

1-4-93

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## \*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec. 91 - by Stanley Kaplan, Ph.D.

FLIGHT DARK AEM VS DFPT DARK AEM SOLEUS MUSCLE FIBER AREAS

Calculated F-ratio = 1.1433 with 4 , 4 degrees of freedom.

The variances are equal since 1.1433 is less than 6.3900

## \*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ==>	1893.0000	2662.0000
2 ==>	1866.0000	2524.0000
3 ==>	1679.0000	2571.0000
4 ==>	1687.0000	2488.0000
5 ==>	1590.0000	2285.0000

N's ==&gt; 5 5

Total ==&gt; 8715.0000 12530.0000

30.4% ↓

Means ==&gt; 1743.0000 2506.0000

Sum of squares ==&gt; 68270.0000 78050.0000

Variances ==&gt; 17067.5000 19512.5000

Std deviations ==&gt; 130.6426 139.6872

Calculated value of T = 8.9205 with 8 degrees of freedom.

The exact P-value is: 0.0000 or 100.00%

The samples DO differ significantly at the 5% level, ONE-TAILED.

The samples DO differ significantly at the 1% level, ONE-TAILED.

The samples DO differ significantly at the 5% level, TWO-TAILED.

The samples DO differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT INTERMED AEM VS DFPT INTERMED AEM SOLEUS MUSCLE FIBER AREA

Calculated F-ratio = 2.9779 with 4 , 4 degrees of freedom.

The variances are equal since 2.9779 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	1343.0000	2294.0000
2 ===>	1484.0000	2278.0000
3 ===>	1257.0000	1990.0000
4 ===>	1374.0000	2368.0000
5 ===>	1408.0000	2223.0000

N's	==>	S	S
Total	==>	6866.0000	11153.0000
Means	==>	1373.2000	2230.6000
Sum of squares	==>	27902.8000	83091.2000
Variances	==>	6975.7000	20772.8000
Std deviations	==>	83.5207	144.1277

Calculated value of T = 11.5093 with 8 degrees of freedom.

The exact P-value is: 0.0000 or 100.00%

The samples DO differ significantly at the 5% level, ONE-TAILED.

The samples DO differ significantly at the 1% level, ONE-TAILED.

The samples DO differ significantly at the 5% level, TWO-TAILED.

The samples DO differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT LIGHT AEM VS DFPT LIGHT AEM SOLEUS MUSCLE FIBER AREAS

Calculated F-ratio = 1.5643 with 4 , 4 degrees of freedom.

The variances are equal since 1.5643 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 =====>	1806.0000	3231.0000
2 =====>	1709.0000	3132.0000
3 =====>	1651.0000	3143.0000
4 =====>	1837.0000	3023.0000
5 =====>	1873.0000	3127.0000

N's =====> 5 5

Total =====> 8876.0000 15656.0000

Means =====> 1775.2000 3131.2000

43-370 ↓

Sum of squares =====> 34140.8000 21824.8000

Variances =====> 8535.2000 5456.2000

Std deviations =====> 92.3861 73.8661

Calculated value of T = 25.6339 with 8 degrees of freedom.

The exact P-value is: 0.0000 or 100.00%

The samples DO differ significantly at the 5% level. ONE-TAILED.

The samples DO differ significantly at the 1% level. ONE-TAILED.

The samples DO differ significantly at the 5% level. TWO-TAILED.

The samples DO differ significantly at the 1% level. TWO-TAILED.

## \*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT DARK AEM VS DFPT DARK AEM SOLEUS % FIBER TYPES

Calculated F-ratio = 1.9447 with 4, 4 degrees of freedom.

The variances are equal since 1.9447 is less than 6.3900

## \*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ==>	33.0000	24.0000
2 ==>	23.0000	17.0000
3 ==>	34.0000	29.0000
4 ==>	18.0000	22.0000
5 ==>	28.0000	18.0000

H  
 D  
 S2  
 S3  
 10.6  
 10.4

N's		5	5
Total	==>	136.0000	110.0000
Means	==>	27.2000	22.0000
Sum of squares ==>		182.8000	94.0000
Variances ==>		45.7000	23.5000
Std deviations ==>		6.7602	4.8477

Calculated value of T = 1.3978 with 8 degrees of freedom.

