

Reporting results (This text is work in progress...)

DF = degrees of freedom

p = probability

t = t-test value

F = F-test value

$t_{(<DF>)} = <t\text{-value}>$

$F(<DF\text{ numerator}, <DF\text{ denominator}>) = <F\text{-ratio}>$

$p = <value>$ (if value ≥ 0.05)

$p \leq <value>$ (if value < 0.05) (some journals use “ $p<<value>$ ” unless $<value>$ is .000)

The F-ratio is the ratio (= fraction) of the mean square error of the ‘model’ divided by the remaining error (‘residue’); the values in the brackets after the ‘F’ are the degrees of freedom of these values (because from these the F-distribution determines the probability).

Example of an ANOVA report:

DURATION as a dependent variable and the factors SUBJECT as random, EDUCATION (basic or secondary), DIALECT (Eweme or Anglo), GENDER (male or female) and their interaction DIALECT x GENDER as independent variables were entered into an analysis of variance (ANOVA). There was an overall significant effect of the model ($F(3, 4305) =$, $p < 0.001$). The effects of DIALECT ($F(1, 4305) = 12.879$, $p < 0.0003$), GENDER ($F(1, 4305) = 133.147$, $p < 0.0001$) and the interaction of DIALECT x GENDER were also significant ($F(1, 4305) = 24.335$, $p < 0.0001$). The factor EDUCATION was not a significant factor in this ANOVA.

The screenshot displays the JMP software interface for constructing an ANOVA model. The 'Pick Role Variables' dialog box is open, showing the dependent variable 'Duration (ms)' and several independent variables: 'Weight', 'Freq', 'Validation', and 'By'. The 'Personality' is set to 'Standard Least Squares', 'Emphasis' is 'Minimal Report', and 'Method' is 'REML (Recommended)'. The 'Unbounded Variance Components' checkbox is checked, and the 'Keep dialog open' checkbox is also checked. The 'Construct Model Effects' dialog box is also open, showing the model structure: 'Dialect', 'Gender', 'Dialect*Gender', 'Education', and 'Speaker[Dialect,Gender,Education] & Randc'. The 'Degree' is set to 2, and the 'Attributes' and 'Transform' checkboxes are checked. The 'No Intercept' checkbox is unchecked.

There was an overall significant ($F(3,4305) = 56.418, p \leq .0001$)

$$449751 / 3 = 149917$$

$$11439421 / 4305 = 2657$$

$$149917 / 2657 = 56.418$$

▼ **Response Duration (ms)**

▶ **Effect Summary**

▼ **Summary of Fit**

RSquare	0.037829
RSquare Adj	0.037158
Root Mean Square Error	51.54843
Mean of Response	146.7164
Observations (or Sum Wgts)	4309

▼ **Analysis of Variance**

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Model	3	449751	149917	56.4182	
Error	4305	11439421	2657		Prob > F
C. Total	4308	11889171			<.0001*

▶ **Parameter Estimates**

▼ **Effect Tests**

Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
Dialect	1	1	34222.78	12.8791	0.0003*
Gender	1	1	353802.93	133.1467	<.0001*
Dialect*Gender	1	1	64665.02	24.3354	<.0001*

▼ **Effect Details**

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Effect Summary					
Summary of Fit					
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RSquare Adj			0.037158		
Root Mean Square Error			51.54843		
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Effect Details					

There was a significant effect for the factors DIALECT ($F(1,4305)=12.879$, $p \leq 0.0003$), GENDER ($F(1,4305)=133.147$, $p \leq 0.0001$), and a significant interaction DIALECT x GENDER ($F(1,4305)=24.335$, $p \leq 0.0001$),

Effect Details

- Dialect
 - Least Squares Means Table
- Gender
- Dialect*Gender
 - Least Squares Means Table
- Contrast
 - Test Detail

Level	Least Sq Mean	Std Error
ANGLO,FEMALE	156.93228	1.5700232
ANGLO,MALE	131.05028	1.5729441
EWEME,FEMALE	154.81994	1.6038557
EWEME,MALE	144.44039	1.5375608

ANGLO,FEMALE	1	0		
ANGLO,MALE	-1	0		
EWEME,FEMALE	0	1		
EWEME,MALE	0	-1		
Estimate	25.882	10.38		
Std Error	2.2224	2.2218		
t Ratio	11.646	4.6717		
Prob> t	7e-31	3.1e-6		
SS	360393	57993		

SS	NumDF	DenDF	F Ratio	Prob > F
4e+5	2	4305	78.7256	<.0001*

Post-hoc analyses revealed that there were significant gender differences within each language (Anglo female: LSM=156.93, SE=1.57. Anglo male: LSM=131.05, SE=1.57, $t_{(2150)}=11.646$, $p<0.0001$; Eweme female: LSM=154.82, SE=1.60. Eweme male: LSM=144.44, SE=1.54, $t_{(2155)}=4.672$, $p<0.0001$).