

## **Appendix M**

### **Detailed Data from Temperature/ Humidity Probe Measurements**

**Table M-1. Mean Core Temperature Responses of Firefighters During Work in the Heat While Wearing Each of Six Experimental Protective Ensembles (Mean  $\pm$ S.D.)**

Time (min)	Garment No.					
	1	2	3	4	5	6
0	36.78 $\pm$ 0.34	36.85 $\pm$ 0.23	36.87 $\pm$ 0.24	36.98 $\pm$ 0.34	36.99 $\pm$ 0.27	36.82 $\pm$ 0.20
5	36.94 $\pm$ 0.23	36.95 $\pm$ 0.26	36.98 $\pm$ 0.23	37.06 $\pm$ 0.28	37.03 $\pm$ 0.27	36.89 $\pm$ 0.20
10	37.03 $\pm$ 0.20	37.16 $\pm$ 0.39	37.05 $\pm$ 0.21	37.12 $\pm$ 0.25	37.09 $\pm$ 0.24	36.96 $\pm$ 0.22
15	37.13 $\pm$ 0.20	37.14 $\pm$ 0.25	37.13 $\pm$ 0.20	37.22 $\pm$ 0.23	37.16 $\pm$ 0.23	37.05 $\pm$ 0.23
17	37.14 $\pm$ 0.22	37.16 $\pm$ 0.23	37.09 $\pm$ 0.19	37.24 $\pm$ 0.22	37.20 $\pm$ 0.21	37.10 $\pm$ 0.24