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The exact P-value is: 0.1997 or 80.03%

The samples do NOT differ significantly at the 5% level, ONE-TAILED.

The samples do NOT differ significantly at the 1% level, ONE-TAILED.

The samples do NOT differ significantly at the 5% level, TWO-TAILED.

The samples do NOT differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT INTERMED AEM VS DFPT INTERMED AEM SOLEUS % FIBER TYPES

Calculated F-ratio = 3.5484 with 4 , 4 degrees of freedom.

The variances are equal since 3.5484 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	20.0000	16.0000
2 ===>	17.0000	16.0000
3 ===>	14.0000	9.0000
4 ===>	16.0000	8.0000
5 ===>	14.0000	6.0000

N's	==>	5	5
Total	==>	81.0000	55.0000
Means	==>	16.2000	11.0000
Sum of squares ==>		24.8000	88.0000
Variances ==>		6.2000	22.0000
Std deviations ==>		2.4900	4.6904

Calculated value of T = 2.1896 with 8 degrees of freedom.

The exact P-value is: 0.0600 or 94.00%

The samples DO differ significantly at the 5% level. ONE-TAILED.

The samples do NOT differ significantly at the 1% level. ONE-TAILED.

The samples do NOT differ significantly at the 5% level. TWO-TAILED.

The samples do NOT differ significantly at the 1% level. TWO-TAILED.

\*\*\* STUDENT'S T -- TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT LIGHT AEM VS DFPT LIGHT AEM SOLEUS % FIBER TYPES

Calculated F-ratio = 1.2756 with 4 , 4 degrees of freedom.

The variances are equal since 1.2756 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	47.0000	60.0000
2 ===>	59.0000	67.0000
3 ===>	52.0000	62.0000
4 ===>	66.0000	70.0000
5 ===>	58.0000	76.0000

N's	==>	5	5
Total	==>	282.0000	335.0000
Means	==>	56.4000	67.0000
Sum of squares	==>	209.2000	164.0000
Variances	==>	52.3000	41.0000
Std deviations	==>	7.2319	6.4031

15.8% ↓

Calculated value of T = 2.4539 with 8 degrees of freedom.

The exact P-value is: 0.0397 or 96.03%

The samples DO differ significantly at the 5% level. ONE-TAILED.

The samples do NOT differ significantly at the 1% level. ONE-TAILED.

The samples DO differ significantly at the 5% level. TWO-TAILED.

The samples do NOT differ significantly at the 1% level. TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT DARK RAHF VS DFPT DARK RAHF SOLEUS MUSCLE FIBER AREA (1-5)

Calculated F-ratio = 1.7994 with 4 , 4 degrees of freedom.

The variances are equal since 1.7994 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	2062.0000	2949.0000
2 ===>	1953.0000	3344.0000
3 ===>	1723.0000	2721.0000
4 ===>	1656.0000	2684.0000
5 ===>	1434.0000	2466.0000

N's ==> 5 5

Total ==> 8828.0000 14164.0000

Means ==> 1765.6000 2832.8000

Sum of squares ==> 246757.2000 444010.8000

Variances ==> 61689.3000 111002.7000

Std deviations ==> 248.3733 333.1707

Calculated value of T = 5.7424 with 8 degrees of freedom.

The exact P-value is: 0.0004 or 99.96%

The samples DO differ significantly at the 5% level, ONE-TAILED.

The samples DO differ significantly at the 1% level, ONE-TAILED.

The samples DO differ significantly at the 5% level, TWO-TAILED.

The samples DO differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT INTERMED RAHF VS DFPT INTERMED RAHF SOLEUS MFA ( 1-5)

Calculated F-ratio = 2.9543 with 4 , 4 degrees of freedom.

