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Assignment 3 Part 3 - Nests part of the Experimental data

Obs	Nest	Species	Nest_content	Number_of_mites	Treatment
1	1	HOSP	empty	0	control
2	1	HOSP	empty	0	experimental
3	2	HOSP	empty	1	control
4	2	HOSP	empty	0	experimental
5	3	HOSP	eggs	3	control
6	3	HOSP	eggs	1	experimental
7	4	HOSP	eggs	2	control
8	4	HOSP	eggs	2	experimental
9	5	HOSP	eggs	0	control
10	5	HOSP	eggs	0	experimental
11	6	HOSP	chicks	3	control
12	6	HOSP	chicks	2	experimental
13	7	HOSP	chicks	0	control
14	7	HOSP	chicks	1	experimental
15	8	HOSP	empty	1	control
16	8	HOSP	empty	0	experimental
17	9	HOSP	chicks	2	control
18	9	HOSP	chicks	0	experimental
19	10	HOSP	chicks	1	control
20	10	HOSP	chicks	0	experimental

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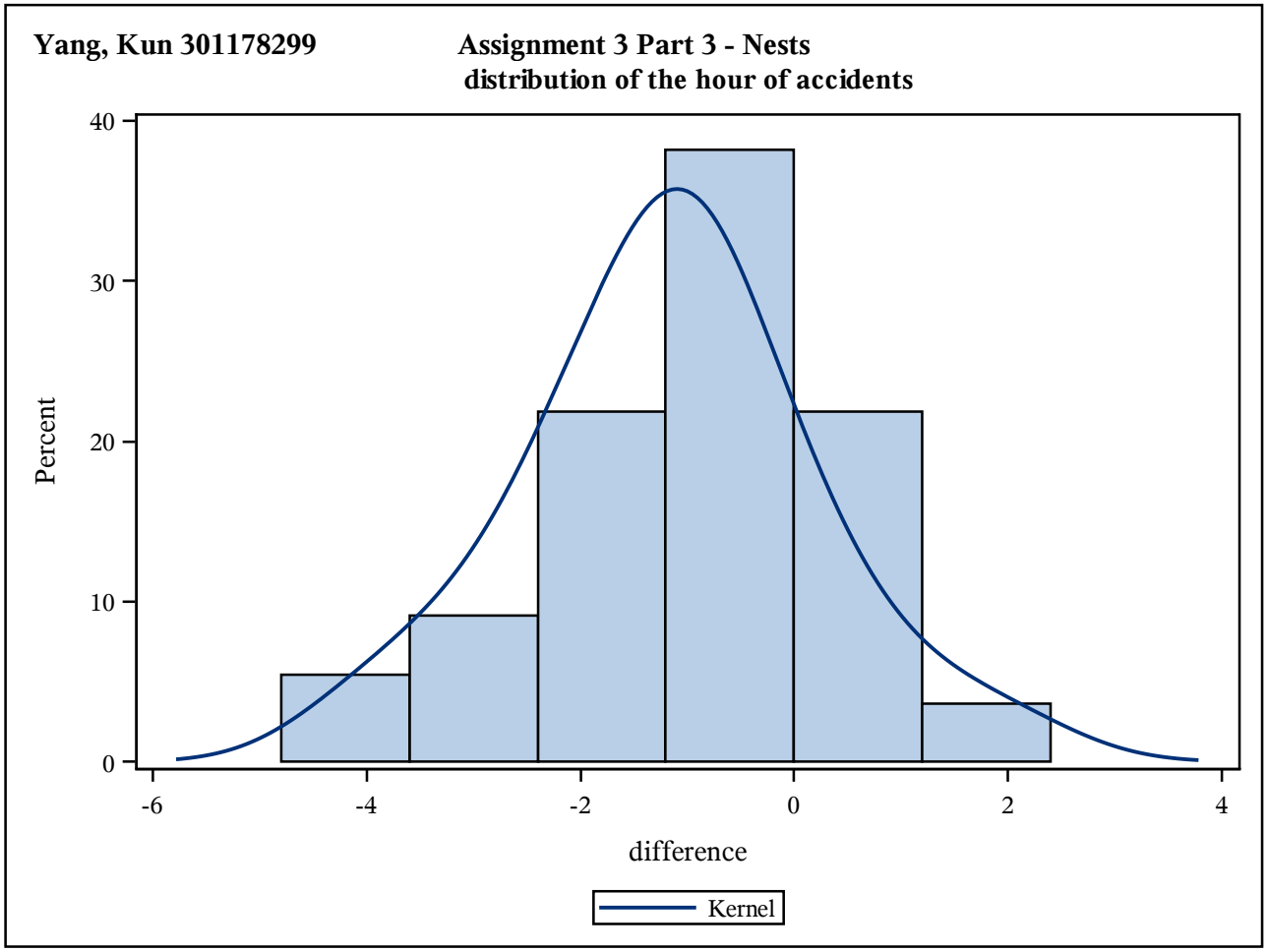
Assignment 3 Part 3 - Nests
the wide format data

Obs	Nest	_NAME_	_LABEL_	control	experimental
1	1	Number_of_mites	Number of mites	0	0
2	2	Number_of_mites	Number of mites	1	0
3	3	Number_of_mites	Number of mites	3	1
4	4	Number_of_mites	Number of mites	2	2
5	5	Number_of_mites	Number of mites	0	0
6	6	Number_of_mites	Number of mites	3	2
7	7	Number_of_mites	Number of mites	0	1
8	8	Number_of_mites	Number of mites	1	0
9	9	Number_of_mites	Number of mites	2	0
10	10	Number_of_mites	Number of mites	1	0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Assignment 3 Part 3 - Nests
distribution of the hour of accidents
Percent
40
30
20
10
0
-6
-4
-2
0
2
4
difference
Kernel

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Assignment 3 Part 3 - Nests
Univariate analysis

The UNIVARIATE Procedure
Variable: difference

Moments			
N	55	Sum Weights	55
Mean	-1.1818182	Sum Observations	-65
Std Deviation	1.33459536	Variance	1.78114478
Skewness	0.05492002	Kurtosis	0.34722933
Uncorrected SS	173	Corrected SS	96.1818182
Coeff Variation	-112.9273	Std Error Mean	0.1799568

Basic Statistical Measures			
Location		Variability	
Mean	-1.18182	Std Deviation	1.33460
Median	-1.00000	Variance	1.78114
Mode	-1.00000	Range	6.00000
		Interquartile Range	2.00000

Basic Confidence Limits Assuming Normality			
Parameter	Estimate	95% Confidence Limits	
Mean	-1.18182	-1.54261	-0.82103
Std Deviation	1.33460	1.12355	1.64401
Variance	1.78114	1.26236	2.70277

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	-6.56723	Pr > |t|	<.0001
Sign	M	-18	Pr >= |M|	<.0001
Signed Rank	S	-440	Pr >= |S|	<.0001

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Assignment 3 Part 3 - Nests
Univariate analysis

The UNIVARIATE Procedure
Variable: difference

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	2
99%	2
95%	1
90%	0
75% Q3	0
50% Median	-1
25% Q1	-2
10%	-3
5%	-4
1%	-4
0% Min	-4

Extreme Observations					
Lowest			**Highest**		
Value	**Nest**	**Obs**	**Value**	**Nest**	**Obs**
-4	56	54	1	7	7
-4	46	44	1	20	19
-4	28	26	1	40	38
-3	54	52	2	33	31
-3	47	45	2	39	37