22	37.27 $\pm$ 0.21	37.29 $\pm$ 0.25	37.28 $\pm$ 0.19	37.39 $\pm$ 0.18	37.30 $\pm$ 0.22	37.18 $\pm$ 0.26
27	37.44 $\pm$ 0.23	37.44 $\pm$ 0.27	37.44 $\pm$ 0.22	37.57 $\pm$ 0.19	37.43 $\pm$ 0.23	37.33 $\pm$ 0.27
32	37.62 $\pm$ 0.24	37.62 $\pm$ 0.29	37.62 $\pm$ 0.27	37.79 $\pm$ 0.22	37.59 $\pm$ 0.25	37.49 $\pm$ 0.28
34	37.67 $\pm$ 0.22	37.60 $\pm$ 0.19	37.68 $\pm$ 0.26	37.86 $\pm$ 0.18	37.66 $\pm$ 0.22	37.58 $\pm$ 0.29
39	37.89 $\pm$ 0.28	37.77 $\pm$ 0.21	37.88 $\pm$ 0.32	38.06 $\pm$ 0.24	37.81 $\pm$ 0.24	37.66 $\pm$ 0.25
44	38.10 $\pm$ 0.37	37.95 $\pm$ 0.21	37.96 $\pm$ 0.29	38.30 $\pm$ 0.32	37.94 $\pm$ 0.19	37.86 $\pm$ 0.25

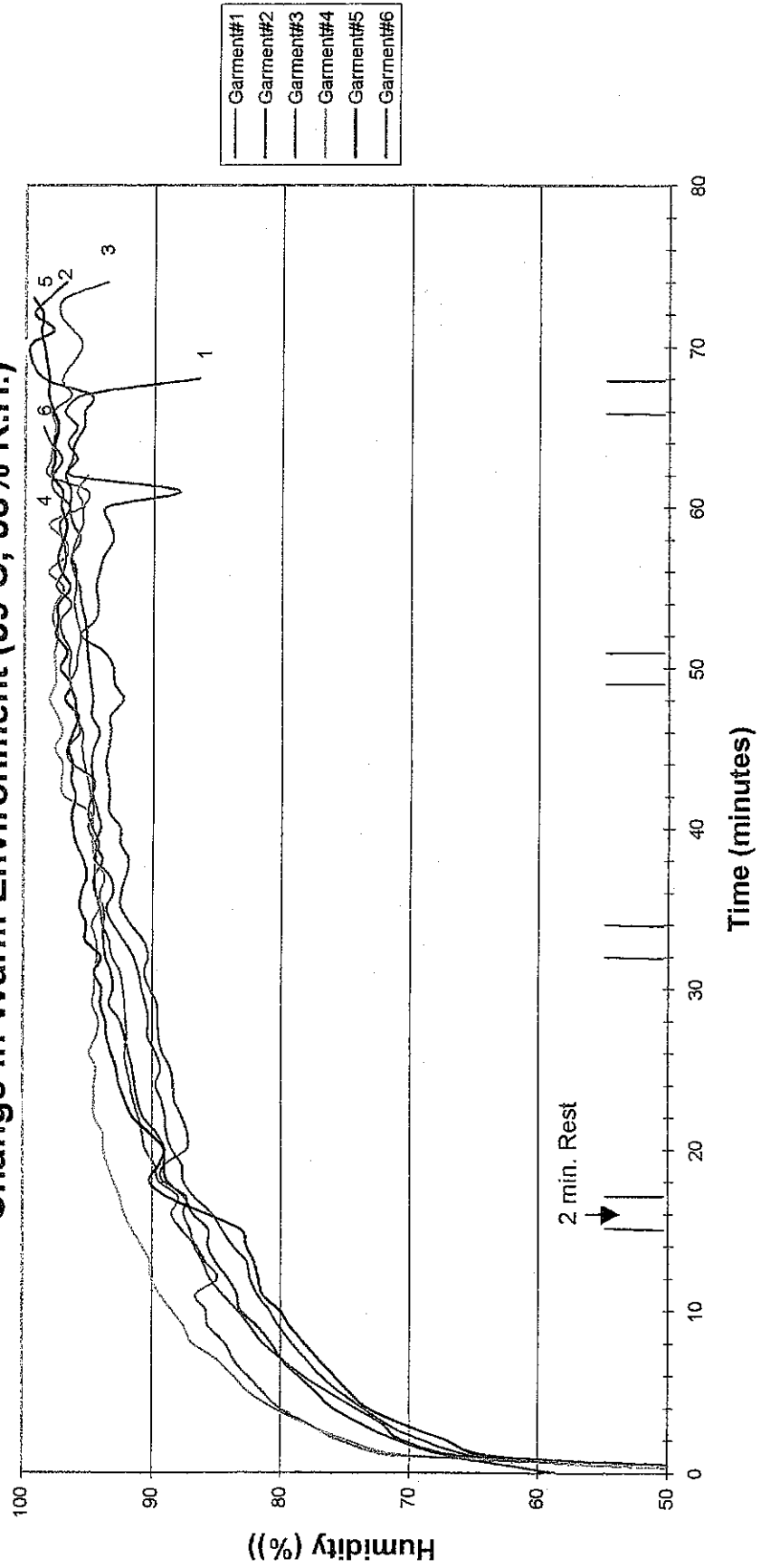
**Table M-2. Mean Heart Rate Responses of Firefighters During Work in the Heat While Wearing Each of Six Experimental Protective Ensembles (Mean  $\pm$  S.D.)**

Time (min)	Garment No.					
