14	5		0.678

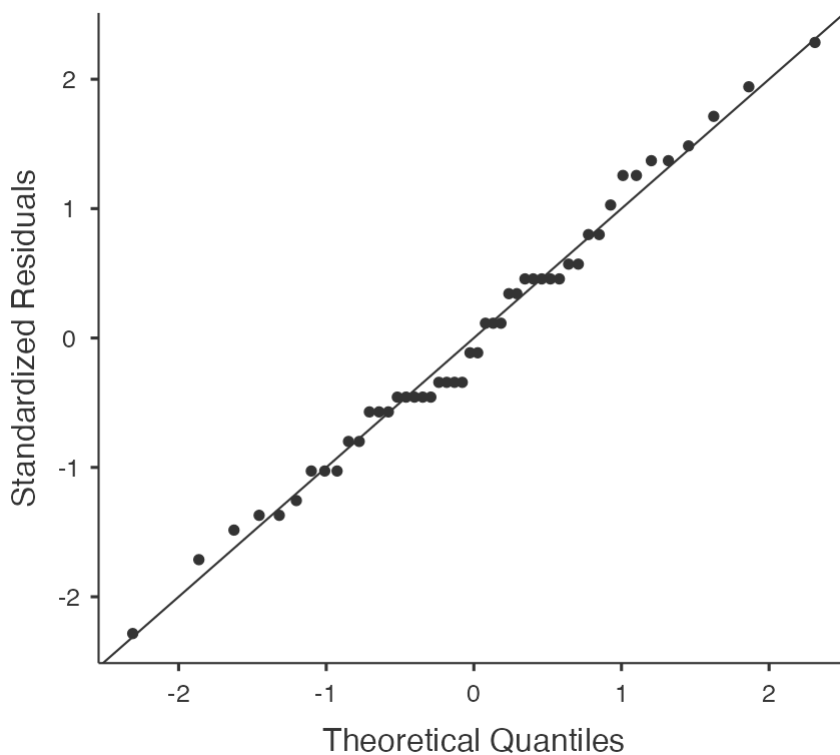
Note. Additional results provided by *moretests*

Normality tests

	statistic	p
Shapiro-Wilk	0.987	0.878
Kolmogorov-Smirnov	0.112	0.585
Anderson-Darling	0.288	0.605

Note. Additional results provided by *moretests*

Q-Q Plot



## Descriptives

Descriptives

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N  
Missing  
Mean  
Median  
Standard deviation  
Minimum  
Maximum

---

## Relationships, Prediction, and Group Comparisons

Welcome to Statkat! This tool will help you to find an appropriate statistical method given the measurement level of your data. Make sure you have correctly defined the measurement levels of your variables on the Data tab. You can change the measurement level of a variable via the Setup button on the Data tab, or by double clicking on a column header of interest. You have selected the Relationships, Prediction, and Group Comparisons option. This is the place to be if you are interested in

- the relationship between two or more variables, or
- predicting one variable from other variables, or
- the difference between independent (unrelated) groups on a certain variable.

To get started, drop a variable in the box below Variable 1 / Dependent Variable, and one or more variables in the box below Variable 2 / Independent Variables. Our tool will then come up with a statistical method that may be appropriate for your data! In addition, you can drop one or more variables in the box below Control Variables. Control variables are variables that you are not particularly interested in, but which may be related to the dependent variable and possibly also to the independent variables. In experiments (with random assignment), control variables are often included to increase power. In observational studies, control variables are often included mainly to equate subjects on the control variables. This prevents the control variables from confounding the relationships between the independent variables and the dependent variable. If your research question does not make a clear distinction between an independent variable and a dependent variable, the decision of which variable to define as Variable 1/Dependent Variable and which as Variable 2/Independent Variables can be arbitrary. But doesn't this decision affect the recommended method? Well, in some cases it does affect the primary method

recommendation, but if a simpler method can be performed by flipping the two variables, this is usually mentioned. It is then up to you which of the recommended methods you prefer. It is important to keep in mind here that none of the correlational statistical techniques can say anything about causality anyway (not even a method like regression analysis), so even if you do make a distinction between an independent and dependent variable, the statistical method will only say something about association, not causation. Note: Our advice is based on the measurement level of your data and on the number of variables entered. There can be details related to your data, task, or assignment that may render the advice moot. Always check the assumptions made by the statistical method before interpreting the results. We always try to come up with the least complicated method that might be applicable given your data. Keep in mind that there may be other, more advanced, methods that might be applicable as well.