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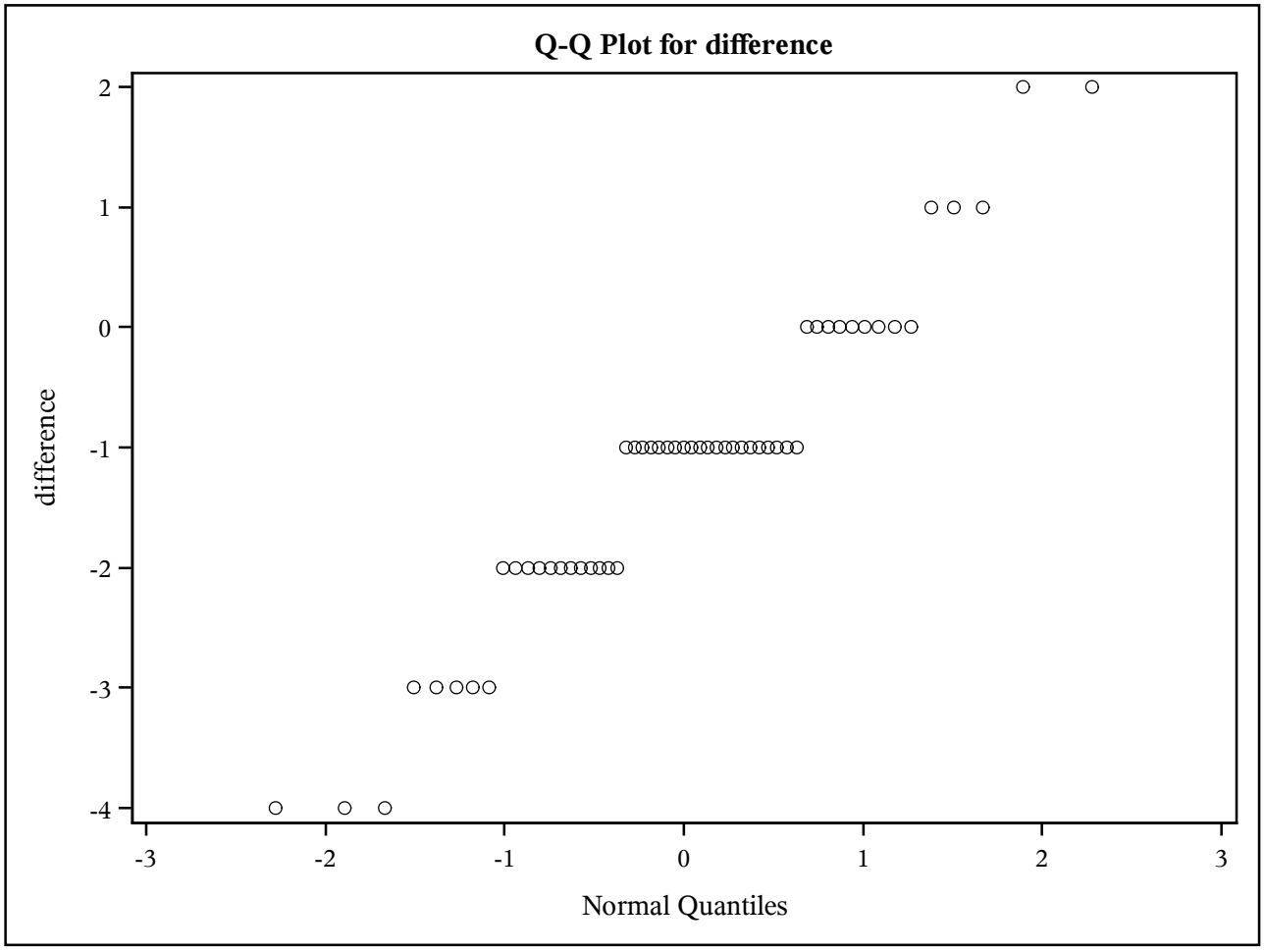
Assignment 3 Part 3 - Nests
Univariate analysis

The UNIVARIATE Procedure



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Assignment 3 Part 3 - Nests
Univariate analysis

Obs	VarName	Parameter	Estimate	LowerCL	UpperCL
1	difference	Mean	-1.18182	-1.54261	-0.82103
2	difference	Std Deviation	1.33460	1.12355	1.64401
3	difference	Variance	1.78114	1.26236	2.70277

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Assignment 3 Part 3 - Nests
Paired t-test analysis

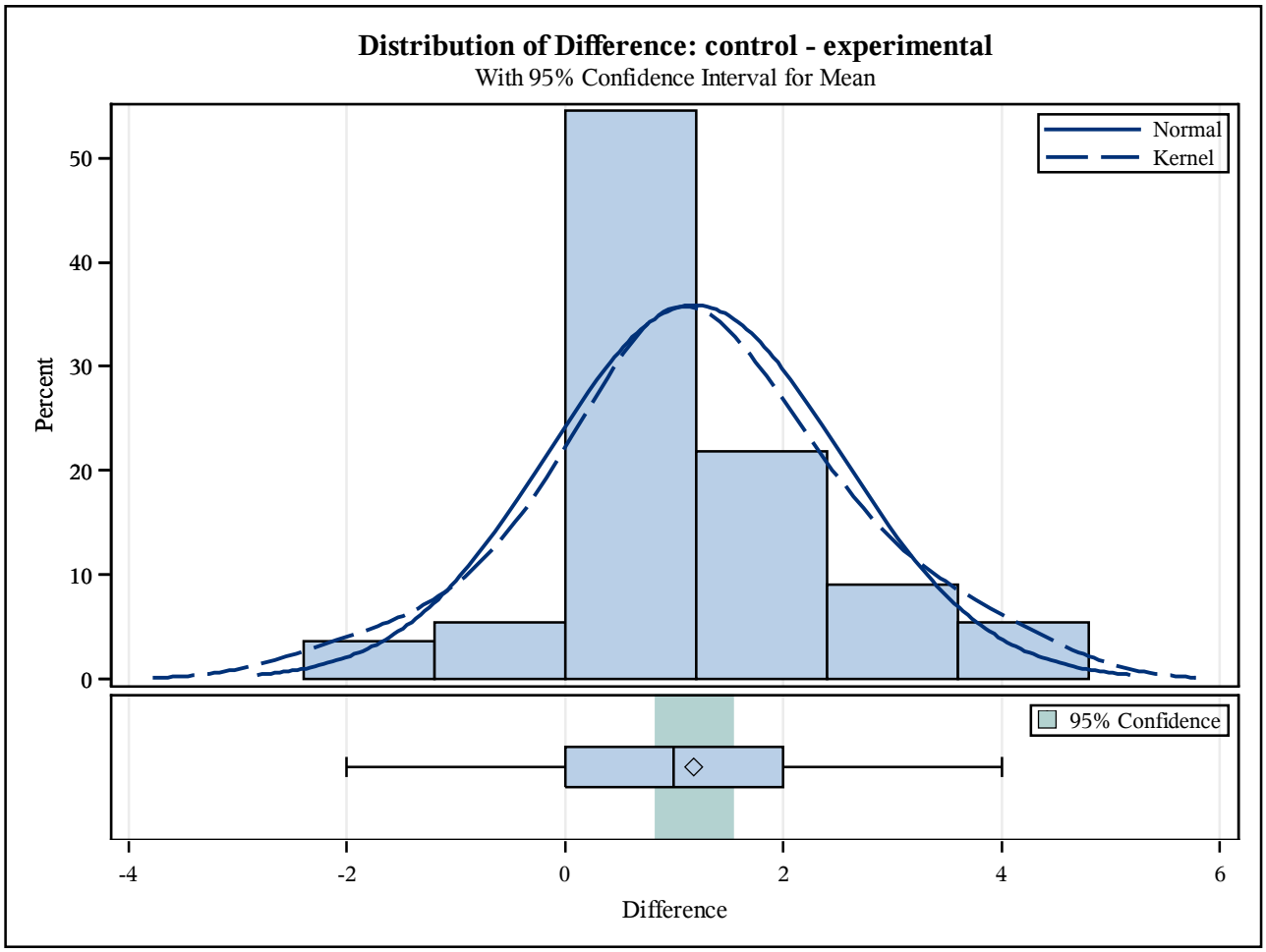
The TTEST Procedure

Difference: control - experimental

N	Mean	Std Dev	Std Err	Minimum	Maximum
55	1.1818	1.3346	0.1800	-2.0000	4.0000

Mean	95% CL Mean		Std Dev	95% CL Std Dev	
1.1818	0.8210	1.5426	1.3346	1.1235	1.6440