	1	2	3	4	5	6
0	70.4 $\pm$ 12.6	72.0 $\pm$ 12.9	73.7 $\pm$ 15.3	70.1 $\pm$ 10.9	67.3 $\pm$ 10.1	67.0 $\pm$ 9.4
5	104.0 $\pm$ 14.6	107.7 $\pm$ 11.2	103.3 $\pm$ 13.4	105.7 $\pm$ 9.9	104.2 $\pm$ 7.5	101.9 $\pm$ 8.6
10	110.9 $\pm$ 14.3	111.7 $\pm$ 10.5	111.4 $\pm$ 13.9	112.6 $\pm$ 10.3	110.3 $\pm$ 9.6	106.9 $\pm$ 10.4
15	117.0 $\pm$ 13.8	116.6 $\pm$ 11.7	115.7 $\pm$ 15.6	120.6 $\pm$ 12.0	114.7 $\pm$ 11.6	114.7 $\pm$ 12.3
17	111.3 $\pm$ 14.4	107.0 $\pm$ 19.1	103.4 $\pm$ 20.2	114.4 $\pm$ 12.5	108.5 $\pm$ 16.3	107.0 $\pm$ 11.7
22	126.3 $\pm$ 13.2	125.7 $\pm$ 11.7	123.7 $\pm$ 18.6	131.4 $\pm$ 13.6	124.0 $\pm$ 14.0	122.4 $\pm$ 14.9
27	133.7 $\pm$ 15.5	132.9 $\pm$ 13.1	133.0 $\pm$ 17.3	141.4 $\pm$ 14.0	132.3 $\pm$ 14.5	131.7 $\pm$ 15.0
32	141.7 $\pm$ 16.3	139.0 $\pm$ 13.7	139.0 $\pm$ 18.6	150.1 $\pm$ 14.7	138.5 $\pm$ 15.4	139.0 $\pm$ 15.6
34	131.3 $\pm$ 21.7	120.2 $\pm$ 10.9	126.7 $\pm$ 19.6	137.1 $\pm$ 18.9	124.2 $\pm$ 21.8	124.9 $\pm$ 13.4
39	147.9 $\pm$ 22.7	143.0 $\pm$ 12.3	148.6 $\pm$ 15.4	153.0 $\pm$ 14.4	148.3 $\pm$ 14.0	145.0 $\pm$ 11.2
44	162.2 $\pm$ 14.1	150.5 $\pm$ 14.0	153.3 $\pm$ 14.1	158.0 $\pm$ 11.9	149.0 $\pm$ 10.1	149.0 $\pm$ 9.7

**Table M-3. Mean Skin Temperature Responses of Firefighters During Work in the Heat While Wearing Each of Six Experimental Protective Ensembles (Mean  $\pm$ S.D.)**

Time (min)	Garment No.					
	1	2	3	4	5	6
5	35.27 $\pm$ 0.74	35.29 $\pm$ 0.57	35.35 $\pm$ 0.16	35.16 $\pm$ 0.73	35.28 $\pm$ 0.74	34.99 $\pm$ 1.03
10	36.17 $\pm$ 0.45	36.16 $\pm$ 0.36	36.13 $\pm$ 0.19	36.31 $\pm$ 0.45	36.27 $\pm$ 0.46	36.02 $\pm$ 0.73
15	36.61 $\pm$ 0.29	36.67 $\pm$ 0.22	36.58 $\pm$ 0.22	36.86 $\pm$ 0.30	36.68 $\pm$ 0.27	36.56 $\pm$ 0.41
17	36.69 $\pm$ 0.22	36.76 $\pm$ 0.23	36.65 $\pm$ 0.19	37.04 $\pm$ 0.22	36.75 $\pm$ 0.21	36.67 $\pm$ 0.24
22	37.27 $\pm$ 0.21	37.29 $\pm$ 0.25	37.28 $\pm$ 0.19	37.39 $\pm$ 0.18	37.30 $\pm$ 0.22	37.18 $\pm$ 0.26
27	37.16 $\pm$ 0.30	37.22 $\pm$ 0.26	37.23 $\pm$ 0.29	37.70 $\pm$ 0.25	37.20 $\pm$ 0.32	37.19 $\pm$ 0.31
32	37.36 $\pm$ 0.34	37.46 $\pm$ 0.29	37.48 $\pm$ 0.34	38.05 $\pm$ 0.30	37.41 $\pm$ 0.33	37.41 $\pm$ 0.33
34	37.47 $\pm$ 0.35	37.42 $\pm$ 0.26	37.54 $\pm$ 0.35	38.13 $\pm$ 0.29	37.45 $\pm$ 0.31	37.46 $\pm$ 0.34
39	37.53 $\pm$ 0.44	37.61 $\pm$ 0.30	37.74 $\pm$ 0.39	38.36 $\pm$ 0.28	37.60 $\pm$ 0.33	37.53 $\pm$ 0.26
44	37.99 $\pm$ 0.53	37.85 $\pm$ 0.32	37.84 $\pm$ 0.20	38.69 $\pm$ 0.36	37.72 $\pm$ 0.26	37.78 $\pm$ 0.24

**Figure M1. Effect of Garment Selection on Microclimate Humidity Change in Warm Environment (39 C, 35% R.H.)**



Microclimate Humidity (Warm condtions)									
Garment#1									
Time (min)	Subject							Mean	Std. Dev.