## Robust ANOVA

Robust ANOVA

F	p

## ANOVA

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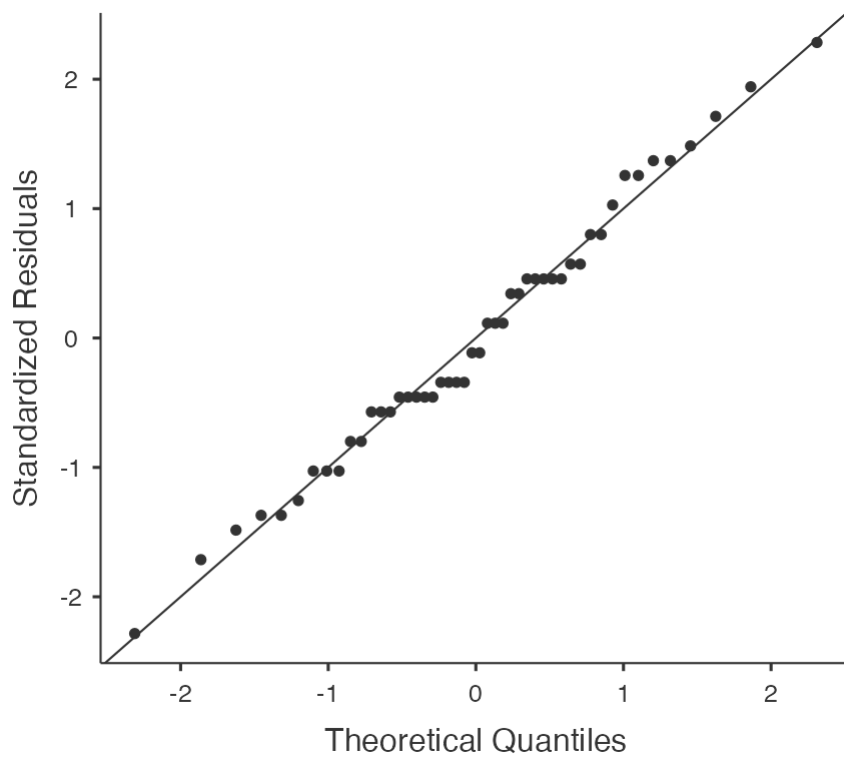
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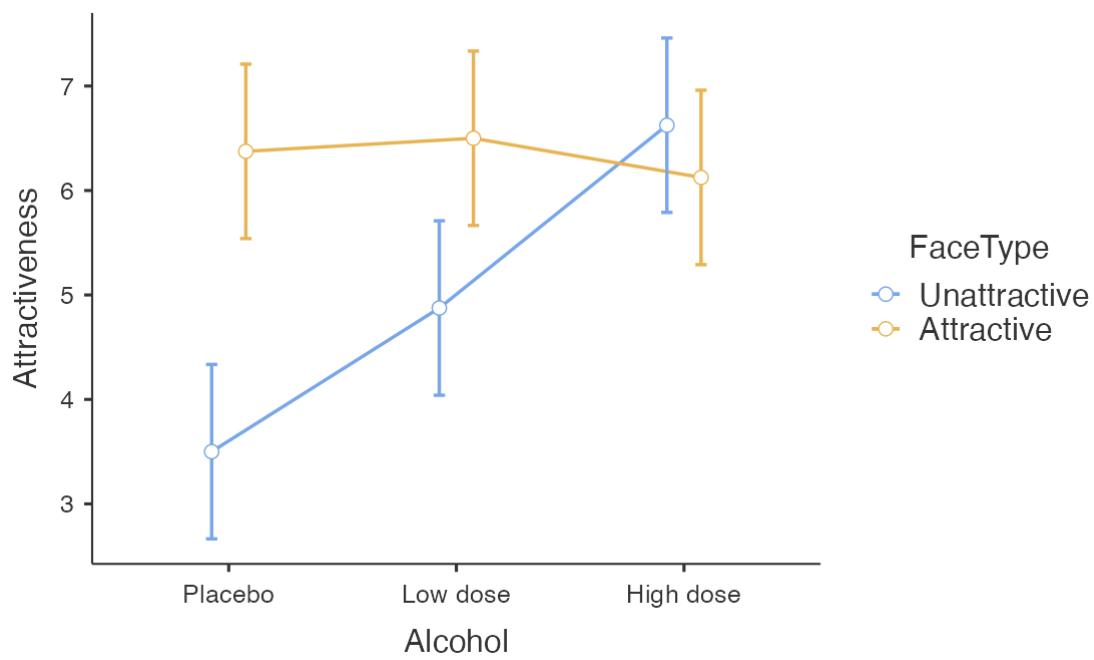
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## Q-Q Plot

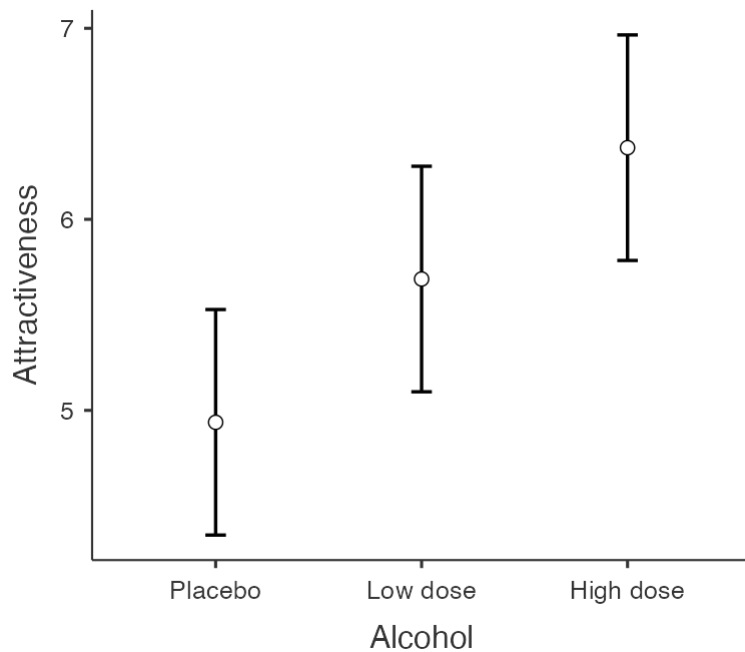


## Estimated Marginal Means

Alcohol \* FaceType



Alcohol



[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>.