

University of Dundee

DOCTOR OF PHILOSOPHY

**Clinical Competency in Oral Surgery
History, Challenges and Solutions**

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RAW DATA

Raw Data 3.0

Collation of Oral Surgery OSCE data for 3rd BDS 2012-2013

PART 1	PART 2	TOTAL	GLOBAL		PART 1	PART 2	TOTAL	GLOBAL
6	24	30	E		6	24	30	E
5	24	29	E		6	24	29	E
5	24	29	E		6	24	29	E
5	24	29	E		6	24	29	E
5	23	28	E		6	24	29	E
4	24	28	E		6	24	29	E
6	23	29	G		6	24	28	G
5	24	29	G		6	23	28	G
6	22	28	G		6	23	28	G
6	22	28	G		6	23	28	G
4	24	28	G		6	22	28	G
6	22	28	G		6	22	28	G
5	22	27	G		6	22	27	G
6	21	27	G		6	22	27	G
6	21	27	G		6	22	27	G
6	21	27	G		6	22	27	G
4	23	27	G		6	22	27	G
5	22	27	G		6	22	27	G
6	21	27	G		6	22	27	G
6	21	27	G		5	22	27	G
6	21	27	G		5	21	27	G
5	22	27	G		5	21	27	G
5	21	26	G		5	21	26	G
4	22	26	G		5	21	26	G
5	21	26	G		5	21	26	G
4	22	26	G		5	21	26	G
4	22	26	G		5	21	26	G
4	21	25	G		5	21	26	G
4	21	25	G		5	21	25	G
4	21	25	G		5	21	25	G
4	21	25	G		5	21	25	G
3	22	25	G		5	21	25	G
5	19	24	G		5	21	25	G
4	21	24	G		5	21	25	G
3	21	24	G		5	21	25	G
1	21	22	G		5	21	25	G
6	18	24	G		4	20	24	G
5	21	26	S		4	20	24	S
6	19	25	S		4	20	24	S
5	20	25	S		4	19	24	S
6	19	25	S		4	19	24	S
4	20	24	S		4	19	24	S
5	19	24	S		4	19	24	S
6	18	24	S		4	19	24	S
5	19	24	S		4	19	24	S
5	19	24	S		4	19	24	S
4	20	24	S		4	19	24	S
6	18	24	S		4	19	23	S
6	17	23	S		4	19	23	S
4	19	23	S		4	18	23	S
4	19	23	S		4	18	23	S
4	19	23	S		4	18	22	S
3	19	22	S		4	18	22	S
4	18	22	S		4	18	22	S
3	18	21	S		4	18	22	S
4	16	20	S		4	17	22	S
2	17	19	S		3	17	21	S
6	16	22	B		3	16	20	S
6	14	20	B		3	15	19	B
4	14	18	B		2	14	18	B
5	13	18	B		1	14	18	B
1	15	16	B		1	13	16	B
PART 1	PART 2	TOTAL	GLOBAL		PART 1	PART 2	TOTAL	GLOBAL

Raw Data 3.1

Collation of Oral Surgery OSCE – Surgical Dentistry – data for 4th BDS 2013-2014

2014	Surg Dent		
4BDS OSCE	class		
Foreps &	MPP		
arranged by		arranged by	
GLOBAL	score	global	SCORE
1	4	1	4
1	4	1	4
1	4	1	4
1	4	1	4
2	9	2	4
2	6	2	4
2	7	2	6
2	7	2	7
2	7	2	7
2	4	2	7
2	7	2	7
2	8	2	7
2	7	2	7
2	7	2	7
2	7	2	8
2	4	2	8
2	9	3	8
2	8	3	8
2	10	3	8
3	10	3	8
3	9	2	9
3	10	2	9
3	9	3	9
3	8	3	9
3	9	3	9
3	10	3	9
3	9	3	9
3	8	3	9
3	9	3	9
3	9	3	9
3	9	4	9
3	10	2	10
3	12	3	10
3	9	3	10
3	8	3	10
3	12	3	10
3	8	3	10
3	10	4	10
4	13	4	10
4	10	4	10
4	11	4	10
4	12	4	10
4	12	4	10
4	12	4	10
4	10	4	11
4	10	4	11
4	13	4	11
4	13	4	11
4	12	3	12
4	12	3	12
4	11	4	12
4	12	4	12
4	12	4	12
4	10	4	12
4	10	4	12
4	13	4	12
4	9	4	12
4	14	4	12
4	11	5	12
4	10	4	13
4	10	4	13
4	11	4	13
4	12	4	13
5	12	4	14

Raw Data 3.2

Extraction data for the clinical session for 3BDS 1999 - 2000

3BDS Clinical data Xns														
1999 - 2000														
STUDENT	B	L	C	P	TOTAL	SHO	OTHER	SCOT	pass 1	pass 2	pass 3	pass4	fail	
1	1	4	8	0	18	5	2	Y1	1					
2	1	3	5	0	14	5	6	Y2		1				
3	2	4	1	0	9	2	7	Y1	1					
4	3	5	9	1	22	4	7	Y1	1					
5	1	2	6	3	16	4	5	Y1	1					
6	1	3	11	0	26	11	1	Y3			1			
7	0	4	1	0	21	16	7	Y2		1				
8	0	4	7	0	13	2	2	Y1	1					
9	0	4	7	2	15	2	9	Y1	1					
10	1	4	9	0	19	5	2	Y1	1					
11	10	5	9	0	27	3	8	N2					1	
12	2	0	6	0	14	6	2	Y2		1				
13	1	4	5	0	11	1	3	Y2		1				
14	0	4	5	0	15	6	2	Y3			1			
15	0	6	5	1	18	6	8	Y1	1					
16	2	3	3	0	9	1	4	Y2		1				
17	2	1	0	1	7	3	1	Y1	1					
18	1	3	6	3	15	2	4	Y1	1					
19	0	6	5	0	15	4	5	Y2		1				
20	0	6	4	0	22	12	5	Y1	1					
21	3	4	1	0	14	6	2	Y1	1					
22	4	1	12	1	20	2	5	Y1	1					
23	0	6	4	1	11	2	8	Y1	1					
24	3	6	0	0	12	3	6	N3					1	
25	0	10	6	0	17	1	6	N3					1	
26	0	7	0	0	10	3	2	Y1	1					
27	0	2	11	0	21	8	3	Y1	1					
28	1	4	0	0	10	5	5	N2					1	
29	1	7	6	1	18	3	6	Y4				1		
30	0	2	10	0	15	3	6	Y2		1				
31	2	4	7	0	19	6	2	Y1	1					
32	2	0	0	1	11	8	8	N1					1	
33	0	6	11	5	27	5	11	Y1	1					
34	1	3	0	0	6	2	4	Y4				1		
35	1	1	4	0	18	8	5	N5					1	
36	1	1	5	2	13	4	4	Y1	1					
37	1	7	10	2	21	1	5	Y1	1					
38	1	5	5	2	14	1	6	Y1	1					
39	1	3	2	0	14	8	2	Y1	1					
40	0	2	7	1	16	6	5	Y1	1					
41	2	1	10	1	14	0	7	Y1	1					
42	1	5	8	1	17	2	5	N1					1	
43	0	5	6	0	15	4	6	Y1	1					
44	0	6	5	0	13	2	8	Y1	1					
45	1	1	8	2	15	3	4	Y1	1					
46	3	2	5	5	17	2	4	N3					1	
46	3	2	12	2	21	2	5	Y1	1					
48	15	2	9	1	34	6	3	Y1	1					
49	0	4	6	0	13	3	5	Y2		1				
					792				29	8	2	2	8	49
					16.5				60	16	4	4	16	100