DF	t Value	Pr > |t|
54	6.57	<.0001



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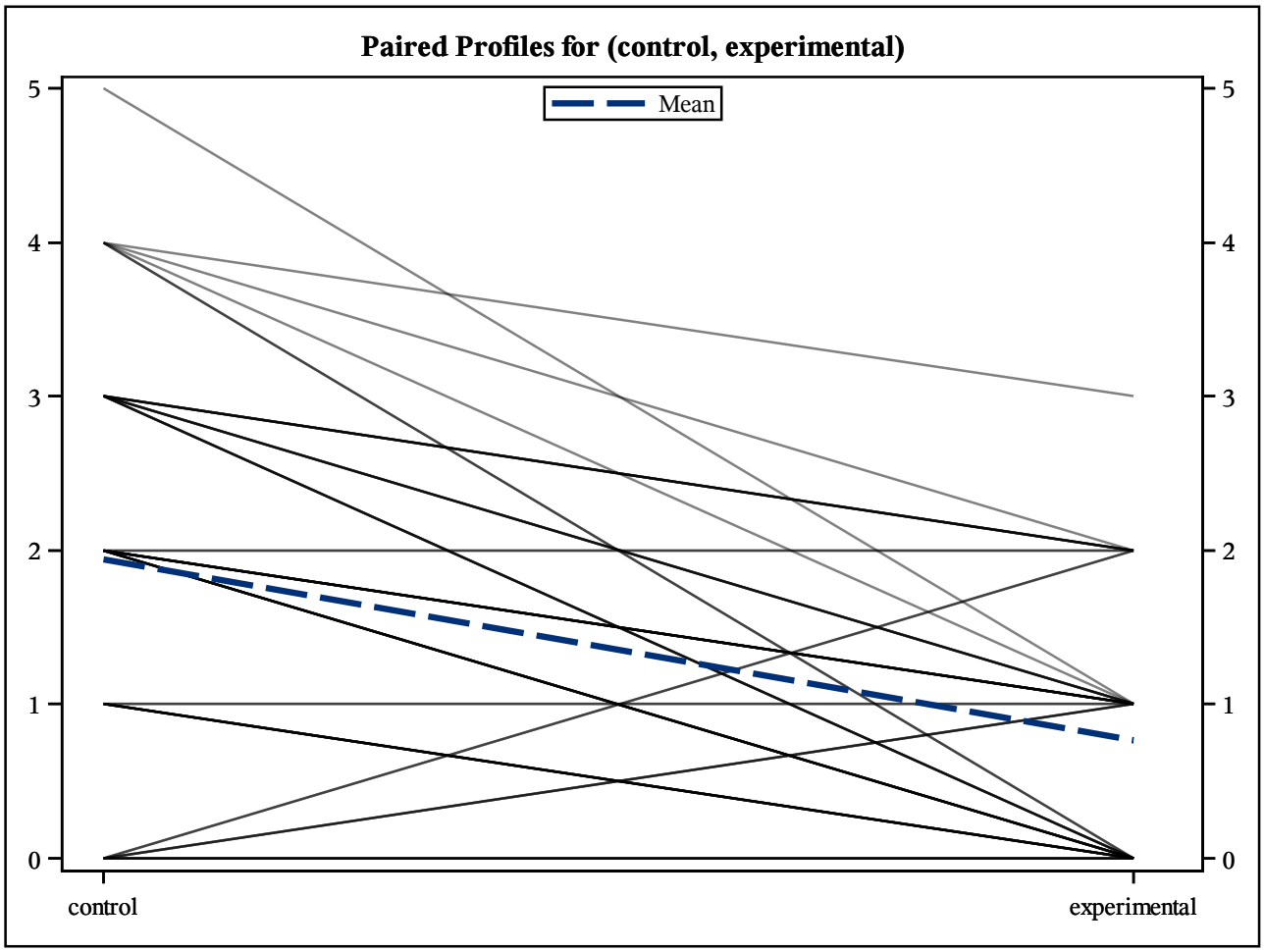
Assignment 3 Part 3 - Nests
Paired t-test analysis

The TTEST Procedure

Difference: control - experimental



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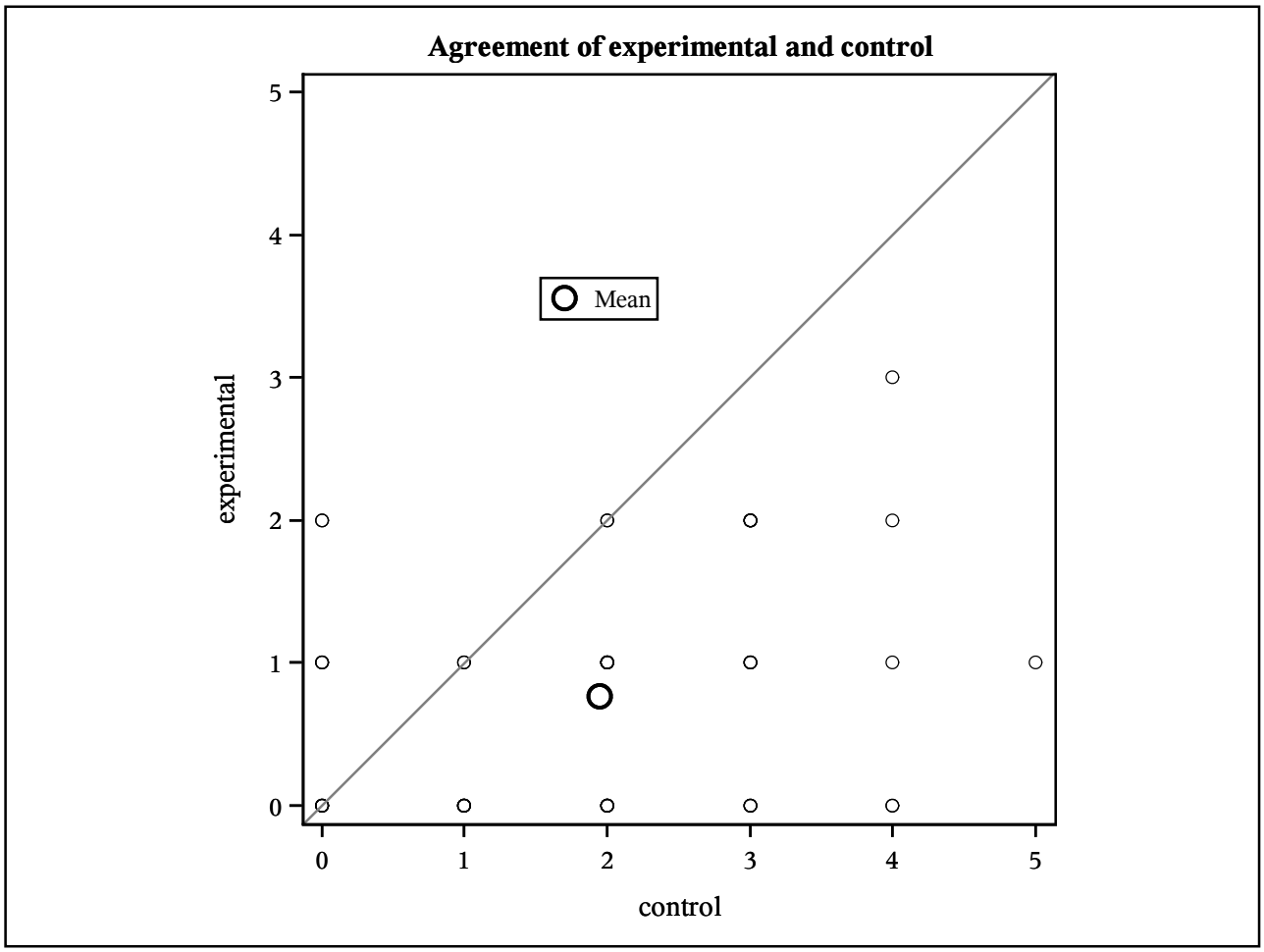
Assignment 3 Part 3 - Nests
Paired t-test analysis