	1	2	3	4	5	6	7		
0	33.7		33.2	34.4		32.3	34.3	33.58	0.864292
1	61.1		72.4	84.7		40.3	71.6	66.02	16.63211
2	66.4		74.4	87.9		50.8	73.9	70.68	13.54869
3	68.3		76.4	88.4		54.4	73.1	72.12	12.37849
4	71.5		78.9	89.5		56.6	74.9	74.28	11.97589
5	74.1		79.7	90.2		61.8	76.2	76.4	10.24475
6	76.4		80.1	90.3		67.2	78	78.4	8.277983
7	78.4		81.6	90.3		70	79.2	79.9	7.276675
8	80.3		82.4	89.6		74	81	81.46	5.575661
9	81.8		83.3	90.4		75.2	81.3	82.4	5.436451
10	83.2		84.2	91.5		76.8	81.2	83.38	5.354624
11	84.8		84.8	91.9		78.5	82.8	84.56	4.84283
12	85.6		85.6	91.3		80.6	84.8	85.58	3.812086
13	86.4		86.1	92.3		81.4	84.4	86.12	3.984595
14	87.4		86.7	92.8		82.1	84.8	86.76	3.951329
15	87.6		87	92.6		81.7	86.3	87.04	3.882396
16	87.7		87.3	92.9		82.7	87.4	87.6	3.613862
17	87.6		87.9	90.9		81.4	89	87.36	3.573933
18	88.7		86.6	92.8		86.3	91.4	89.16	2.881493
19	89.5		84.9	94.5		85.9	90.4	89.04	3.836405
20	89.2		84.4	96.5	77.1	85.6	91.1	87.31667	6.603459
21	89.4		84.8	96.7	76.8	85.4	90.5	87.26667	6.68002
22	90.8		83.7	97.5	77.7	84.8	91.8	87.71667	7.02664
23	92.1		84.9	97.6	77.3	86	91.6	88.25	7.066187
24	92.6		84	96.7	78.4	85.8	92.6	88.35	6.786383
25	92.7		84.5	97.8	78.2	85.6	92.7	88.58333	7.102511
26	93.5		85.6	97.6	79.5	85.5	93.5	89.2	6.756922
27	93.6		86.5	96.6	79.8	86.6	93.8	89.48333	6.28026
28	94.2		85.6	96.9	80.1	87	93.5	89.55	6.366396
29	93.1		86.3	97.6	80.8	86.7	93.1	89.6	6.086707
30	94.3		87	98.4	80.7	86.5	94.3	90.2	6.558048
31	94.2		88.1	98.3	81.5	86.8	94.7	90.6	6.205804
32	94.7		86.9	98	80.9	87.2	94.2	90.31667	6.377905
33	94.2		88.7	97.1	81.7	88.2	94.4	90.71667	5.624026
34	93.3		90	98.1	85.2	88.3	95.4	91.71667	4.773014
35	93.5		89.1	97.9	87.8	90.4	95.8	92.41667	3.97664
36	94.9		88.8	98.7	86	90.9	94.9	92.36667	4.655176
37	94.3		90.6	98.7	84.5	89.7	94.5	92.05	4.897244
38	95.6		89.6	97.3	84.5	90.4	93.7	91.85	4.655642
39	94.9		90.8	99.1	85.3	91	93.8	92.48333	4.647329
40	95.4		90.4	97.3	85.4	92.1	94.3	92.48333	4.234816
41	95.9		92.3	99.2	85.5	91.9	95.3	93.35	4.676644
42	96		92.4	98.6	85.2	92.9	94.9	93.33333	4.571943
43	95.8		93.5	98.2	84.5		95.1	93.42	5.265643
44	96		93.8	99.3	85		94.1	93.64	5.303112
45	95.1		94	97.5	85.2		95.3	93.42	4.767284
46	94.8		93.6	98.8	84.6		94.4	93.24	5.231443