Raw Data 3.3**Inter and Intra-observer Variation for Video Scoring 3rd and 4th Year**

ASSESSOR	VIDEO 1	VIDEO 2	VIDEO 3	VIDEO 4	VIDEO 5	VIDEO 6
Assessor 6 INTRA	84	100	78	81	100	88
INTER 6	96	96	96	94	96	96
Assessor 8 INTRA	100	100	94	94	94	90
INTER 8	100	93	96	100	93	100
Assessor 11 INTRA	85	93	94	100	100	94
INTER 11	85	87	85	97	94	89
Assessor 12 INTRA	97	94	86	86	89	97
INTER 12	97	93	100	82	82	100
Assessor 14 INTRA	89	92	82	94	92	92
INTER 14	97	91	88	97	85	93
Assessor 16 INTRA	86	91	77	73	87	85
INTER 16	97	96	63	61	79	84
Assessor 17 INTRA	85	81	89	78	86	94
INTER 17	85	82	87	81	82	97

Raw Data 3.4

Inter and Intra assessor percentage score for checklist marking videos 1-6 t test results for daily group marking scores for surgical OSCE 2012.

P value and statistical significance: The two-tailed P value equals 0.6046 . <i>By conventional criteria, this difference is considered to be not statistically significant.</i> Confidence interval: The mean of Group One minus Group Two equals 1.39 95% confidence interval of this difference: From -3.94 to 6.73 Intermediate values used in calculations: $t = 0.5198$ $df = 81$ standard error of difference = 2.681		
Group	Group One	Group Two
Mean	89.54	88.14
SD	6.90	15.76
SEM	1.08	2.43
N	41	42

Raw Data 3.5**Intra assessor variability when marking test videos with standard checklist.**

P value and statistical significance:

The two-tailed P value equals 0.7248

By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:

The mean of Group One minus Group Two equals 0.63

95% confidence interval of this difference: From -2.91 to 4.16

Intermediate values used in calculations:

$t = 0.3532$

$df = 81$

standard error of difference = 1.776

Group	Group One	Group Two
Mean	90.29	89.79
SD	8.97	7.07
SEM	1.38	1.10
N	42	42

By conventional criteria, this difference is considered to be not statistically significant.

Raw Data 5.0**Suture OSCE 2011**

ANOVA analysis – comes from a Gaussian curve – normal

Labels	Monday	Tuesday	Wednesday	Thursday	Friday
Min	9	4	11	9	10
Q ₁	10.75	9.75	12	10.5	11
Median	12	12	12.5	11	12
Q ₃	13.25	13	13.25	12.5	13
Max	15	15	15	15	15
IQR	2.5	3.25	1.25	2	2
Upper Outliers	0	0	0	0	0
Lower Outliers	0	1	0	0	0
Data Table	Monday	Tuesday	Wednesday	Thursday	Friday
	10	11	15	14	15
	9	12	12	13	12
	12	13	15	12	15
	13	13	11	11	10
	13	15	11	9	11
	12	11	13	11	13
	14	13	12	12	12
	15	12	13	10	13
	14	9	12	11	11
	11	9	14	9	12
	12	10	12	15	13
	13	12	12	11	10
	10	12	13	13	12
	12	14	11	12	14
	14	9	15	9	10
	10	4	13		

Raw Data 5.1**Inter-examiner variable 2011 for suture OSCE**

One-way Analysis of Variance (ANOVA)

The P value is 0.2261, considered not significant.

Variation among column means is not significantly greater than expected by chance.

ANOVA assumes that the data are sampled from populations with identical SDs. This assumption is tested using the method of Bartlett.

Bartlett statistic (corrected) = 5.268

The P value is 0.2609.

Bartlett's test suggests that the differences among the SDs is not significant

ANOVA assumes the data sampled from Gaussian distributions; tested using

Kolmogorov and Smirnov's method.

Group KS P Value Passed normality test?

Column A	0.1590	>0.10	Yes
Column B	0.1846	>0.10	Yes
Column C	0.1593	>0.10	Yes
Column D	0.1352	>0.10	Yes
Column E	0.1481	>0.10	Yes

Intermediate calculations. ANOVA table and Summary of Data

Source of Variation	Degrees of freedom	Sum of squares	Mean square
Treatments (between columns)	4	21.468	5.367

Residuals (within columns)	73	270.07	3.700
Total	77	291.54	
F = 1.451 = (MS treatment / MS residual)			

Group	Number of Points	Standard Mean	Standard Deviation	Error of Mean	Median
Column A	16	12.125	1.746	0.4366	12.000
Column B	16	11.188	2.613	0.6533	12.000
Column C	16	12.625	1.586	0.3966	12.500
Column D	15	11.467	1.807	0.4667	11.000
Column E	15	12.200	1.656	0.4276	12.000

95% Confidence Interval				
Group	Minimum	Maximum	From	To
Column A	9.000	15.000	11.195	13.055
Column B	4.000	15.000	9.795	12.580
Column C	10.000	15.000	11.780	13.470
Column D	9.000	15.000	10.466	12.468
Column E	10.000	15.000	11.283	13.117