The TTEST Procedure

Difference: control - experimental



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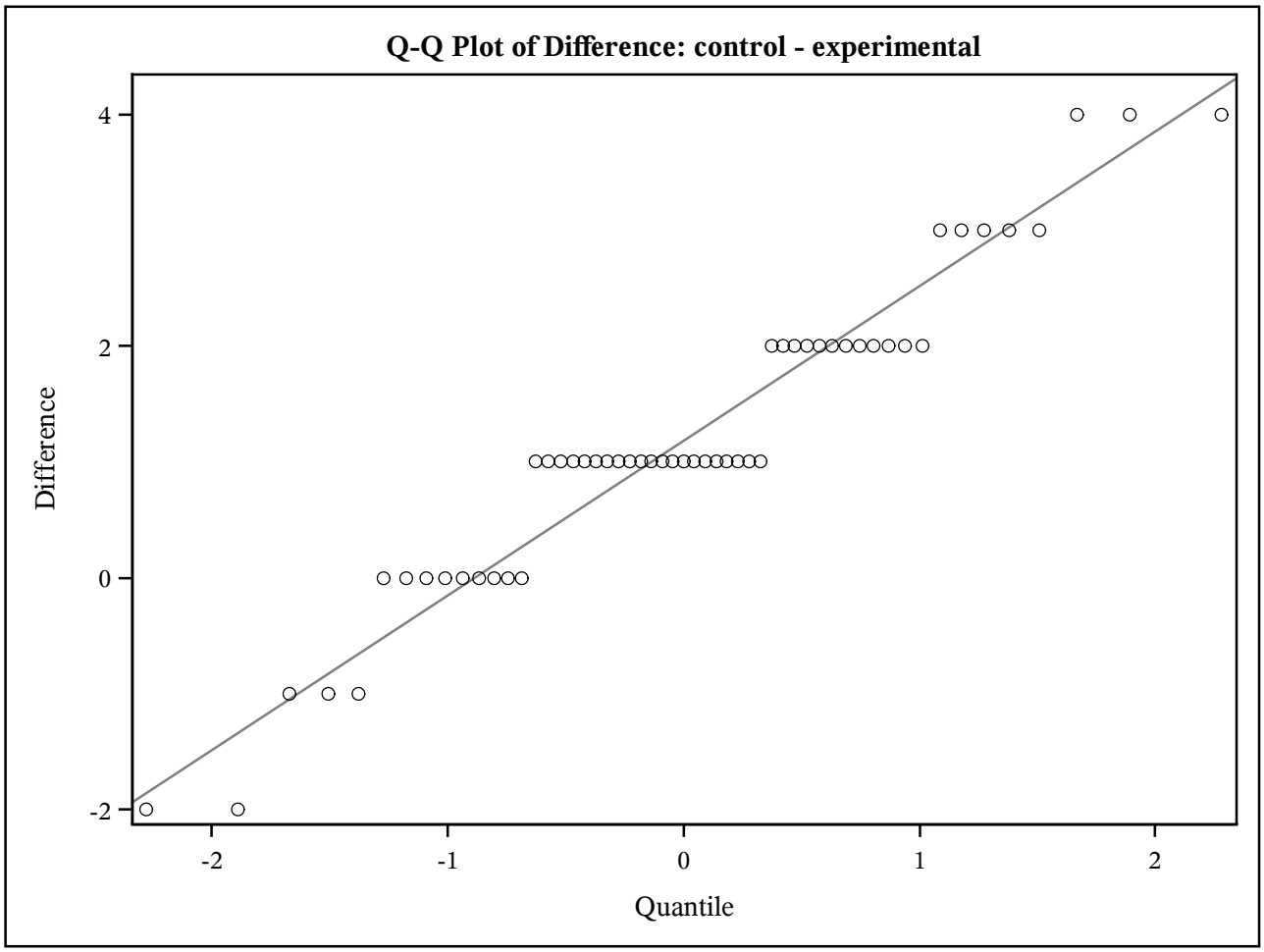
Assignment 3 Part 3 - Nests
Paired t-test analysis

The TTEST Procedure

Difference: control - experimental



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Assignment 3 Part 3 - Nests
GLM for RCB analysis

The GLM Procedure

Class Level Information		
Class	**Levels**	**Values**
Nest	55	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 20 21 22 23 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57
Treatment	2	control experimental

Number of Observations Read	114
Number of Observations Used	110

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Assignment 3 Part 3 - Nests
GLM for RCB analysis

The GLM Procedure

Dependent Variable: Number_of_mites Number of mites

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	55	117.0818182	2.1287603	2.39	0.0008
Error	54	48.0909091	0.8905724		
Corrected Total	109	165.1727273			

R-Square	Coeff Var	Root MSE	Number_of_mites Mean
0.708845	69.66923	0.943701	1.354545

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Nest	54	78.67272727	1.45690236	1.64	0.0366
Treatment	1	38.40909091	38.40909091	43.13	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Nest	54	78.67272727	1.45690236	1.64	0.0366
Treatment	1	38.40909091	38.40909091	43.13	<.0001

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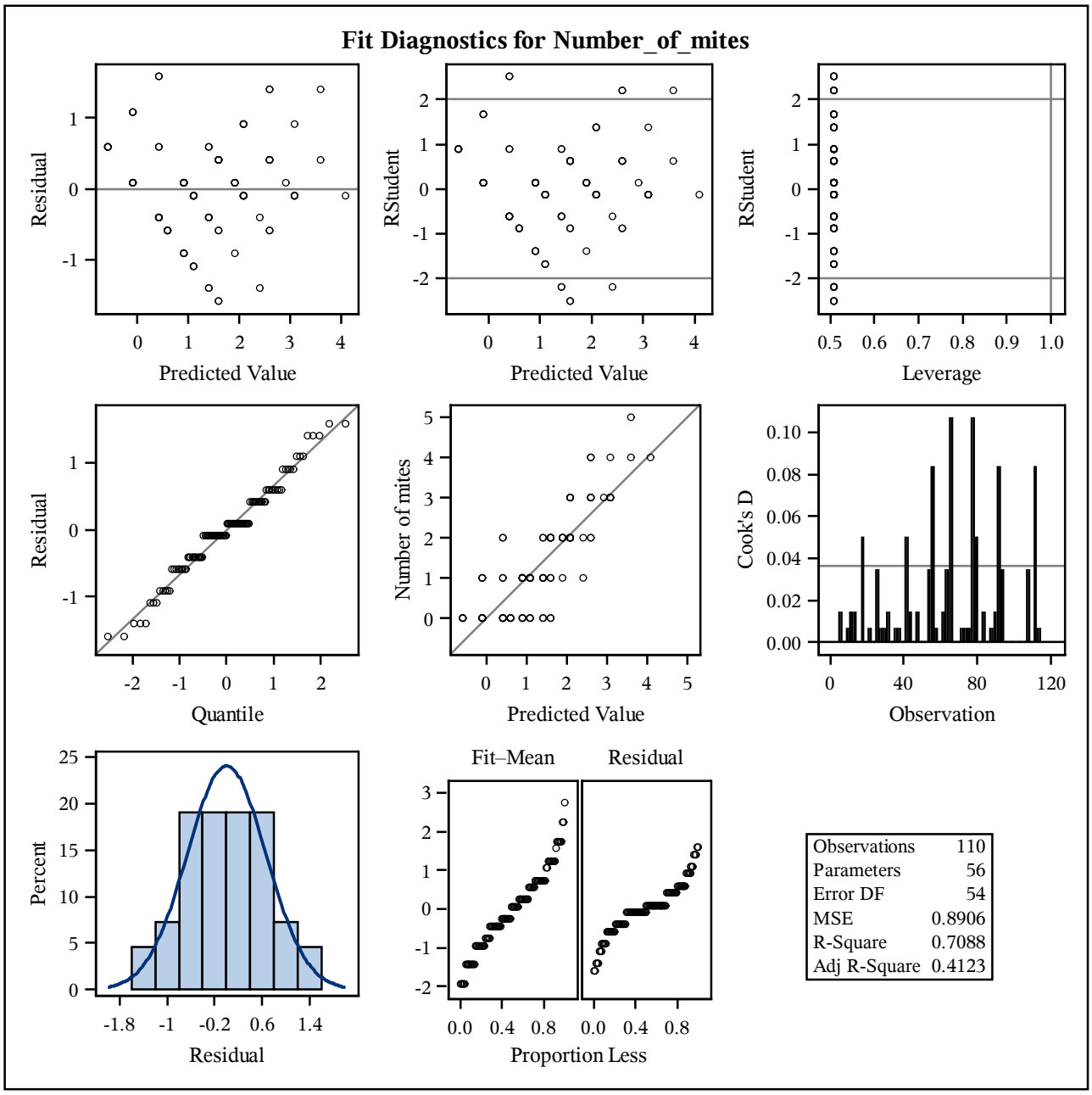
Assignment 3 Part 3 - Nests
GLM for RCB analysis