47	93.8		92.9	99	85.3		95.3	93.26	5.022225
48	93.6		91.3	97.6	85.1		93.8	92.28	4.606191
49			93.2	98.3	85.3		95	92.95	5.519964
50				99	86.2		94	93.06667	6.45084
51				97.8	89.2		94.4	93.8	4.331282
52		96.2		99.2	91.4		95.6	95.6	3.212476
53		96.6		98.3	88.6		94.3	94.45	4.230445
54		97.7		99	86.5		93.7	94.225	5.622203
55		97.8		98.4	86.6		94.9	94.425	5.435915
56		97.8		97.9	86.4		94.5	94.15	5.402777
57		97.6		97.8	85.7		94	93.775	5.659432
58		97			88.1		94	93.03333	4.528061
59		97.8			87.9		94.4	93.36667	5.030242
60		97.8			88.3		94.7	93.6	4.844585
61		97.7			71.6		94.7	88	14.28181
62		98.1					94.9	96.5	2.262742
63		96.3					95.5	95.9	0.565685
64		97.8					95.5	96.65	1.626346
65		97.4					94.5	95.95	2.05061
66		96.9							96.9
67		95.4							95.4
68		86.5							86.5

Garment #2									
Time (min)	Subject							Mean	Std. Dev.
	1	2	3	4	5	6	7		
0	59.1	60.1	52	77.5	59.6	46.1	56.5	58.7	9.702749
1	67.6	71.6	71.6	77.7	64.3	58.4	57.5	66.95714	7.401094
2	71.8	80.4	73.6	77.8	67.9	65.7	60.3	71.07143	7.001836
3	73.8	83.4	76.6	79	70.7	69.9	62.6	73.71429	6.797654
4	75.6	86.3	79.5	80	73.1	71.7	65.7	75.98571	6.676933
5	76.4	87.7	81	80.9	75	72.8	67.4	77.31429	6.572272
6	78	88.4	82.5	82.3	76.6	74	69.2	78.71429	6.307781
7	78.9	90.4	83.3	83	78.2	75	70.9	79.95714	6.328469
8	80.8	91	83.9	82.7	78.8	75.6	72.5	80.75714	6.016327
9	81.5	91.7	84.6	83.9	79.8	76.5	74.7	81.81429	5.669341
10	82.7	92.5	86.5	85.6	81.5	77.3	76	83.15714	5.670349
11	82	93.1	86.2	85.9	82	77.8	77.2	83.45714	5.505711
12	83.8	93.1	86.9	86	83.1	78.3	78	84.17143	5.233773
13	84.6	94.2	87.4	87	83.4	79.3	79.9	85.11429	5.091309
14	85.1	94.2	88.3	87.4	83.9	79.8	81.2	85.7	4.840111
15	83.9	94.5	87.9	90.2	81.8	79.5	81.7	85.64286	5.406742
16	86.5	96.6	88.6	91.8	82.5	80.7	81.3	86.85714	5.920264
17	87	94.5	89.5	92.9	84.2	81.3	83	87.48571	5.033034
18	88.9	95.4	93.3	93.6	85.1	81.2	84.5	88.85714	5.42797
19	88.6	95	94	94.2	84.6	81.3	85.5	89.02857	5.463428
20	88.8	93.6	93.6	93.3	85.3	82	86.7	89.04286	4.633522
21	90.5	95.2	93.7	94.2	85.5	81.1	87.4	89.65714	5.228402
22	91.7	95	95.5	95.3	86.4	82.8	88.1	90.68571	5.022426
23	92	94.9	96	95.6	86	84	89.4	91.12857	4.80996
24	90.9	95.6	94.9	95.9	87.1	85.2	89.7	91.32857	4.285135