Raw Data 5.2**Summary for 2011 Suture OSCE**

	Group A	Group B	Group C	Group D	Group E
Col. title					
Mean	12.125	11.1875	12.625	11.4666666667	12.2
Standard deviation (SD)	1.7464	2.6133	1.5864	1.8074	1.6562
Sample size (N)	16	16	16	15	15
Std. error of mean (SEM)	0.43661	0.65332	0.39660	0.46667	0.42762
Lower 95% conf. limit	11.195	9.7953	11.780	10.466	11.283
Upper 95% conf. limit	13.055	12.580	13.470	12.468	13.117
Minimum	9.0000	4.0000	10.0000	9.0000	10.0000
Median (50th percentile)	12.000	12.000	12.500	11.000	12.000
Maximum	15.000	15.000	15.000	15.000	15.000
Normality test KS	0.1590	0.1846	0.1593	0.1352	0.1481
Normality test P value	>0.10	>0.10	>0.10	>0.10	>0.10
Passed normality test?	Yes	Yes	Yes	Yes	Yes

Raw Data 5.3

Box plot data for 2012 Suture OSCE

Labels	Monday	Tuesday	Wednesday	Thursday	Friday
Min	11	3	10	11	14
Q ₁	16.25	11	16.75	14	18.5
Median	18	14	18	17	19
Q ₃	19	16	19	18.5	20
Max	19	20	20	20	20
IQR	2.75	5	2.25	4.5	1.5
Upper Outliers	0	0	0	0	0
Lower Outliers	3	1	2	0	2
Data Table	Monday	Tuesday	Wednesday	Thursday	Friday
	19	17	20	17	20
	19	16	20	18	18
	11	18	17	15	20
	18	8	19	19	16
	18	11	13	19	20
	17	16	19	14	20
	18	13	10	18	18
	14	16	16	19	19
	11	15	20	11	19
	18	11	16	17	19
	19	9	19	20	20
	18	14	18	14	19
	19	14	18	11	19
	11	20	17	17	14
	19	11	18	14	20
	18	3	19		

Raw Data 5.4**OSCE suturing - 2011 Inter examiner variables**

One-way Analysis of Variance (ANOVA)

The P value is 0.2261, considered not significant

Variation among column means is not significantly greater than expected by chance.

Post tests were not calculated because the P value was greater than 0.05.

ANOVA assumes that the data are sampled from populations with identical SDs / equal groups. This assumption was tested using the method of Bartlett.

Bartlett statistic (corrected) = 5.268

The P value is 0.2609.

Bartlett's test suggests that the differences among the SDs are not significant.

The data sampled from assumed Gaussian distributions was tested using Kolmogorov and Smirnov's method.

Group	KS	P Value	Passed normality test?
Column A	0.1590	>0.10	Yes
Column B	0.1846	>0.10	Yes
Column C	0.1593	>0.10	Yes
Column D	0.1352	>0.10	Yes
Column E	0.1481	>0.10	Yes

Intermediate calculations. ANOVA table

Source of variation	Degrees of freedom	Sum of squares	Mean square
Treatments (between columns)	4	21.468	5.367
Residuals (within columns)	73	270.07	3.700
Total	77	291.54	
F = 1.451 =(MS treatment / MS residual)			

Summary of Data

	Number	Standard			
	of	Standard	Error of		
Group	Points	Mean	Deviation	Mean	Median
Column A	16	12.125	1.746	0.4366	12.000
Column B	16	11.188	2.613	0.6533	12.000
Column C	16	12.625	1.586	0.3966	12.500
Column D	15	11.467	1.807	0.4667	11.000
Column E	15	12.200	1.656	0.4276	12.000

95% Confidence Interval				
Group	Minimum	Maximum	From	To
Column A	9.000	15.000	11.195	13.055
Column B	4.000	15.000	9.795	12.580
Column C	10.000	15.000	11.780	13.470
Column D	9.000	15.000	10.466	12.468
Column E	10.000	15.000	11.283	13.117

Raw Data 5.5**Suture OSCE 2012 Inter examiner variable**

One-way Analysis of Variance (ANOVA)

The P value is < 0.0001 , considered extremely significant.

Variation among column means is significantly greater than expected by chance.

Tukey-Kramer Multiple Comparisons Test

If the value of q is greater than 3.964 then the P value is less than 0.05.

Mean			
Comparison	Difference	q	P value
Column A vs Column B	3.438	4.493 *	P<0.05
Column A vs Column C	-0.7500	0.9803 ns	P>0.05
Column A vs Column D	0.4875	0.6268 ns	P>0.05
Column A vs Column E	-2.046	2.630 ns	P>0.05
Column B vs Column C	-4.188	5.473 **	P<0.01
Column B vs Column D	-2.950	3.793 ns	P>0.05
Column B vs Column E	-5.483	7.050 ***	P<0.001
Column C vs Column D	1.238	1.591 ns	P>0.05
Column C vs Column E	-1.296	1.666 ns	P>0.05
Column D vs Column E	-2.533	3.206 ns	P>0.05

Mean 95% Confidence Interval			
Difference	Difference	From	To
Column A - Column B	3.438	0.4047	6.470
Column A - Column C	-0.7500	-3.783	2.283
Column A - Column D	0.4875	-2.595	3.570
Column A - Column E	-2.046	-5.129	1.037
Column B - Column C	-4.188	-7.220	-1.155
Column B - Column D	-2.950	-6.033	0.1330
Column B - Column E	-5.483	-8.566	-2.400
Column C - Column D	1.238	-1.845	4.320
Column C - Column E	-1.296	-4.379	1.787
Column D - Column E	-2.533	-5.666	0.5990

Assumption test: Are the standard deviations of the groups equal?

ANOVA assumes that the data are sampled from populations with identical

SDs. This assumption is tested using the method of Bartlett.

Bartlett statistic (corrected) = 11.162

The P value is 0.0248.

Bartlett's test suggests that the differences among the SDs is significant.

ANOVA assumes that the data was sampled from Gaussian distributions; tested using Kolmogorov and Smirnov's method.

Group	KS	P Value	Passed normality test?
Column A	0.3530	<0.0001	No
Column B	0.1320	>0.10	Yes
Column C	0.2073	0.0645	Yes
Column D	0.2093	0.0761	Yes
Column E	0.2953	0.0010	No

At least one column (Friday's) failed the normality test with $P < 0.05$.