The GLM Procedure

Dependent Variable: Number_of_mites Number of mites



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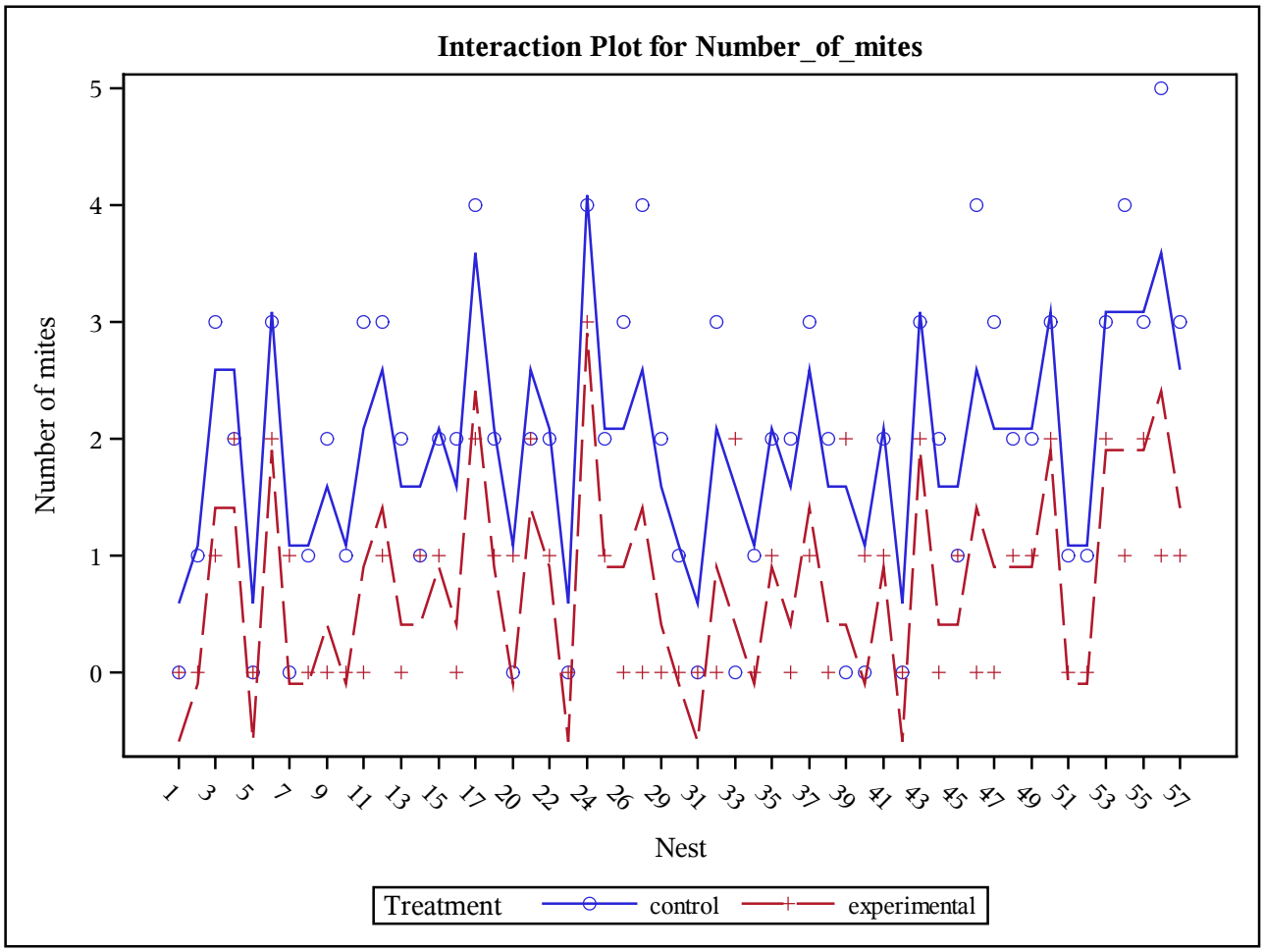
Assignment 3 Part 3 - Nests
GLM for RCB analysis

The GLM Procedure

Dependent Variable: Number_of_mites Number of mites



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Assignment 3 Part 3 - Nests
GLM for RCB analysis

The GLM Procedure
Least Squares Means
Adjustment for Multiple Comparisons: Tukey

Treatment	Number_of_mites LSMEAN	Standard Error	H0:LSMEAN=0 Pr > |t|	H0:LSMean1=LSMean2 Pr > |t|
control	1.94545455	0.12724867	<.0001	<.0001
experimental	0.76363636	0.12724867	<.0001	

Treatment	Number_of_mites LSMEAN	95% Confidence Limits	
control	1.945455	1.690336	2.200573
experimental	0.763636	0.508518	1.018755

Least Squares Means for Effect Treatment				
i	j	Difference Between Means	Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)	
1	2	1.181818	0.821041	1.542595

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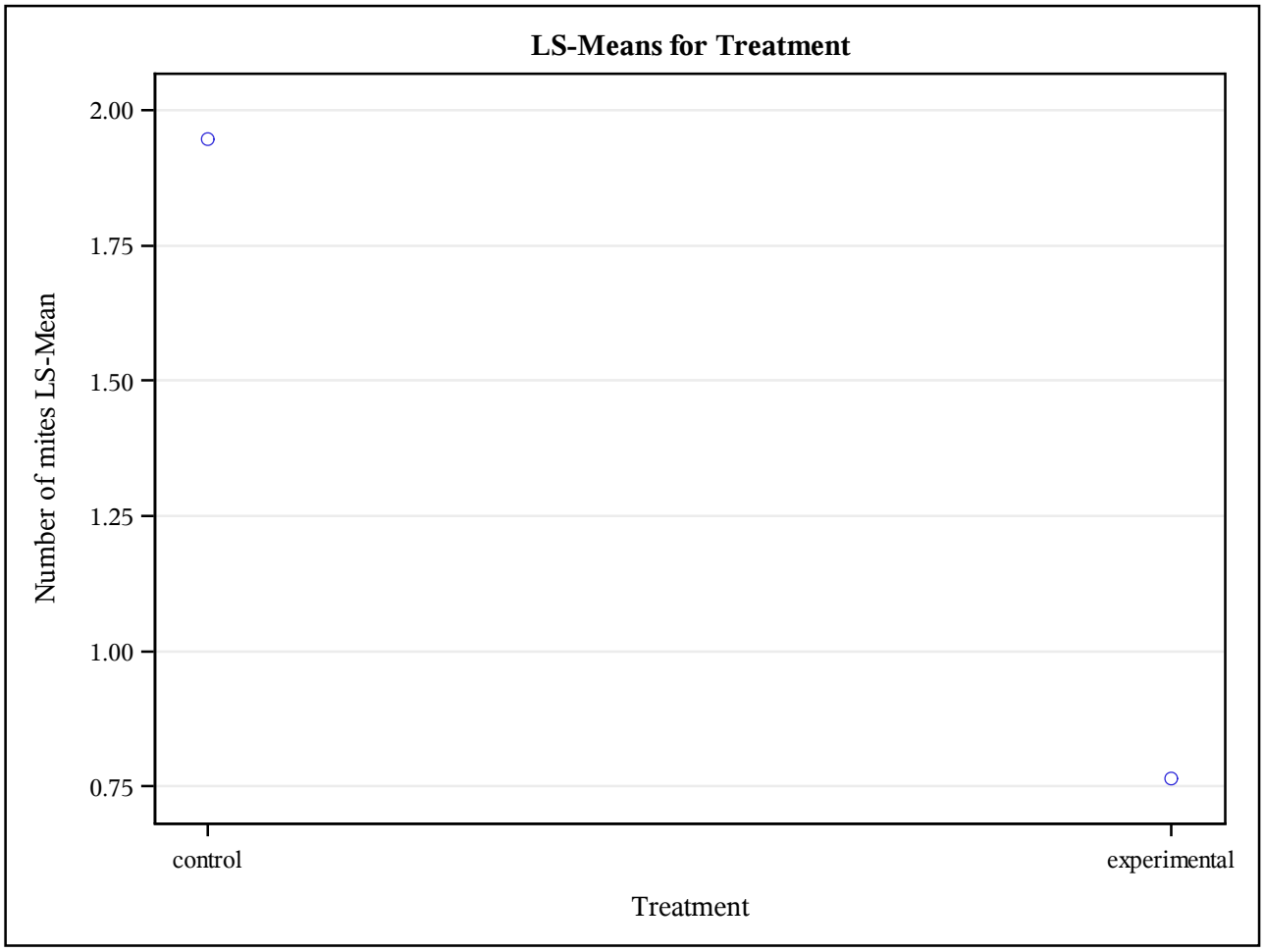
Assignment 3 Part 3 - Nests
GLM for RCB analysis