25	91.4	95.8	95.9	94.9	87	85.8	89.7	91.5	4.191261
26	92.9	95.5	96.4	95.5	87.5	86	89.1	91.84286	4.265309
27	92.7	95.4	96.8	95.3	87.1	87.1	90.4	92.11429	4.00975
28	93.1	96.9	96.1	96.2	87.9	87.1	90.2	92.5	4.122701
29	94.1	97.5	97.7	97	87.7	88.1	91.1	93.31429	4.369755
30	93.5	97.8	97.7	95.7	88.5	87.6	90.2	93	4.280187
31	94	96.6	97.2	97.1	88.5	88.4	90.4	93.17143	4.00779
32	94.4	98.7	98	97.1	88	89	90.3	93.64286	4.502909
33	95	98.2	96.4	96.9	90.2	89.6	90.2	93.78571	3.668073
34	94.1	97.5	98.1	96.5	90.9	89.3	90	93.77143	3.711565
35	94.2	98.5	98.2	96.4	90.3	89.3	89.6	93.78571	4.051925
36	94.9	98.2	98.1	97.7	90.5	90.2	91.1	94.38571	3.719511
37	95.5	98.7	97.3	98.2	90.7	89.4	91.6	94.48571	3.852025
38	95.7	98.3		97.7	90.7	89.6	91.2	93.86667	3.82239
39	96.6	99.1		98.3	90.9	89.6	92	94.41667	4.07893
40	95.9	99.1		97.3	90.5	89.8	91.5	94.01667	3.915312
41	95.4	98.3		98.3	90.7	90.2	92.6	94.25	3.629187
42	97	99.1		96.9	91.7	90.6	92.5	94.63333	3.467372
43	97.2	98.8		96.9	90.8	91.3	92.8	94.63333	3.413307
44	95.8	98.7		98.3	91.4	91.8	92.5	94.75	3.2953
45	96.1	97.8		97.1	92	91.7	92.8	94.58333	2.725741
46		97.7		98.3	91.5	91.3	91.9	94.14	3.536665
47		98.7		98.6	91.2	92.3	93.1	94.78	3.596804
48		97.6		97.6	92.4	92.6	92.9	94.62	2.726169
49		98		98.6	92.6	93	91.8	94.8	3.231099
50		98.2		99	92.9	92.4	92.2	94.94	3.362737
51		99.1		97.5	93.7	92.8	92.2	95.06	3.058267
52		99.2		98.6	93.8	91.9	92.2	95.14	3.513972
53		99.5		99.2	93	91.7	92.8	95.24	3.785895
54		98.7		98.6	94.5	92.9	93.2	95.58	2.866531
55		98.5		97.5	94	94.9	93.7	95.72	2.15685
56		98.8		99.2	94.8	94	94	96.16	2.616868
57		98		98.9	95.1	95.6	94.2	96.36	1.998249
58		97.8		97.8	94	94.4	94.4	95.68	1.942164
59		98.5		98	95.2	95.9	93.6	96.24	2.023116
60		98.5		98.7	95.4	95.2	94.9	96.54	1.890238
61		99.4		99	95.4	94.2	93.9	96.38	2.63856
62		99.5		99.6	95	95.1	95.1	96.86	2.456217
63		97.8		99.5	93.6	95.4	95.3	96.32	2.323144
64		99		99.5	94.5	93.5	94.1	96.12	2.884788
65		98		98.7	94.3	91.8	94.2	95.4	2.883574
66				99.5		92.4	94.2	95.36667	3.69098
67				99.1		90.6		94.85	6.010408
68				98.6					98.6
69				99.7					99.7
70				97.8					97.8
71				99.3					99.3
72				98.2					98.2
73				96.8					96.8

Garment #3									
Time (min)	Subject							Mean	Std. Dev.