Intermediate calculations. ANOVA table

Source of variation	Degrees of freedom	Sum of squares	Mean square
Treatments (between columns)	4	259.47	64.868
Residuals (within columns)	73	683.71	9.366
Total	77	943.18	
F = 6.926 =(MS treatment / MS residual)			

Summary of Data

Group	Number of Points	Standard Mean	Standard Deviation	Error of Mean	Median
Column A	16	16.688	3.071	0.7677	18.000
Column B	16	13.250	4.282	1.070	14.000
Column C	16	17.438	2.707	0.6768	18.000
Column D	15	16.200	2.883	0.7445	17.000
Column E	15	18.733	1.710	0.4415	19.000

95% Confidence Interval				
Group	Minimum	Maximum	From	To
Column A	11.000	19.000	15.052	18.323
Column B	3.000	20.000	10.969	15.531
Column C	10.000	20.000	15.995	18.880
Column D	11.000	20.000	14.603	17.797
Column E	14.000	20.000	17.786	19.680

Raw Data 5.6**Suture OSCE Examination 2013 Inter-examiner variables**

One-way analysis of Variance (ANOVA)

The P value is 0.9379, considered not significant.

Variation among column means is not significantly greater than expected by chance.

Post tests :- Post tests were not calculated because the P value was greater than 0.05.

Assumption test: Are the standard deviations of the groups equal? Tested using Bartlett's method.

Bartlett (corrected) = 14.355

The P value is 0.0062.

Bartlett's test suggests that the differences among the SDs is very significant.

Since ANOVA assumes populations with equal SDs

ANOVA assumes that the data was sampled from Gaussian distributions; tested using Kolmogorov and Smirnov's method.

Group	KS	P Value	Passed normality test?
Column A	0.1766	>0.10	Yes
Column B	0.2317	0.0216	No
Column C	0.1952	>0.10	Yes
Column D	0.09880	>0.10	Yes
Column E	0.1748	>0.10	Yes

One column (Tuesday) failed the normality test with $P < 0.05$.

Intermediate calculations. ANOVA table

Source of variation	Degrees of freedom	Sum of squares	Mean square
Treatments (between columns)	4	22.424	5.606
Residuals (within columns)	73	2051.7	28.105
Total	77	2074.1	
$F = 0.1995 = (\text{MS treatment} / \text{MS residual})$			

Summary of Data

Group	Number of Points	Standard		Standard	
		Mean	Deviation	Error of Mean	Median
Column A	16	25.438	4.335	1.084	26.500
Column B	16	25.375	8.188	2.047	28.500
Column C	16	24.063	4.203	1.051	24.000
Column D	15	24.667	4.938	1.275	25.000
Column E	15	24.467	3.357	0.8667	24.000

95% Confidence Interval				
Group	Minimum	Maximum	From	To
Column A	18.000	31.000	23.128	27.747
Column B	3.000	33.000	21.013	29.737
Column C	18.000	29.000	21.824	26.301
Column D	14.000	32.000	21.932	27.401
Column E	19.000	30.000	22.608	26.326

Raw Data 5.7**Summary of inter-assessor variables for box plot 2013.**

Table Title: 2012 Inter examiner variable					
Col. title	Group A	Group B	Group C	Group D	Group E
Mean	16.6875	13.25	17.4375	16.2	18.7333333333
SEM	0.76767	1.0704	0.67681	0.74450	0.44150
Sample size (N)	16	16	16	15	15
SD	3.0707	4.2817	2.7072	2.8835	1.7099
Lower 95% conf. limit	15.052	10.969	15.995	14.603	17.786
Upper 95% conf. limit	18.323	15.531	18.880	17.797	19.680
Minimum	11.000	3.0000	10.0000	11.000	14.000
Median (50th percentile)	18.000	14.000	18.000	17.000	19.000
Maximum	19.000	20.000	20.000	20.000	20.000
Normality test KS	0.3530	0.1320	0.2073	0.2093	0.2953
Normality test P value	<0.0001	>0.10	0.0645	0.0761	0.0010
Passed normality test?	No	Yes	Yes	Yes	No

Raw Data 5.8**Suture OSCE examination 2011-13 Inter examiner variables.**

One-way Analysis of Variance (ANOVA)

The P value is < 0.0001, considered extremely significant.

Variation among column means is significantly greater than expected by chance.

Tukey-Kramer Multiple Comparisons Test

If the value of q is greater than 4.874 then the P value is less than 0.05.

Mean			
Comparison	Difference	q	P value
Column A vs Column B	0.9375	1.257	ns P>0.05
Column A vs Column C	-0.5000	0.6706	ns P>0.05
Column A vs Column D	0.6583	0.8686	ns P>0.05
Column A vs Column E	-0.07500	0.09896	ns P>0.05
Column A vs Column F	-4.563	6.119	** P<0.01
Column A vs Column G	-1.125	1.509	ns P>0.05
Column A vs Column H	-5.313	7.125	*** P<0.001
Column A vs Column I	-4.075	5.377	* P<0.05
Column A vs Column J	-6.608	8.719	*** P<0.001
Column A vs Column K	-14.304	18.534	*** P<0.001
Column A vs Column L	-15.875	20.570	*** P<0.001
Column A vs Column M	-12.732	16.498	*** P<0.001
Column A vs Column N	-13.304	17.238	*** P<0.001
Column A vs Column O	-12.661	16.405	*** P<0.001
Column B vs Column C	-1.438	1.928	ns P>0.05
Column B vs Column D	-0.2792	0.3683	ns P>0.05
Column B vs Column E	-1.012	1.336	ns P>0.05
Column B vs Column F	-5.500	7.377	*** P<0.001
Column B vs Column G	-2.063	2.766	ns P>0.05
Column B vs Column H	-6.250	8.383	*** P<0.001
Column B vs Column I	-5.013	6.614	*** P<0.001
Column B vs Column J	-7.546	9.956	*** P<0.001
Column B vs Column K	-15.241	19.749	*** P<0.001
Column B vs Column L	-16.813	21.785	*** P<0.001
Column B vs Column M	-13.670	17.712	*** P<0.001