The GLM Procedure
Least Squares Means
Adjustment for Multiple Comparisons: Tukey



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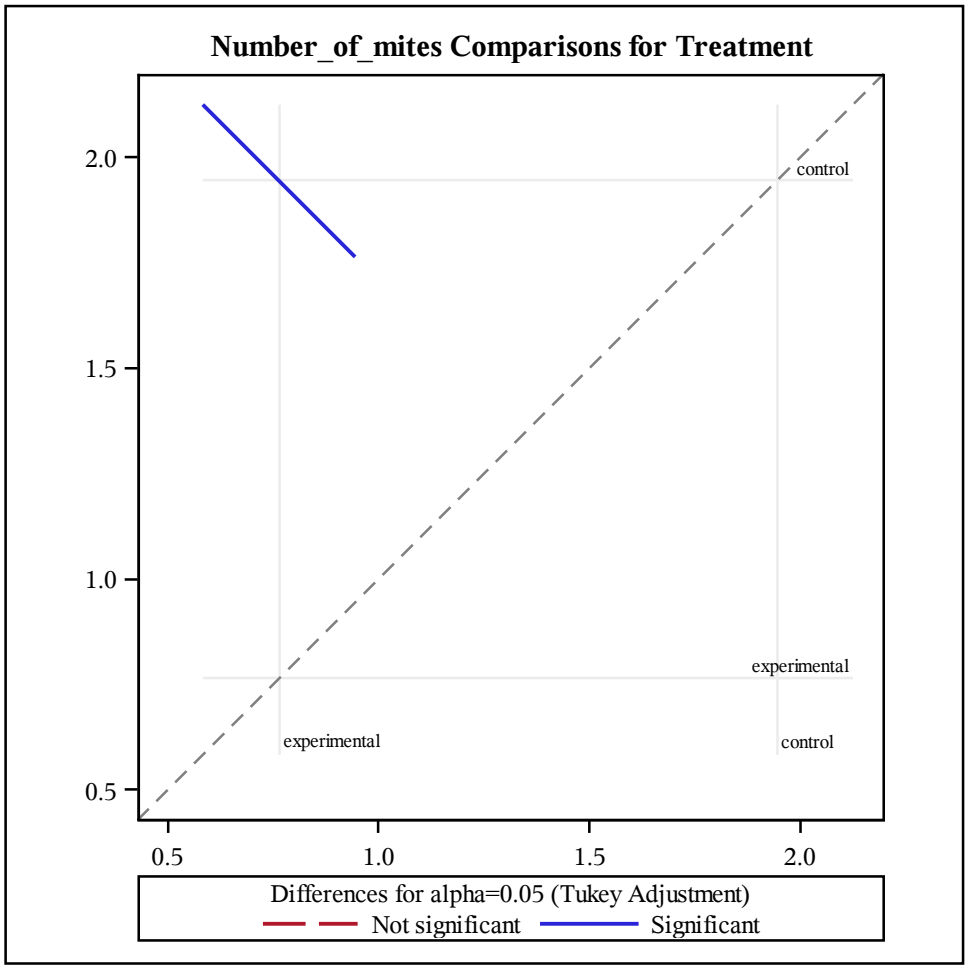
Assignment 3 Part 3 - Nests
GLM for RCB analysis

The GLM Procedure
Least Squares Means
Adjustment for Multiple Comparisons: Tukey



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Assignment 3 Part 3 - Nests
part of the merged data

Obs	Nest	Species	Nest_content	Butts_weight	Number_of_mites
1	1	HOSP	empty	6.13	4
2	2	HOSP	empty	3.73	30
3	3	HOSP	eggs	0.06	84
4	4	HOSP	eggs	8.3	2
5	5	HOSP	eggs	0	12
6	6	HOSP	chicks	1.23	7
7	7	HOSP	chicks	1.03	10
8	8	HOSP	empty	0	44
9	9	HOSP	chicks	2.4	16
10	10	HOSP	chicks	0.35	32

Obs	_NAME_	_LABEL_	control	experimental	difference
1	Number_of_mites	Number of mites	0	0	0
2	Number_of_mites	Number of mites	1	0	-1
3	Number_of_mites	Number of mites	3	1	-2
4	Number_of_mites	Number of mites	2	2	0
5	Number_of_mites	Number of mites	0	0	0
6	Number_of_mites	Number of mites	3	2	-1
7	Number_of_mites	Number of mites	0	1	1
8	Number_of_mites	Number of mites	1	0	-1
9	Number_of_mites	Number of mites	2	0	-2
10	Number_of_mites	Number of mites	1	0	-1

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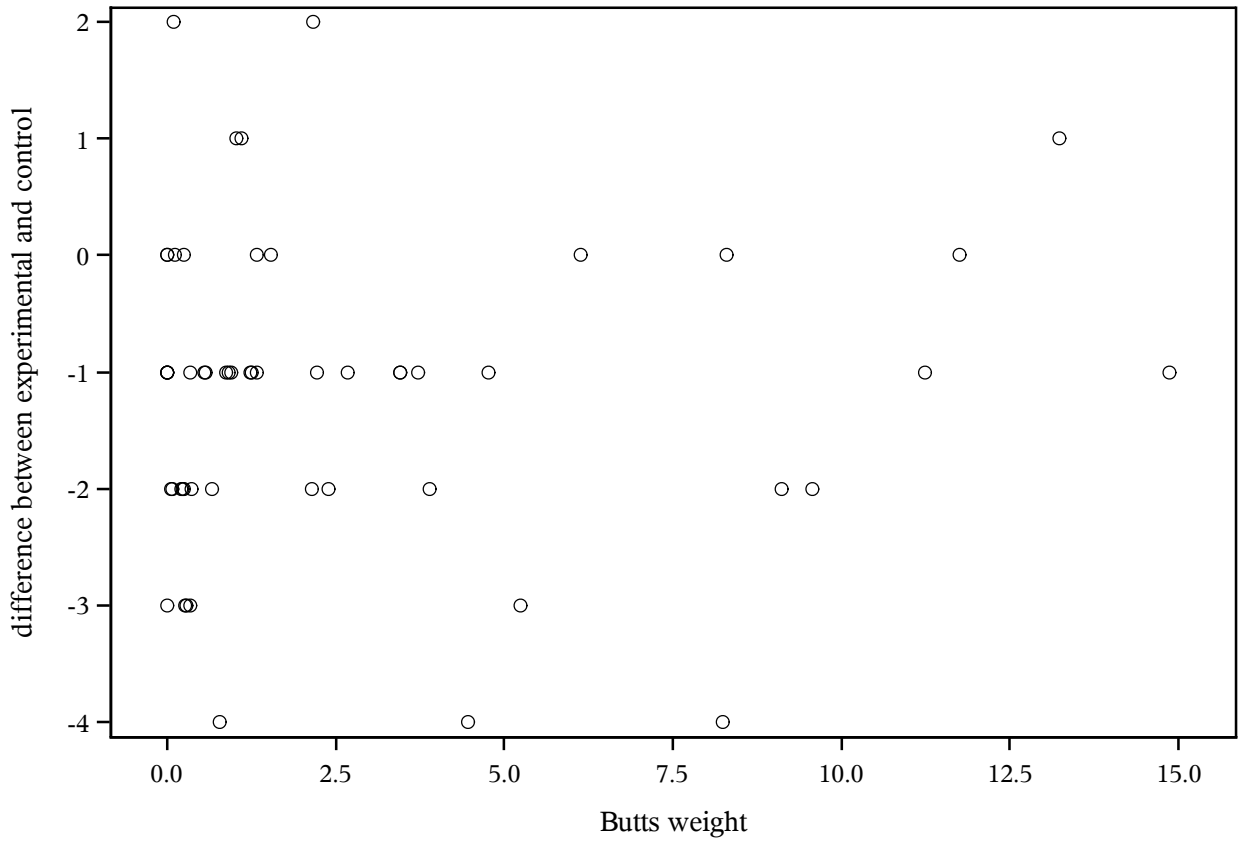
scatterplot of the difference vs. the weight of butts



