Oneway

Notes

Output Created		28-FEB-2022 21:03:34
Comments		
Input	Data	/Users/benjamin/Desktop/AP Research/21-22-PAS-AP-Research/Experiment 1/E1-Raw/E1.csv
	Active Dataset	DataSet4
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
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 Temperature /ES=OVERALL /STATISTICS HOMOGENEITY /MISSING ANALYSIS /CRITERIA=CILEVEL (0.95) /POSTHOC=TUKEY ALPHA(0.05).
Resources	Processor Time	00:00:00.05
	Elapsed Time	00:00:00.00

[DataSet4]

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Difference	Based on Mean	26.008	9	240	<.001
	Based on Median	11.544	9	240	<.001
	Based on Median and with adjusted df	11.544	9	97.783	<.001
	Based on trimmed mean	23.906	9	240	<.001

ANOVA

Difference

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.304	9	.034	8.875	<.001
Within Groups	.912	240	.004		
Total	1.216	249			

ANOVA Effect Sizes[a]

		Point Estimate	95% Confidence Interval Lower	Upper
Difference	Eta-squared	.250	.136	.312
	Epsilon-squared	.222	.103	.286
	Omega-squared Fixed-effect	.221	.103	.285
	Omega-squared Random-effect	.031	.013	.042

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

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Difference

Tukey HSD

(I) Temperature	(J) Temperature	Mean Difference (I-J)	Std. Error	Sig.	95% … Lower Bound
5	10	-.0057720	.0174368	1.000	-.061461
	15	-.0183200	.0174368	.989	-.074009
	20	-.0291720	.0174368	.810	-.084861
	25	-.0477240	.0174368	.165	-.103413
	30	-.0775600*	.0174368	<.001	-.133249
	35	-.0817320*	.0174368	<.001	-.137421
	40	-.0856560*	.0174368	<.001	-.141345
	45	-.0899000*	.0174368	<.001	-.145589
	50	-.0910640*	.0174368	<.001	-.146753
10	5	.0057720	.0174368	1.000	-.049917
	15	-.0125480	.0174368	.999	-.068237
	20	-.0234000	.0174368	.943	-.079089
	25	-.0419520	.0174368	.327	-.097641
	30	-.0717880*	.0174368	.002	-.127477
	35	-.0759600*	.0174368	<.001	-.131649

Multiple Comparisons

Dependent Variable: Difference

Tukey HSD

(I) Temperature	(J) Temperature	95% … Upper Bound
5	10	.049917
	15	.037369
	20	.026517
	25	.007965
	30	-.021871
	35	-.026043
	40	-.029967
	45	-.034211
	50	-.035375
10	5	.061461
	15	.043141
	20	.032289
	25	.013737
	30	-.016099
	35	-.020271

Multiple Comparisons

Dependent Variable: Difference

Tukey HSD

(I) Temperature	(J) Temperature	Mean Difference (I-J)	Std. Error	Sig.	95% … Lower Bound
	40	-.0798840*	.0174368	<.001	-.135573
	45	-.0841280*	.0174368	<.001	-.139817
	50	-.0852920*	.0174368	<.001	-.140981
15	5	.0183200	.0174368	.989	-.037369
	10	.0125480	.0174368	.999	-.043141
	20	-.0108520	.0174368	1.000	-.066541
	25	-.0294040	.0174368	.802	-.085093
	30	-.0592400*	.0174368	.027	-.114929
	35	-.0634120*	.0174368	.012	-.119101
	40	-.0673360*	.0174368	.006	-.123025
	45	-.0715800*	.0174368	.002	-.127269
	50	-.0727440*	.0174368	.002	-.128433
20	5	.0291720	.0174368	.810	-.026517
	10	.0234000	.0174368	.943	-.032289
	15	.0108520	.0174368	1.000	-.044837
	25	-.0185520	.0174368	.988	-.074241
	30	-.0483880	.0174368	.151	-.104077
	35	-.0525600	.0174368	.083	-.108249
	40	-.0564840*	.0174368	.044	-.112173
	45	-.0607280*	.0174368	.021	-.116417
	50	-.0618920*	.0174368	.016	-.117581
25	5	.0477240	.0174368	.165	-.007965
	10	.0419520	.0174368	.327	-.013737
	15	.0294040	.0174368	.802	-.026285
	20	.0185520	.0174368	.988	-.037137
	30	-.0298360	.0174368	.788	-.085525
	35	-.0340080	.0174368	.635	-.089697
	40	-.0379320	.0174368	.477	-.093621
	45	-.0421760	.0174368	.319	-.097865
	50	-.0433400	.0174368	.282	-.099029
30	5	.0775600*	.0174368	<.001	.021871
	10	.0717880*	.0174368	.002	.016099
	15	.0592400*	.0174368	.027	.003551
	20	.0483880	.0174368	.151	-.007301
	25	.0298360	.0174368	.788	-.025853
	35	-.0041720	.0174368	1.000	-.059861
	40	-.0080960	.0174368	1.000	-.063785