The variances are equal since 2.9543 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 =====>	1610.0000	2439.0000
2 =====>	1546.0000	2473.0000
3 =====>	1279.0000	2637.0000
4 =====>	1654.0000	2115.0000
5 =====>	1405.0000	1998.0000

N's	=====>	5	5
Total	=====>	7494.0000	11662.0000
Means	=====>	1498.8000	2332.4000
Sum of squares	=====>	95790.8000	282999.2000
Variances	=====>	23947.7000	70749.8000
Std deviations	=====>	154.7504	265.9883

Calculated value of T = 6.0572 with 8 degrees of freedom.

The exact P-value is: 0.0003 or 99.97%

The samples DO differ significantly at the 5% level, ONE-TAILED.

The samples DO differ significantly at the 1% level, ONE-TAILED.

The samples DO differ significantly at the 5% level, TWO-TAILED.

The samples DO differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT LIGHT RAHF VS DFPT LIGHT RAHF SOLEUS MFA (1-5)

Calculated F-ratio = 1.4004 with 4 , 4 degrees of freedom.

The variances are equal since 1.4004 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	2078.0000	3299.0000
2 ===>	1950.0000	3319.0000
3 ===>	1804.0000	3465.0000
4 ===>	1825.0000	3281.0000
5 ===>	1540.0000	2837.0000

N's ==> 5 5

Total ==> 9197.0000 16201.0000

Means ==> 1839.4000 3240.2000

Sum of squares ==> 160263.2000 224436.8000

Variances ==> 40065.8000 56109.2000

Std deviations ==> 200.1644 236.8738

Calculated value of T = 10.1002 with 8 degrees of freedom.

The exact P-value is: 0.0000 or 100.00%

The samples DO differ significantly at the 5% level. ONE-TAILED.

The samples DO differ significantly at the 1% level. ONE-TAILED.

The samples DO differ significantly at the 5% level. TWO-TAILED.

The samples DO differ significantly at the 1% level. TWO-TAILED.

## \*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT DARK RAHF VS DFPT DARK RAHF SOLEUS % FIBER TYPES (1-5)

Calculated F-ratio = 3.9554 with 4, 4 degrees of freedom.

The variances are equal since 3.9554 is less than 6.3900

## \*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	34.0000	18.0000
2 ===>	18.0000	20.0000
3 ===>	19.0000	14.0000
4 ===>	23.0000	22.0000
5 ===>	19.0000	15.0000

N's	==>	5	5
Total	==>	113.0000	89.0000
Means	==>	22.6000	17.8000
Sum of squares	==>	177.2000	44.8000
Variances	==>	44.3000	11.2000
Std deviations	==>	6.6558	3.3466

Calculated value of T = 1.4407 with 8 degrees of freedom.

The exact P-value is: 0.1876 or 81.24%

The samples do NOT differ significantly at the 5% level, ONE-TAILED.

The samples do NOT differ significantly at the 1% level, ONE-TAILED.

The samples do NOT differ significantly at the 5% level, TWO-TAILED.

The samples do NOT differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT INTERMED RAHF VS DFPT INTERMED RAHF SOLEUS % FT (1-5)

Calculated F-ratio = 2.4200 with 4 , 4 degrees of freedom.

The variances are equal since 2.4200 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	10.0000	17.0000
2 ===>	20.0000	15.0000
3 ===>	18.0000	19.0000
4 ===>	11.0000	11.0000
5 ===>	20.0000	13.0000

N's	==>	5	5
Total	==>	79.0000	75.0000
Means	==>	15.8000	15.0000
Sum of squares	==>	96.8000	40.0000
Variances	==>	24.2000	10.0000
Std deviations	==>	4.9193	3.1623

Calculated value of T = 0.3059 with 8 degrees of freedom.

The exact P-value is: 0.7675 or 23.25%

The samples do NOT differ significantly at the 5% level, ONE-TAILED.

The samples do NOT differ significantly at the 1% level, ONE-TAILED.

The samples do NOT differ significantly at the 5% level, TWO-TAILED.