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regression of the difference in the number of ectoparasites attracted vs butt weight

The REG Procedure
Model: MODEL1
Dependent Variable: difference

Number of Observations Read	57
Number of Observations Used	55
Number of Observations with Missing Values	2

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.20587	0.20587	0.11	0.7373
Error	53	95.97595	1.81087		
Corrected Total	54	96.18182			

Root MSE	1.34568	**R-Square**	0.0021
Dependent Mean	-1.18182	**Adj R-Sq**	-0.0167
Coeff Var	-113.86562		

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	-1.22655	0.22478	-5.46	<.0001
Butts_weight	Butts weight	1	0.01639	0.04862	0.34	0.7373

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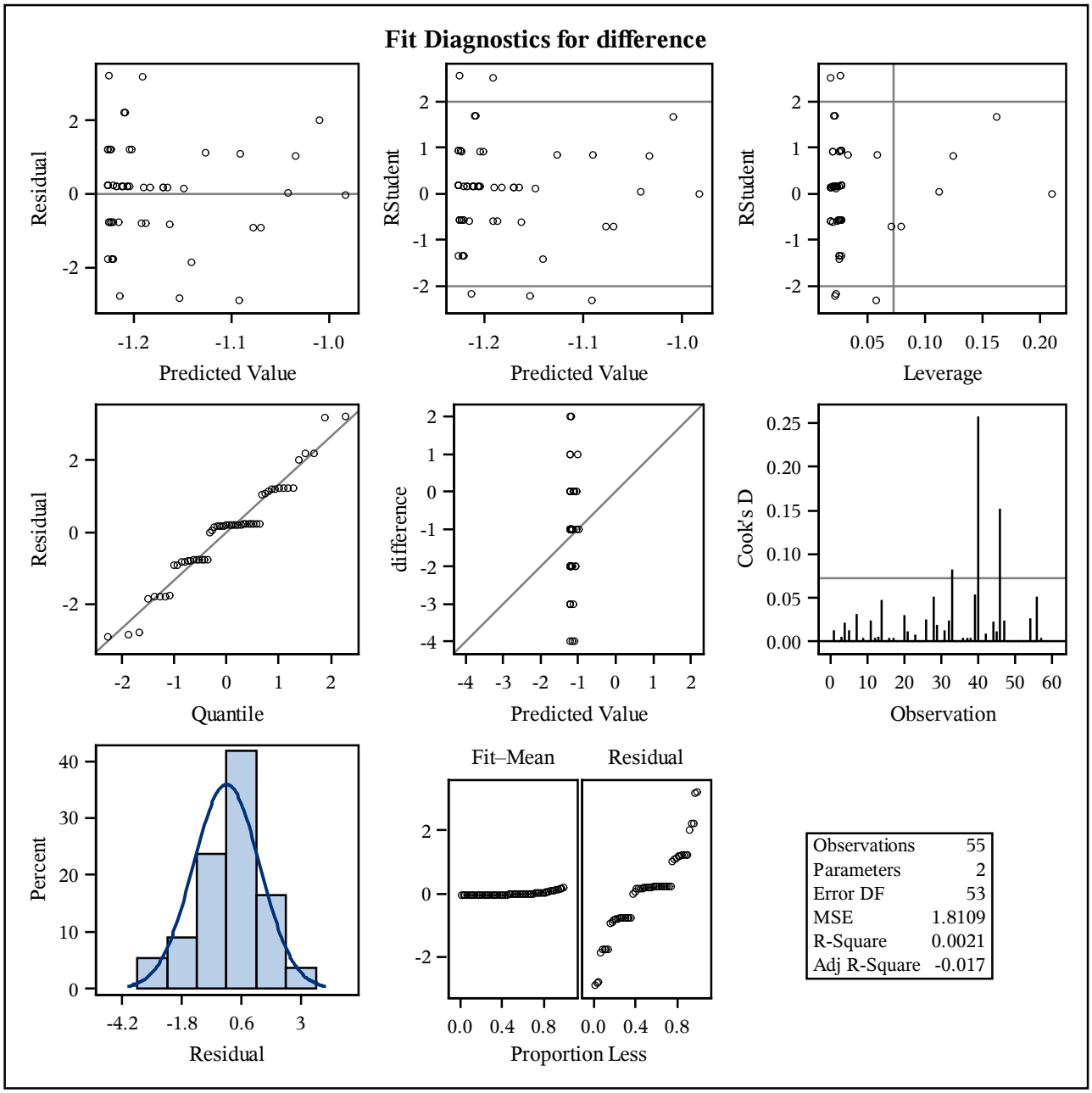
regression of the difference in the number of ectoparasites attracted vs butt weight