Multiple Comparisons

Dependent Variable: Difference

Tukey HSD

(I) Temperature	(J) Temperature	95% … Upper Bound
	40	-.024195
	45	-.028439
	50	-.029603
15	5	.074009
	10	.068237
	20	.044837
	25	.026285
	30	-.003551
	35	-.007723
	40	-.011647
	45	-.015891
	50	-.017055
20	5	.084861
	10	.079089
	15	.066541
	25	.037137
	30	.007301
	35	.003129
	40	-.000795
	45	-.005039
	50	-.006203
25	5	.103413
	10	.097641
	15	.085093
	20	.074241
	30	.025853
	35	.021681
	40	.017757
	45	.013513
	50	.012349
30	5	.133249
	10	.127477
	15	.114929
	20	.104077
	25	.085525
	35	.051517
	40	.047593

Multiple Comparisons

Dependent Variable: Difference

Tukey HSD

(I) Temperature	(J) Temperature	Mean Difference (I-J)	Std. Error	Sig.	95% … Lower Bound
	45	-.0123400	.0174368	.999	-.068029
	50	-.0135040	.0174368	.999	-.069193
35	5	.0817320*	.0174368	<.001	.026043
	10	.0759600*	.0174368	<.001	.020271
	15	.0634120*	.0174368	.012	.007723
	20	.0525600	.0174368	.083	-.003129
	25	.0340080	.0174368	.635	-.021681
	30	.0041720	.0174368	1.000	-.051517
	40	-.0039240	.0174368	1.000	-.059613
	45	-.0081680	.0174368	1.000	-.063857
	50	-.0093320	.0174368	1.000	-.065021
40	5	.0856560*	.0174368	<.001	.029967
	10	.0798840*	.0174368	<.001	.024195
	15	.0673360*	.0174368	.006	.011647
	20	.0564840*	.0174368	.044	.000795
	25	.0379320	.0174368	.477	-.017757
	30	.0080960	.0174368	1.000	-.047593
	35	.0039240	.0174368	1.000	-.051765
	45	-.0042440	.0174368	1.000	-.059933
	50	-.0054080	.0174368	1.000	-.061097
45	5	.0899000*	.0174368	<.001	.034211
	10	.0841280*	.0174368	<.001	.028439
	15	.0715800*	.0174368	.002	.015891
	20	.0607280*	.0174368	.021	.005039
	25	.0421760	.0174368	.319	-.013513
	30	.0123400	.0174368	.999	-.043349
	35	.0081680	.0174368	1.000	-.047521
	40	.0042440	.0174368	1.000	-.051445
	50	-.0011640	.0174368	1.000	-.056853
50	5	.0910640*	.0174368	<.001	.035375
	10	.0852920*	.0174368	<.001	.029603

Multiple Comparisons

Dependent Variable: Difference

Tukey HSD

(I) Temperature	(J) Temperature	95% … Upper Bound
	45	.043349
	50	.042185
35	5	.137421
	10	.131649
	15	.119101
	20	.108249
	25	.089697
	30	.059861
	40	.051765
	45	.047521
	50	.046357
40	5	.141345
	10	.135573
	15	.123025
	20	.112173
	25	.093621
	30	.063785
	35	.059613
	45	.051445
	50	.050281
45	5	.145589
	10	.139817
	15	.127269
	20	.116417
	25	.097865
	30	.068029
	35	.063857
	40	.059933
	50	.054525
50	5	.146753
	10	.140981

Multiple Comparisons

Dependent Variable: Difference

Tukey HSD

(I) Temperature	(J) Temperature	Mean Difference (I-J)	Std. Error	Sig.	95% … Lower Bound
	15	.0727440*	.0174368	.002	.017055
	20	.0618920*	.0174368	.016	.006203
	25	.0433400	.0174368	.282	-.012349
	30	.0135040	.0174368	.999	-.042185
	35	.0093320	.0174368	1.000	-.046357
	40	.0054080	.0174368	1.000	-.050281
	45	.0011640	.0174368	1.000	-.054525

Multiple Comparisons

Dependent Variable: Difference

Tukey HSD

(I) Temperature	(J) Temperature	95% … Upper Bound
	15	.128433
	20	.117581
	25	.099029
	30	.069193
	35	.065021
	40	.061097
	45	.056853

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

Difference

Tukey HSD[a]

Temperature	N	Subset for alpha = 0.05		
		1	2	3
5	25	-.103356		
10	25	-.097584		
15	25	-.085036		
20	25	-.074184	-.074184	
25	25	-.055632	-.055632	-.055632
30	25		-.025796	-.025796
35	25		-.021624	-.021624
40	25			-.017700
45	25			-.013456
50	25			-.012292
Sig.		.165	.083	.282

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 25.000.