

## Welch Anova Lab

A marital therapist surveyed past clients. The clients were asked to report their current relationship satisfaction and the time since their spouses had had an affair (no affair, 25+ months ago, < 24 months ago). Use a familywise alpha of .05 to interpret the results.

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33 :

	fidelity	satisfaction	jealousy
1	No affairs	7.00	3.00
2	No affairs	9.00	5.00
3	No affairs	4.00	4.00
4	No affairs	6.00	8.00
5	No affairs	5.00	4.00
6	No affairs	9.00	5.00
7	No affairs	9.00	5.00
8	No affairs	9.00	8.00
9	No affairs	10.00	5.00
10	No affairs	5.00	4.00
11	25+ months	2.00	6.00
12	25+ months	5.00	5.00
13	25+ months	6.00	10.00
14	25+ months	5.00	5.00
15	25+ months	4.00	8.00
16	25+ months	2.00	7.00
17	25+ months	7.00	8.00
18	25+ months	6.00	9.00
19	25+ months	6.00	8.00
20	25+ months	3.00	8.00
21	< 24 months	3.00	7.00
22	< 24 months	.00	8.00
23	< 24 months	2.00	10.00
24	< 24 months	2.00	8.00
25	< 24 months	3.00	7.00
26	< 24 months	3.00	10.00
27	< 24 months	4.00	7.00
28	< 24 months	.00	6.00
29	< 24 months	4.00	8.00
30	< 24 months	4.00	8.00
31			

Untitled - SPSS Data Editor

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33 :

	fidelity	satisfact	
1	No affairs	7	
2	No affairs	9	
3	No affairs	4	
4	No affairs	6	
5	No affairs	5	
6	No affairs	9	
7	No affairs	9	
8	No affairs	9	
9	No affairs	10	
10	No affairs	5.00	4.00

Analyze menu items: Reports, Descriptive Statistics, Compare Means, General Linear Model, Mixed Models, Correlate, Regression, Loglinear, Classify, Data Reduction, Scale, Nonparametric Tests, Survival, Multiple Response.

Compare Means submenu items: Means..., One-Sample T Test..., Independent-Samples T Test..., Paired-Samples T Test..., One-Way ANOVA...

One-Way ANOVA

Dependent List: satisfaction, jealousy

Factor: fidelity

Buttons: OK, Paste, Reset, Cancel, Help, Contrasts..., Post Hoc..., Options...

One-Way ANOVA: Post Hoc Multiple Comparisons

Equal Variances Assumed:

- LSD
- Bonferroni
- Sidak
- Scheffe
- R-E-G-W F
- R-E-G-W Q
- S-N-K
- Tukey
- Tukey's-b
- Duncan
- Hochberg's GT2
- Gabriel
- Waller-Duncan
- Dunnett

Type I/Type II Error Ratio: 100

Control Category: Last

Test:  2-sided  < Control  > Control

Equal Variances Not Assumed:

- Tamhane's T2
- Dunnett's T3
- Games-Howell
- Dunnett's C

Significance level: .05

Buttons: Continue, Cancel, Help

One-Way ANOVA: Options

Statistics:

- Descriptive
- Fixed and random effects
- Homogeneity of variance test
- Brown-Forsythe
- Welch

Means plot

Missing Values:

- Exclude cases analysis by analysis
- Exclude cases listwise

Buttons: Continue, Cancel, Help

### Oneway

#### Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
satisfaction	No affairs	10	7.3000	2.16282	.68394	5.7528	8.8472	4.00	10.00
	25+ months ago	10	4.6000	1.77639	.56174	3.3292	5.8708	2.00	7.00
	< 24 months ago	10	2.5000	1.50923	.47726	1.4204	3.5796	.00	4.00
	Total	30	4.8000	2.67040	.48755	3.8029	5.7971	.00	10.00
jealousy	No affairs	10	5.1000	1.66333	.52599	3.9101	6.2899	3.00	8.00
	25+ months ago	10	7.4000	1.64655	.52068	6.2221	8.5779	5.00	10.00
	< 24 months ago	10	7.9000	1.28668	.40689	6.9796	8.8204	6.00	10.00
	Total	30	6.8000	1.93694	.35363	6.0767	7.5233	3.00	10.00

#### ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
satisfaction	Between Groups	115.800	2	57.900	17.179	.000
	Within Groups	91.000	27	3.370		
	Total	206.800	29			
jealousy	Between Groups	44.600	2	22.300	9.379	.001
	Within Groups	64.200	27	2.378		
	Total	108.800	29			

#### Robust Tests of Equality of Means

		Statistic <sup>a</sup>	df1	df2	Sig.
satisfaction	Welch	16.246	2	17.642	.000
jealousy	Welch	8.929	2	17.716	.002

a. Asymptotically F distributed.

### Post Hoc Tests

#### Multiple Comparisons

Games-Howell

Dependent Variable	(I) fidelity	(J) fidelity	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
satisfaction	No affairs	25+ months ago	2.70000*	.88506	.019	.4337	4.9663
		< 24 months ago	4.80000*	.83400	.000	2.6491	6.9509
	25+ months ago	No affairs	-2.70000*	.88506	.019	-4.9663	-.4337
		< 24 months ago	2.10000*	.73711	.028	.2145	3.9855
	< 24 months ago	No affairs	-4.80000*	.83400	.000	-6.9509	-2.6491
		25+ months ago	-2.10000*	.73711	.028	-3.9855	-.2145
jealousy	No affairs	25+ months ago	-2.30000*	.74012	.016	-4.1889	-.4111
		< 24 months ago	-2.80000*	.66500	.002	-4.5066	-1.0934
	25+ months ago	No affairs	2.30000*	.74012	.016	.4111	4.1889
		< 24 months ago	-.50000	.66081	.734	-2.1951	1.1951
	< 24 months ago	No affairs	2.80000*	.66500	.002	1.0934	4.5066
		25+ months ago	.50000	.66081	.734	-1.1951	2.1951

\*. The mean difference is significant at the .05 level.

*Interpretation.*