Column B vs Column N	-14.241	18.453	***	P<0.001
Column B vs Column O	-13.598	17.620	***	P<0.001
Column C vs Column D	1.158	1.528	ns	P>0.05
Column C vs Column E	0.4250	0.5608	ns	P>0.05
Column C vs Column F	-4.063	5.449	*	P<0.05
Column C vs Column G	-0.6250	0.8383	ns	P>0.05
Column C vs Column H	-4.813	6.455	***	P<0.001
Column C vs Column I	-3.575	4.717	ns	P>0.05
Column C vs Column J	-6.108	8.059	***	P<0.001
Column C vs Column K	-13.804	17.886	***	P<0.001
Column C vs Column L	-15.375	19.922	***	P<0.001
Column C vs Column M	-12.232	15.850	***	P<0.001
Column C vs Column N	-12.804	16.590	***	P<0.001
Column C vs Column O	-12.161	15.757	***	P<0.001
Column D vs Column E	-0.7333	0.9523	ns	P>0.05
Column D vs Column F	-5.221	6.888	***	P<0.001
Column D vs Column G	-1.783	2.353	ns	P>0.05
Column D vs Column H	-5.971	7.878	***	P<0.001
Column D vs Column I	-4.733	6.147	**	P<0.01
Column D vs Column J	-7.267	9.437	***	P<0.001
Column D vs Column K	-14.962	19.092	***	P<0.001
Column D vs Column L	-16.533	21.097	***	P<0.001
Column D vs Column M	-13.390	17.087	***	P<0.001
Column D vs Column N	-13.962	17.816	***	P<0.001
Column D vs Column O	-13.319	16.996	***	P<0.001
Column E vs Column F	-4.488	5.921	**	P<0.01
Column E vs Column G	-1.050	1.385	ns	P>0.05
Column E vs Column H	-5.238	6.910	***	P<0.001
Column E vs Column I	-4.000	5.195	*	P<0.05
Column E vs Column J	-6.533	8.484	***	P<0.001
Column E vs Column K	-14.229	18.156	***	P<0.001
Column E vs Column L	-15.800	20.162	***	P<0.001
Column E vs Column M	-12.657	16.151	***	P<0.001
Column E vs Column N	-13.229	16.880	***	P<0.001
Column E vs Column O	-12.586	16.060	***	P<0.001
Column F vs Column G	3.438	4.610	ns	P>0.05
Column F vs Column H	-0.7500	1.006	ns	P>0.05
Column F vs Column I	0.4875	0.6432	ns	P>0.05
Column F vs Column J	-2.046	2.699	ns	P>0.05
Column F vs Column K	-9.741	12.622	***	P<0.001
Column F vs Column L	-11.313	14.658	***	P<0.001
Column F vs Column M	-8.170	10.586	***	P<0.001
Column F vs Column N	-8.741	11.326	***	P<0.001
Column F vs Column O	-8.098	10.493	***	P<0.001

Column G vs Column H	-4.188	5.616	**	P<0.01
Column G vs Column I	-2.950	3.892	ns	P>0.05
Column G vs Column J	-5.483	7.235	***	P<0.001
Column G vs Column K	-13.179	17.076	***	P<0.001
Column G vs Column L	-14.750	19.112	***	P<0.001
Column G vs Column M	-11.607	15.040	***	P<0.001
Column G vs Column N	-12.179	15.780	***	P<0.001
Column G vs Column O	-11.536	14.947	***	P<0.001
Column H vs Column I	1.238	1.633	ns	P>0.05
Column H vs Column J	-1.296	1.710	ns	P>0.05
Column H vs Column K	-8.991	11.650	***	P<0.001
Column H vs Column L	-10.563	13.686	***	P<0.001
Column H vs Column M	-7.420	9.614	***	P<0.001
Column H vs Column N	-7.991	10.354	***	P<0.001
Column H vs Column O	-7.348	9.521	***	P<0.001
Column I vs Column J	-2.533	3.290	ns	P>0.05
Column I vs Column K	-10.229	13.052	***	P<0.001
Column I vs Column L	-11.800	15.057	***	P<0.001
Column I vs Column M	-8.657	11.047	***	P<0.001
Column I vs Column N	-9.229	11.776	***	P<0.001
Column I vs Column O	-8.586	10.956	***	P<0.001
Column J vs Column K	-7.695	9.820	***	P<0.001
Column J vs Column L	-9.267	11.825	***	P<0.001
Column J vs Column M	-6.124	7.814	***	P<0.001
Column J vs Column N	-6.695	8.543	***	P<0.001
Column J vs Column O	-6.052	7.723	***	P<0.001
Column K vs Column L	-1.571	1.972	ns	P>0.05
Column K vs Column M	1.571	1.972	ns	P>0.05
Column K vs Column N	1.000	1.255	ns	P>0.05
Column K vs Column O	1.643	2.061	ns	P>0.05
Column L vs Column M	3.143	3.943	ns	P>0.05
Column L vs Column N	2.571	3.226	ns	P>0.05
Column L vs Column O	3.214	4.033	ns	P>0.05
Column M vs Column N	-0.5714	0.7169	ns	P>0.05
Column M vs Column O	0.07143	0.08961	ns	P>0.05
Column N vs Column O	0.6429	0.8065	ns	P>0.

Mean 95% Confidence Interval			
Difference	Difference	From	To
Column A - Column B	0.9375	-2.696	4.571
Column A - Column C	-0.5000	-4.134	3.134
Column A - Column D	0.6583	-3.035	4.352
Column A - Column E	-0.07500	-3.769	3.619
Column A - Column F	-4.563	-8.196	-0.9288

Column A - Column G	-1.125	-4.759	2.509
Column A - Column H	-5.313	-8.946	-1.679
Column A - Column I	-4.075	-7.769	-0.3813
Column A - Column J	-6.608	-10.302	-2.915
Column A - Column K	-14.304	-18.065	-10.542
Column A - Column L	-15.875	-19.636	-12.114
Column A - Column M	-12.732	-16.493	-8.971
Column A - Column N	-13.304	-17.065	-9.542
Column A - Column O	-12.661	-16.422	-8.900
Column B - Column C	-1.438	-5.071	2.196
Column B - Column D	-0.2792	-3.973	3.415
Column B - Column E	-1.012	-4.706	2.681
Column B - Column F	-5.500	-9.134	-1.866
Column B - Column G	-2.063	-5.696	1.571
Column B - Column H	-6.250	-9.884	-2.616
Column B - Column I	-5.013	-8.706	-1.319
Column B - Column J	-7.546	-11.240	-3.852
Column B - Column K	-15.241	-19.002	-11.480
Column B - Column L	-16.813	-20.574	-13.051
Column B - Column M	-13.670	-17.431	-9.908
Column B - Column N	-14.241	-18.002	-10.480
Column B - Column O	-13.598	-17.359	-9.837
Column C - Column D	1.158	-2.535	4.852
Column C - Column E	0.4250	-3.269	4.119
Column C - Column F	-4.063	-7.696	-0.4288
Column C - Column G	-0.6250	-4.259	3.009
Column C - Column H	-4.813	-8.446	-1.179
Column C - Column I	-3.575	-7.269	0.1187
Column C - Column J	-6.108	-9.802	-2.415
Column C - Column K	-13.804	-17.565	-10.042
Column C - Column L	-15.375	-19.136	-11.614
Column C - Column M	-12.232	-15.993	-8.471
Column C - Column N	-12.804	-16.565	-9.042
Column C - Column O	-12.161	-15.922	-8.400
Column D - Column E	-0.7333	-4.486	3.019
Column D - Column F	-5.221	-8.915	-1.527
Column D - Column G	-1.783	-5.477	1.910
Column D - Column H	-5.971	-9.665	-2.277
Column D - Column I	-4.733	-8.486	-0.9805
Column D - Column J	-7.267	-11.019	-3.514
Column D - Column K	-14.962	-18.781	-11.143
Column D - Column L	-16.533	-20.353	-12.714
Column D - Column M	-13.390	-17.210	-9.571
Column D - Column N	-13.962	-17.781	-10.143