The samples do NOT differ significantly at the 1% level, TWO-TAILED.

## \*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT LIGHT RAHF VS DFPT LIGHT RAHF SOLEUS % FIBER TYPES (1-5)

Calculated F-ratio = 1.6220 with 4 , 4 degrees of freedom.

The variances are equal since 1.6220 is less than 6.3900

## \*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	56.0000	65.0000
2 ===>	62.0000	65.0000
3 ===>	63.0000	67.0000
4 ===>	66.0000	67.0000
5 ===>	61.0000	72.0000

N's ==&gt; 5 5

Total ==&gt; 308.0000 336.0000

Means ==&gt; 61.6000 67.2000

Sum of squares ==&gt; 53.2000 32.8000

Variances ==&gt; 13.3000 8.2000

Std deviations ==&gt; 3.6469 2.8636

Calculated value of T = 2.7006 with 8 degrees of freedom.

The exact P-value is: 0.0270 or 97.30%

The samples DO differ significantly at the 5% level, ONE-TAILED.

The samples do NOT differ significantly at the 1% level, ONE-TAILED.

The samples DO differ significantly at the 5% level, TWO-TAILED.

The samples do NOT differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT DARK RAHF VS DFPT DARK RAHF SOLEUS MUSCLE FIBER AREA (6-10)

Calculated F-ratio = 3.8524 with 4, 4 degrees of freedom.

The variances are equal since 3.8524 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	1904.0000	1910.0000
2 ===>	1498.0000	2449.0000
3 ===>	1748.0000	2375.0000
4 ===>	1956.0000	2672.0000
5 ===>	1755.0000	2829.0000

N's	==>	S	S
Total	==>	8861.0000	12235.0000
Means	==>	1772.2000	2447.0000
Sum of squares	==>	127220.8000	490106.0000
Variances	==>	31805.2000	122526.5000
Std deviations	==>	178.3401	350.0379

Calculated value of T = 3.8409 with 8 degrees of freedom.

The exact P-value is: 0.0049 or 99.51%

The samples DO differ significantly at the 5% level. ONE-TAILED.

The samples DO differ significantly at the 1% level. ONE-TAILED.

The samples DO differ significantly at the 5% level. TWO-TAILED.

The samples DO differ significantly at the 1% level. TWO-TAILED.

## \*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT INTERMED RAHF VS DFPT INTERMED RAHF SOLEUS MFA (6-10)

Calculated F-ratio = 2.4783 with 4 , 4 degrees of freedom.

The variances are equal since 2.4783 is less than 6.3900

## \*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	1294.0000	1991.0000
2 ===>	1495.0000	2386.0000
3 ===>	1527.0000	2196.0000
4 ===>	1474.0000	2224.0000
5 ===>	1535.0000	2348.0000

N's	==>	5	5
Total	==>	7325.0000	11145.0000
Means	==>	1465.0000	2229.0000
Sum of squares ==>	38966.0000	96568.0000	
Variances ==>	9741.5000	24142.0000	
Std deviations ==>	98.6990	155.3770	

Calculated value of T = 9.2808 with 8 degrees of freedom.

The exact P-value is: 0.0000 or 100.00%

The samples DO differ significantly at the 5% level, ONE-TAILED.

The samples DO differ significantly at the 1% level, ONE-TAILED.

The samples DO differ significantly at the 5% level, TWO-TAILED.

The samples DO differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT LIGHT RAHF VS DFPT LIGHT RAHF SOLEUS MFA (6-10)

Calculated F-ratio = 28.2681 with 4 , 4 degrees of freedom.

The variances are UNequal since 28.2681 is greater than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 =====>	1570.0000	2434.0000
2 =====>	1706.0000	2721.0000
3 =====>	1801.0000	2969.0000
4 =====>	1669.0000	3370.0000
5 =====>	1798.0000	3727.0000

N's =====> 5 5

Total =====> 8544.0000 15221.0000

Means =====> 1708.8000 3044.2000

Sum of squares =====> 37314.8000 1054818.8000

Variances =====> 9328.7000 263704.7000

Std deviations =====> 96.5852 513.5219

Calculated value of T = 5.7146 with 4 degrees of freedom.