The REG Procedure
Model: MODEL1
Dependent Variable: difference



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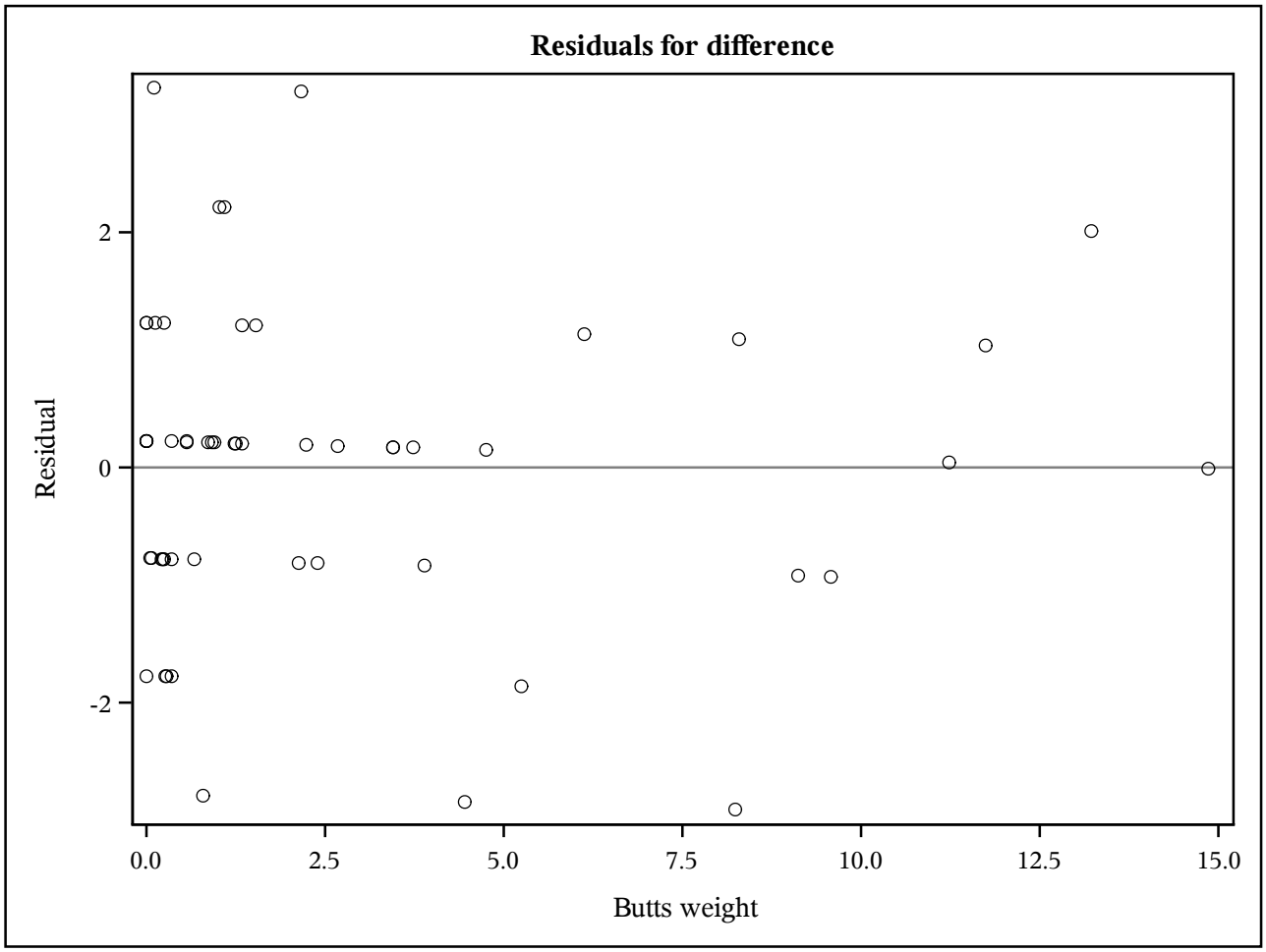
regression of the difference in the number of ectoparasites attracted vs butt weight

The REG Procedure
Model: MODEL1
Dependent Variable: difference



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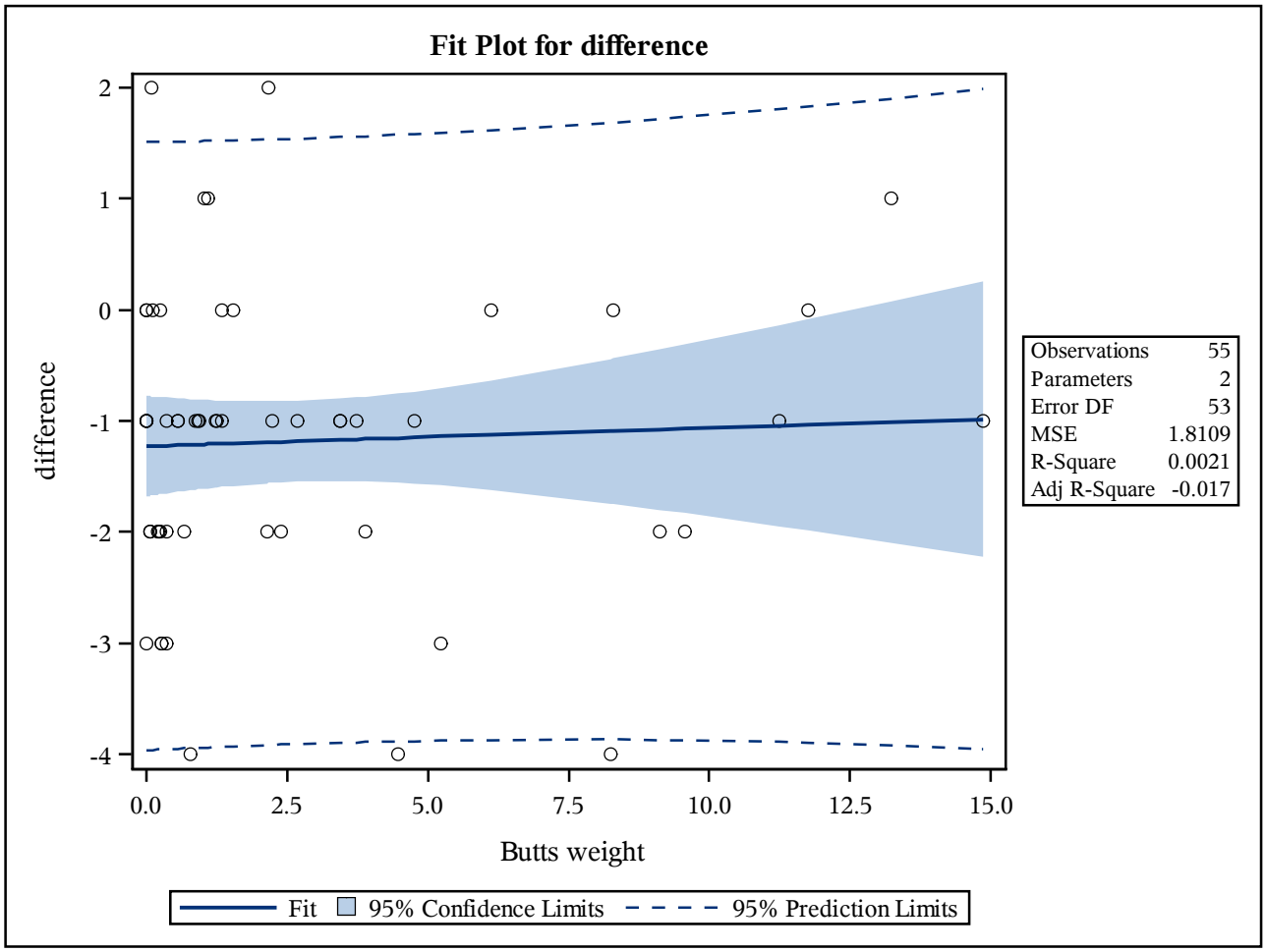
regression of the difference in the number of ectoparasites attracted vs butt weight

The REG Procedure
Model: MODEL1
Dependent Variable: difference



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regression of the difference in the number of ectoparasites attracted vs butt weight

Obs	Nest	Species	Nest_content	Butts_weight	Number_of_mites	_NAME_	_LABEL_
1	1	HOSP	empty	6.13	4	Number_of_mites	Number of mites
2	2	HOSP	empty	3.73	30	Number_of_mites	Number of mites
3	3	HOSP	eggs	0.06	84	Number_of_mites	Number of mites
4	4	HOSP	eggs	8.3	2	Number_of_mites	Number of mites
5	5	HOSP	eggs	0	12	Number_of_mites	Number of mites
6	6	HOSP	chicks	1.23	7	Number_of_mites	Number of mites
7	7	HOSP	chicks	1.03	10	Number_of_mites	Number of mites
8	8	HOSP	empty	0	44	Number_of_mites	Number of mites
9	9	HOSP	chicks	2.4	16	Number_of_mites	Number of mites
10	10	HOSP	chicks	0.35	32	Number_of_mites	Number of mites

Obs	control	experimental	difference	estmean	lclm	uclm
1	0	0	0	-1.12607	-1.61846	-0.63368
2	1	0	-1	-1.16541	-1.54222	-0.78860
3	3	1	-2	-1.22557	-1.67299	-0.77814
4	2	2	0	-1.09050	-1.74439	-0.43661
5	0	0	0	-1.22655	-1.67740	-0.77570
6	3	2	-1	-1.20639	-1.59859	-0.81419
7	0	1	1	-1.20967	-1.60954	-0.80979
8	1	0	-1	-1.22655	-1.67740	-0.77570
9	2	0	-2	-1.18721	-1.55257	-0.82185
10	1	0	-1	-1.22081	-1.65240	-0.78923

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Fitted regression line of the difference in the number of ectoparasites attracted vs butt weight