Column D - Column O	-13.319 -17.138 -9.500
Column E - Column F	-4.488 -8.181 -0.7938
Column E - Column G	-1.050 -4.744 2.644
Column E - Column H	-5.238 -8.931 -1.544
Column E - Column I	-4.000 -7.753 -0.2472
Column E - Column J	-6.533 -10.286 -2.781
Column E - Column K	-14.229 -18.048 -10.409
Column E - Column L	-15.800 -19.619 -11.981
Column E - Column M	-12.657 -16.476 -8.838
Column E - Column N	-13.229 -17.048 -9.409
Column E - Column O	-12.586 -16.405 -8.766
Column F - Column G	3.438 -0.1962 7.071
Column F - Column H	-0.7500 -4.384 2.884
Column F - Column I	0.4875 -3.206 4.181
Column F - Column J	-2.046 -5.740 1.648
Column F - Column K	-9.741 -13.502 -5.980
Column F - Column L	-11.313 -15.074 -7.551
Column F - Column M	-8.170 -11.931 -4.408
Column F - Column N	-8.741 -12.502 -4.980
Column F - Column O	-8.098 -11.859 -4.337
Column G - Column H	-4.188 -7.821 -0.5538
Column G - Column I	-2.950 -6.644 0.7437
Column G - Column J	-5.483 -9.177 -1.790
Column G - Column K	-13.179 -16.940 -9.417
Column G - Column L	-14.750 -18.511 -10.989
Column G - Column M	-11.607 -15.368 -7.846
Column G - Column N	-12.179 -15.940 -8.417
Column G - Column O	-11.536 -15.297 -7.775
Column H - Column I	1.238 -2.456 4.931
Column H - Column J	-1.296 -4.990 2.398
Column H - Column K	-8.991 -12.752 -5.230
Column H - Column L	-10.563 -14.324 -6.801
Column H - Column M	-7.420 -11.181 -3.658
Column H - Column N	-7.991 -11.752 -4.230
Column H - Column O	-7.348 -11.109 -3.587
Column I - Column J	-2.533 -6.286 1.219
Column I - Column K	-10.229 -14.048 -6.409
Column I - Column L	-11.800 -15.619 -7.981
Column I - Column M	-8.657 -12.476 -4.838
Column I - Column N	-9.229 -13.048 -5.409
Column I - Column O	-8.586 -12.405 -4.766
Column J - Column K	-7.695 -11.514 -3.876
Column J - Column L	-9.267 -13.086 -5.447
Column J - Column M	-6.124 -9.943 -2.305

Column J - Column N	-6.695	-10.514	-2.876
Column J - Column O	-6.052	-9.872	-2.233
Column K - Column L	-1.571	-5.456	2.313
Column K - Column M	1.571	-2.313	5.456
Column K - Column N	1.000	-2.885	4.885
Column K - Column O	1.643	-2.242	5.527
Column L - Column M	3.143	-0.7417	7.027
Column L - Column N	2.571	-1.313	6.456
Column L - Column O	3.214	-0.6703	7.099
Column M - Column N	-0.5714	-4.456	3.313
Column M - Column O	0.07143	-3.813	3.956
Column N - Column O	0.6429	-3.242	4.527

ANOVA assumes that the data are sampled from populations with identical SDs. tested using Bartlett's method. Bartlett statistic (corrected) = 46.414

The P value is < 0.0001.

Bartlett's test suggests that the differences among the SDs is extremely significant.

ANOVA assumes that the data was sampled from Gaussian distributions; tested using Kolmogorov and Smirnov's method.

Group	KS	P Value	Passed normality test?
Column A	0.1590	>0.10	Yes
Column B	0.1846	>0.10	Yes
Column C	0.1593	>0.10	Yes
Column D	0.1352	>0.10	Yes
Column E	0.1481	>0.10	Yes
Column F	0.3530	<0.0001	No
Column G	0.1320	>0.10	Yes
Column H	0.2073	0.0645	Yes
Column I	0.2093	0.0761	Yes
Column J	0.2953	0.0010	No
Column K	0.1673	>0.10	Yes
Column L	0.1716	>0.10	Yes
Column M	0.2106	0.0930	Yes
Column N	0.1513	>0.10	Yes
Column O	0.1815	>0.10	Yes

At least one column failed the normality test with $P < 0.05$.

Intermediate calculations. ANOVA table

Source of variation	Degrees of freedom	Sum of squares	Mean square
Treatments (between columns)	14	7814.1	558.15
Residuals (within columns)	211	1876.7	8.894
Total	225	9690.8	
F = 62.753 = (MS treatment / MS residual)			

Summary of Data

Group	Number of Points	Mean	Standard Deviation	Standard Error of Mean	Median
Column A	16	12.125	1.746	0.4366	12.000
Column B	16	11.188	2.613	0.6533	12.000
Column C	16	12.625	1.586	0.3966	12.500
Column D	15	11.467	1.807	0.4667	11.000
Column E	15	12.200	1.656	0.4276	12.000
Column F	16	16.688	3.071	0.7677	18.000
Column G	16	13.250	4.282	1.070	14.000
Column H	16	17.438	2.707	0.6768	18.000
Column I	15	16.200	2.883	0.7445	17.000
Column J	15	18.733	1.710	0.4415	19.000
Column K	14	26.429	3.631	0.9705	27.000
Column L	14	28.000	3.942	1.054	29.000
Column M	14	24.857	3.860	1.032	25.500
Column N	14	25.429	4.108	1.098	25.500
Column O	14	24.786	3.239	0.8656	24.500