	1	2	3	4	5	6	7		
0	33.4	33.9	33.5	37.4		45.5	34.4	36.35	4.721335
1	64.5	75.5	80.4	73.5		61	68.7	70.6	7.231044
2	69.8	79.3	81.8	78.9		70.1	72.5	75.4	5.220728
3	73.9	81.4	83.2	80.4		73.1	75.2	77.86667	4.310762
4	76.3	84.6	83.6	81.6		76.8	77.8	80.11667	3.615753
5	78.2	85.6	85.3	82.7		77.5	79.1	81.4	3.613309
6	81.2	86	85.7	83.5		78.4	81	82.63333	2.970971
7	83.4	85.9	86.5	85		79	82.4	83.7	2.765502
8	84.6	86.3	88.1	84.3		79.9	82.9	84.35	2.822587
9	86	88.1	88.6	85.8		81.5	84	85.66667	2.637928
10	86.4	88.1	88.8	84.8		81.5	85.3	85.81667	2.622531
11	88.6	89.5	88.6	85.6		81.4	86.2	86.65	2.986469
12	88.1	88.9	88.9	87.8	73	81.4	86.3	84.91429	5.866126
13	90	90	89.9	88.6	73.9	82.7	86	85.87143	5.932317
14	90.5	89.9	90.7	88	75.8	83.6	87.6	86.58571	5.346472
15	91.4	91.7	90	90.5	76.1	84.3	90	87.71429	5.689589
16	92	90.9	92.1	89.8	78	84.3	92.5	88.51429	5.42446
17	91.9	90.5	91.2	88.2	78.6	85.2	90	87.94286	4.688943
18	93.5	91.6	92.4	91.4	79.9	86.8	90.7	89.47143	4.713708
19	94	92.3	91.4	94.8	80.3	85.1	90.4	89.75714	5.230315
20	94.7	91.4	92.7	95.1	80.8	87.2	91.8	90.52857	5.018537
21	94.4	91.5	92.6	93.8	81.6	88.8	92.4	90.72857	4.41313
22	94.4	92.6	92.8	94.5	82.5	88.3	92.1	91.02857	4.288634
23	94.1	91.7	93.4	95.3	83.6	88.6	93.2	91.41429	4.051925
24	95.6	92.3	93.4	95.5	82.9	88	94	91.67143	4.642454
25	95.5	91.7	94.4	95	84.4	89.3	93.3	91.94286	3.954262
26	95.7	92.6	94.3	95.2	84.1	88.6	94.2	92.1	4.248921
27	94.8	92.7	94.8	94.7	85.2	87.6	93.8	91.94286	3.921674
28	95.3	91.4	94.5	94.7	85.7	88.5	94.1	92.02857	3.677279
29	94.2	92.3	95	94.3	86.4	88.8	93.8	92.11429	3.265184
30	95.6	92.1	93.6	94.3	87.5	87.7	95	92.25714	3.368905
31	94.5	93	93.6	95.6	87.4	88.6	94.5	92.45714	3.169573
32	95.9	92.1	94.5	96.1	88.2	88.9	95.9	93.08571	3.398249
33	95.9	94.2	95.3	94.5	88.5	89.1	95.9	93.34286	3.173776
34	95.7	94.2	95.1	95	89.5	90.2	97.2	93.84286	2.883781
35	96.1	94.2	94.2	96.5	89.1	91.2	96.9	94.02857	2.915313
36	96.9	95.1	93.7	97.1	88.7	93.2	95.9	94.37143	2.906725
37	96.8	95.1	94.1	97.1	89	91.5	97.5	94.44286	3.183215
38	97	96	93.9	96.1	89.5	91.4	97	94.41429	2.950383
39	96.6	94.9	94	97.7	88.7	92.9	96.1	94.41429	2.993565
40	97.2	96.2	95.4	97.8	89.6	92	96.7	94.98571	3.036681
41	96.7	95.4	94.5	96.5	89.5	92.3	97	94.55714	2.760348