The exact P-value is: 0.0046 or 99.54%

The samples DO differ significantly at the 5% level, ONE-TAILED.

The samples DO differ significantly at the 1% level, ONE-TAILED.

The samples DO differ significantly at the 5% level, TWO-TAILED.

The samples DO differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT DARK RAHF VS DFPT DARK RAHF SOLEUS % FIBER TYPES(6-10)

Calculated F-ratio = 2.5813 with 4 , 4 degrees of freedom.

The variances are equal since 2.5813 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	7.0000	14.0000
2 ===>	14.0000	25.0000
3 ===>	22.0000	20.0000
4 ===>	33.0000	13.0000
5 ===>	18.0000	10.0000

N's	==>	S	S
Total	==>	94.0000	82.0000
Means	==>	18.8000	16.4000
Sum of squares ==>		374.8000	145.2000
Variances ==>		93.7000	36.3000
Std deviations ==>		9.6799	6.0249

Calculated value of T = 0.4707 with 8 degrees of freedom.

The exact P-value is: 0.6504 or 34.96%

The samples do NOT differ significantly at the 5% level, ONE-TAILED.

The samples do NOT differ significantly at the 1% level, ONE-TAILED.

The samples do NOT differ significantly at the 5% level, TWO-TAILED.

The samples do NOT differ significantly at the 1% level, TWO-TAILED.

## \*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT INTERMED RAHF VS DFPT INTERMED RAHF SOLEUS % FT (6-10)

Calculated F-ratio = 1.0243 with 4 , 4 degrees of freedom.

The variances are equal since 1.0243 is less than 6.3900

## \*\*\* R A W      D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	17.0000	10.0000
2 ===>	22.0000	8.0000
3 ===>	24.0000	13.0000
4 ===>	12.0000	14.0000
5 ===>	25.0000	22.0000

N's ==&gt; 5                5

Total ==&gt; 100.0000        67.0000

Means ==&gt; 20.0000        13.4000

Sum of squares ==&gt; 118.0000        115.2000

Variances ==&gt; 29.5000        28.8000

Std deviations ==&gt; 5.4314        5.3666

Calculated value of T = 1.9328 with 8 degrees of freedom.

The exact P-value is: 0.0893 or 91.07%

The samples DO differ significantly at the 5% level, ONE-TAILED.

The samples do NOT differ significantly at the 1% level, ONE-TAILED.

The samples do NOT differ significantly at the 5% level, TWO-TAILED.

The samples do NOT differ significantly at the 1% level, TWO-TAILED.

\*\*\* STUDENT'S T - TEST \*\*\*

V2.60 Dec 91 - by Stanley Kaplan, Ph.D.

FLIGHT LIGHT RAHF VS DFPT LIGHT RAHF SOLEUS % FIBER TYPES (6-10)

Calculated F-ratio = 5.0120 with 4 , 4 degrees of freedom.

The variances are equal since 5.0120 is less than 6.3900

\*\*\* R A W D A T A \*\*\*

	GROUP 1	GROUP 2
1 ===>	76.0000	76.0000
2 ===>	64.0000	67.0000
3 ===>	54.0000	67.0000
4 ===>	55.0000	73.0000
5 ===>	57.0000	68.0000

N's ==> 5 5

Total ==> 306.0000 351.0000

Means ==> 61.2000 70.2000

Sum of squares ==> 334.8000 66.8000

Variances ==> 83.7000 16.7000

Std deviations ==> 9.1488 4.0866

Calculated value of T = 2.0084 with 8 degrees of freedom.

The exact P-value is: 0.0795 or 92.05%

The samples DO differ significantly at the 5% level, ONE-TAILED.

The samples do NOT differ significantly at the 1% level, ONE-TAILED.

The samples do NOT differ significantly at the 5% level, TWO-TAILED.

The samples do NOT differ significantly at the 1% level, TWO-TAILED.