95% Confidence Interval

Group	Minimum	Maximum	From	To
Column A	9.000	15.000	11.195	13.055
Column B	4.000	15.000	9.795	12.580
Column C	10.000	15.000	11.780	13.470
Column D	9.000	15.000	10.466	12.468
Column E	10.000	15.000	11.283	13.117
Column F	11.000	19.000	15.052	18.323
Column G	3.000	20.000	10.969	15.531
Column H	10.000	20.000	15.995	18.880
Column I	11.000	20.000	14.603	17.797

Column J	14.000	20.000	17.786	19.680
Column K	21.000	31.000	24.332	28.525
Column L	20.000	33.000	25.724	30.276
Column M	18.000	29.000	22.629	27.086
Column N	18.000	32.000	23.057	27.800
Column O	19.000	30.000	22.916	26.655

Raw Data 5.9

Comparison of OSCE Scoring 2011 Compared with 2013 One-way ANOVA

Labels	2011 day 1	2011 day 2	2011 day 3	2011 day 4	2011 day 5	2013 day 1	2013 day 2	2013 day 3	2013 day 4	2013 day 5
Min	18	8	20	18	20	21	20	18	18	19
Q ₁	21.5	19.75	24	21	22	23.75	25.25	24	22.25	23
Median	24	24	25	22	24	27	29	25.5	25.5	24.5
Q ₃	26	26	26.5	25	26	29	30	28	28.75	27
Max	28	30	30	30	30	31	33	29	32	30
IQR	4.5	6.25	2.5	4	4	5.25	4.75	4	6.5	4
Upper Outliers	0	0	0	0	0	0	0	0	0	0
Lower Outliers	0	1	2	0	0	0	0	0	0	0
Data Table	2011 day 1	2011 day 2	2011 day 3	2011 day 4	2011 day 5	2013 day 1	2013 day 2	2013 day 3	2013 day 4	2013 day 5
	20	22	30	28	30	26	25	28	31	27
	18	24	24	26	24	21	26	28	21	27
	24	26	30	24	30	29	28	24	22	27
	26	26	20	22	20	29	30	24	22	19
	26	30	22	18	22	21	25	29	25	22
	24	22	26	22	26	30	20	24	23	23
	28	26	24	24		23	30	27	27	29
	25	24	26	20	26	31	32	18	29	30
	28	18	24	22	22	27	33	20	18	27
	22	19	28	18	24	26	30	27	28	24
	24	20	24	30	26	28	29	29	26	23
	26	24	24	22	20	21	29	28	29	25
	20	24	26	26	24	27	33	18	23	24
	24	28	20	24	28	31	22	24	32	20
	28	18	30	18	20					
	20	8	26							

Raw Data 5.10**2011 cf 2013 One-way Analysis of Variance (ANOVA)**

The P value is 0.0121, considered significant.

Variation among column means is significantly greater than expected by chance.

Tukey-Kramer Multiple Comparisons Test

If the value of q is greater than 4.556 then the P value is less than 0.05.

Mean			
Comparison	Difference	q	P value
2011 day 1 vs 2011 day 2	1.750	1.781	ns P>0.05
2011 day 1 vs 2011 day 3	-0.3125	0.3181	ns P>0.05
2011 day 1 vs 2011 day 4	1.192	1.193	ns P>0.05
2011 day 1 vs 2011 day 5	-0.2750	0.2754	ns P>0.05
2011 day 1 vs 2013 day 1	-2.304	2.265	ns P>0.05
2011 day 1 vs 2013 day 2	-3.875	3.811	ns P>0.05
2011 day 1 vs 2013 day 3	-0.7321	0.7200	ns P>0.05
2011 day 1 vs 2013 day 4	-1.304	1.282	ns P>0.05
2011 day 1 vs 2013 day 5	-0.6607	0.6498	ns P>0.05
2011 day 2 vs 2011 day 3	-2.063	2.099	ns P>0.05
2011 day 2 vs 2011 day 4	-0.5583	0.5591	ns P>0.05
2011 day 2 vs 2011 day 5	-2.025	2.028	ns P>0.05
2011 day 2 vs 2013 day 1	-4.054	3.986	ns P>0.05
2011 day 2 vs 2013 day 2	-5.625	5.532	** P<0.01
2011 day 2 vs 2013 day 3	-2.482	2.441	ns P>0.05
2011 day 2 vs 2013 day 4	-3.054	3.003	ns P>0.05
2011 day 2 vs 2013 day 5	-2.411	2.371	ns P>0.05
2011 day 3 vs 2011 day 4	1.504	1.506	ns P>0.05
2011 day 3 vs 2011 day 5	0.03750	0.03755	ns P>0.05
2011 day 3 vs 2013 day 1	-1.991	1.958	ns P>0.05
2011 day 3 vs 2013 day 2	-3.563	3.503	ns P>0.05
2011 day 3 vs 2013 day 3	-0.4196	0.4127	ns P>0.05
2011 day 3 vs 2013 day 4	-0.9911	0.9746	ns P>0.05
2011 day 3 vs 2013 day 5	-0.3482	0.3424	ns P>0.05
2011 day 4 vs 2011 day 5	-1.467	1.446	ns P>0.05
2011 day 4 vs 2013 day 1	-3.495	3.385	ns P>0.05
2011 day 4 vs 2013 day 2	-5.067	4.907	* P<0.05
2011 day 4 vs 2013 day 3	-1.924	1.863	ns P>0.05
2011 day 4 vs 2013 day 4	-2.495	2.417	ns P>0.05

2011 day 4 vs 2013 day 5	-1.852	1.794	ns	P>0.05
2011 day 5 vs 2013 day 1	-2.029	1.965	ns	P>0.05
2011 day 5 vs 2013 day 2	-3.600	3.486	ns	P>0.05
2011 day 5 vs 2013 day 3	-0.4571	0.4427	ns	P>0.05
2011 day 5 vs 2013 day 4	-1.029	0.9961	ns	P>0.05
2011 day 5 vs 2013 day 5	-0.3857	0.3736	ns	P>0.05
2013 day 1 vs 2013 day 2	-1.571	1.496	ns	P>0.05
2013 day 1 vs 2013 day 3	1.571	1.496	ns	P>0.05
2013 day 1 vs 2013 day 4	1.000	0.9522	ns	P>0.05
2013 day 1 vs 2013 day 5	1.643	1.564	ns	P>0.05
2013 day 2 vs 2013 day 3	3.143	2.993	ns	P>0.05
2013 day 2 vs 2013 day 4	2.571	2.448	ns	P>0.05
2013 day 2 vs 2013 day 5	3.214	3.061	ns	P>0.05
2013 day 3 vs 2013 day 4	-0.5714	0.5441	ns	P>0.05
2013 day 3 vs 2013 day 5	0.07143	0.06801	ns	P>0.05
2013 day 4 vs 2013 day 5	0.6429	0.6121	ns	P>0.05

