# Oneway

## Notes

Output Created	28-FEB-2022 21:12:15	
Comments		
Input	Data	/Users/benjamin/Deskto p/AP Research/21-22- PAS-AP- Research/Experiment 2/E2-Raw/E2-A.csv
	Active Dataset	DataSet5
	Filter	<none></none>
	Weight	<none></none>
	Split File	<none></none>
	N of Rows in Working Data File	25
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY Difference BY pH /ES=OVERALL /STATISTICS HOMOGENEITY /MISSING ANALYSIS /CRITERIA=CILEVEL (0.95) /POSTHOC=TUKEY ALPHA(0.05).
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.00

### [DataSet5]

# Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Difference	Based on Mean	2.557	4	20	.070
	Based on Median	1.184	4	20	.348
	Based on Median and with adjusted df	1.184	4	14.781	.358
	Based on trimmed mean	2.561	4	20	.070

### ANOVA

#### Difference

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.059	4	.015	171419.271	<.001
Within Groups	.000	20	.000		
Total	.059	24			

# ANOVA Effect Sizes<sup>a</sup>

nate Lower	Upper
00 1 000	
00 1.000	1.000
00 1.000	1.000
00 1.000	1.000
00 1.000	1.000
	1.000

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

### **Post Hoc Tests**

## **Multiple Comparisons**

Dependent Variable: Difference

Tukey HSD

		Mean			95% Confidence Interval	
(I) pH	(J) pH	Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
1	4	0370200*	.0001850	<.001	037574	036466
	7	0837800 *	.0001850	<.001	084334	083226
	10	1029800 <sup>*</sup>	.0001850	<.001	103534	102426
	13	1370600 <sup>*</sup>	.0001850	<.001	137614	136506
4	1	.0370200*	.0001850	<.001	.036466	.037574
	7	0467600*	.0001850	<.001	047314	046206
	10	0659600*	.0001850	<.001	066514	065406
	13	1000400*	.0001850	<.001	100594	099486
7	1	.0837800*	.0001850	<.001	.083226	.084334
	4	.0467600*	.0001850	<.001	.046206	.047314
	10	0192000*	.0001850	<.001	019754	018646
	13	0532800 <sup>*</sup>	.0001850	<.001	053834	052726
10	1	.1029800*	.0001850	<.001	.102426	.103534
	4	.0659600*	.0001850	<.001	.065406	.066514

# **Multiple Comparisons**

Dependent Variable: Difference

Tukey HSD

		Mean			95% Confidence Interval	
(I) pH	(J) pH	Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
	7	.0192000*	.0001850	<.001	.018646	.019754
	13	0340800 <sup>*</sup>	.0001850	<.001	034634	033526
13	1	.1370600*	.0001850	<.001	.136506	.137614
	4	.1000400*	.0001850	<.001	.099486	.100594
	7	.0532800*	.0001850	<.001	.052726	.053834
	10	.0340800*	.0001850	<.001	.033526	.034634

<sup>\*.</sup> The mean difference is significant at the 0.05 level.

# **Homogeneous Subsets**

#### Difference

Tukey HSD<sup>a</sup>

		Subset for alpha = 0.05					
рН	N	1	2	3	4	5	
1	5	150840					
4	5		113820				
7	5			067060			
10	5				047860		
13	5					013780	
Sig.		1.000	1.000	1.000	1.000	1.000	

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 5.000.