	Mean	95% Confidence Interval	
Difference	Difference	From	To
2011 day 1 - 2011 day 2	1.750	-2.726	6.226
2011 day 1 - 2011 day 3	-0.3125	-4.788	4.163
2011 day 1 - 2011 day 4	1.192	-3.358	5.741
2011 day 1 - 2011 day 5	-0.2750	-4.825	4.275
2011 day 1 - 2013 day 1	-2.304	-6.936	2.329
2011 day 1 - 2013 day 2	-3.875	-8.508	0.7578
2011 day 1 - 2013 day 3	-0.7321	-5.365	3.901
2011 day 1 - 2013 day 4	-1.304	-5.936	3.329
2011 day 1 - 2013 day 5	-0.6607	-5.293	3.972
2011 day 2 - 2011 day 3	-2.063	-6.538	2.413
2011 day 2 - 2011 day 4	-0.5583	-5.108	3.991
2011 day 2 - 2011 day 5	-2.025	-6.575	2.525
2011 day 2 - 2013 day 1	-4.054	-8.686	0.5792
2011 day 2 - 2013 day 2	-5.625	-10.258	-0.9922
2011 day 2 - 2013 day 3	-2.482	-7.115	2.151
2011 day 2 - 2013 day 4	-3.054	-7.686	1.579
2011 day 2 - 2013 day 5	-2.411	-7.043	2.222
2011 day 3 - 2011 day 4	1.504	-3.045	6.054
2011 day 3 - 2011 day 5	0.03750	-4.512	4.587
2011 day 3 - 2013 day 1	-1.991	-6.624	2.642
2011 day 3 - 2013 day 2	-3.563	-8.195	1.070
2011 day 3 - 2013 day 3	-0.4196	-5.052	4.213
2011 day 3 - 2013 day 4	-0.9911	-5.624	3.642
2011 day 3 - 2013 day 5	-0.3482	-4.981	4.285

2011 day 4 - 2011 day 5	-1.467	-6.089	3.156
2011 day 4 - 2013 day 1	-3.495	-8.200	1.209
2011 day 4 - 2013 day 2	-5.067	-9.771	-0.3624
2011 day 4 - 2013 day 3	-1.924	-6.628	2.780
2011 day 4 - 2013 day 4	-2.495	-7.200	2.209
2011 day 4 - 2013 day 5	-1.852	-6.557	2.852
2011 day 5 - 2013 day 1	-2.029	-6.733	2.676
2011 day 5 - 2013 day 2	-3.600	-8.304	1.104
2011 day 5 - 2013 day 3	-0.4571	-5.161	4.247
2011 day 5 - 2013 day 4	-1.029	-5.733	3.676
2011 day 5 - 2013 day 5	-0.3857	-5.090	4.319
2013 day 1 - 2013 day 2	-1.571	-6.356	3.213
2013 day 1 - 2013 day 3	1.571	-3.213	6.356
2013 day 1 - 2013 day 4	1.000	-3.785	5.785
2013 day 1 - 2013 day 5	1.643	-3.142	6.428
2013 day 2 - 2013 day 3	3.143	-1.642	7.928
2013 day 2 - 2013 day 4	2.571	-2.213	7.356
2013 day 2 - 2013 day 5	3.214	-1.570	7.999
2013 day 3 - 2013 day 4	-0.5714	-5.356	4.213
2013 day 3 - 2013 day 5	0.07143	-4.713	4.856
2013 day 4 - 2013 day 5	0.6429	-4.142	5.428

Assumption test: Are the standard deviations of the groups equal?

SDs. This assumption is tested using the method of Bartlett.

Bartlett statistic (corrected) = 5.830

The P value is 0.7568.

Bartlett's test suggests that the differences among the SDs is not significant.

The data sampled from assumed Gaussian distributions was tested using Kolmogorov and Smirnov's method.

Group	KS	P Value	Passed normality test?
2011 day 1	0.1728	>0.10	Yes
2011 day 2	0.1846	>0.10	Yes
2011 day 3	0.2104	0.0567	Yes
2011 day 4	0.1352	>0.10	Yes
2011 day 5	0.1481	>0.10	Yes
2013 day 1	0.1673	>0.10	Yes
2013 day 2	0.1716	>0.10	Yes
2013 day 3	0.2106	0.0930	Yes

2013 day 4	0.1513	>0.10	Yes
2013 day 5	0.1815	>0.10	Yes

Intermediate calculations. ANOVA table

Source of variation	Degrees of freedom	Sum of squares	Mean square		
Treatments (between columns)	9	343.18	38.131		
Residuals (within columns)	138	2130.9	15.441		
Total	147	2474.1			
F = 2.469 = (MS treatment / MS residual)					
Summary of Data					
Number	Standard of Points	Standard Deviation	Error of Mean	Median	
Group	Points	Mean	Deviation	Mean	Median
2011 day 1	16	24.125	3.384	0.8459	24.000
2011 day 2	16	22.375	5.227	1.307	24.000
2011 day 3	16	24.438	4.396	1.099	24.000
2011 day 4	15	22.933	3.615	0.9333	22.000
2011 day 5	15	24.400	3.312	0.8552	24.000
2013 day 1	14	26.429	3.631	0.9705	27.000
2013 day 2	14	28.000	3.942	1.054	29.000
2013 day 3	14	24.857	3.860	1.032	25.500
2013 day 4	14	25.429	4.108	1.098	25.500
2013 day 5	14	24.786	3.239	0.8656	24.500

95% Confidence Interval				
Group	Minimum	Maximum	From	To
2011 day 1	18.000	30.000	22.322	25.928
2011 day 2	8.000	30.000	19.591	25.159
2011 day 3	13.000	30.000	22.095	26.780
2011 day 4	18.000	30.000	20.931	24.935
2011 day 5	20.000	30.000	22.566	26.234
2013 day 1	21.000	31.000	24.332	28.525
2013 day 2	20.000	33.000	25.724	30.276
2013 day 3	18.000	29.000	22.629	27.086
2013 day 4	18.000	32.000	23.057	27.800
2013 day 5	19.000	30.000	22.916	26.655