42	95.9	96.5	93.6	98.2	90	92.6	96.8	94.8	2.857155
43	96.6	96.5	94	98.5	90.1	92.9	96.8	95.05714	2.877995
44	96.6	97.2	94.2	97.5	90.6	93.8	97.3	95.31429	2.571918
45		97.8		98.3	91.1	92.6	97.7	95.5	3.381568
46		96.6		98.3	91.9	93.6	96.7	95.42	2.599423
47		96.6		98.8	92	94.9	97.6	95.98	2.644239
48		98.2		98.4	92.5	94	96.9	96	2.629639
49		98.3		98	92.6	95.3	98	96.44	2.4684
50		97.3		97.3	92.7	94.5	97.8	95.92	2.220811
51		96.8		98.7	92.7	93.3	97.8	95.86	2.704256
52		98.1		98.6	92.7	91.9	96.5	95.56	3.088365
53		96.9		97.5	93.1	94.3	97.6	95.88	2.052316
54		97.8		97.1	93.2	94.4	98	96.1	2.167948
55		97.8		98.9	92.4	93.2	97.7	96	2.972373
56		97		98.1	92.9	94.2	97.6	95.96	2.281009
57		98.5		97.6	92.5	94.9	98	96.3	2.540669
58		97.3		99.2	92.7	92.8	97.9	95.98	3.027705
59		97.1		98.3	91.9	92.4	97.5	95.44	3.039408
60		98.5		97.9	93	90.4	97.2	95.4	3.530581
61		97.5		98	93.2	90.3	96.5	95.1	3.270321
62		97		99.3				98.15	1.626346
63		98.4		97.5				97.95	0.636396
64		96.7		99				97.85	1.626346
65		97.7		97.5				97.6	0.141421
66		97.5		98.2				97.85	0.494975
67		96.4						96.4	
68		97.1						97.1	
69		95.6						95.6	
70		96.3						96.3	
71		97.3						97.3	
72		96.9						96.9	
73		93.6						93.6	

Garment #4									
Time (min)	Subject							Mean	Std. Dev.
	1	2	3	4	5	6	7		
0	33.2		33.4	33.5	33.5	27.7	33.9	32.53333	2.378795
1	61.7		76.6	83.3	58.4	77.8	63	70.13333	10.33086
2	63.7		79.7	86.7	64.8	86.3	69.2	75.06667	10.50727
3	67.3		81.3	89.3	68.8	89.5	72.6	78.13333	9.990128
4	71.6		83.1	91	71	90.4	76.9	80.66667	8.913735
5	74		85	92.4	73.5	91.7	79.1	82.61667	8.409855
6	75.8		84.9	92.4	74.9	93.1	81.8	83.81667	7.859623
7	77.9		85.8	92.8	76.8	93.4	83.6	85.05	7.094153
8	79.9		87.1	94.9	78.1	95.4	86	86.9	7.260028
9	80.8		88	93.8	79.1	95.9	87.7	87.55	6.722723
10	82.9		87.7	94.2	81	96.3	88.8	88.48333	6.027741
11	83.6		89.2	95.1	82.5	96.2	89.7	89.38333	5.658769
12	84.7		89.2	96.5	83.2	96.8	89.9	90.05	5.717604
13	85.2		89.9	95.6	83.8	96.5	89.7	90.11667	5.198237
14	85.3		90.7	96.1	85.6	97.1	90.1	90.81667	5.011354
15	86.2		91	97.3	86.3	96.8	91.4	91.5	4.839835
16	87.4		91.9	96.7	87.4	97.6	91.9	92.15	4.3739
17	88.6		92.7	96.2	88.1	96.6	92.6	92.46667	3.608693
18	90		91.8	97.6	88.7	97.7	91.9	92.95	3.830796
19	90.2		92.2	98	89.4	97.5	93.2	93.41667	3.624592
20	90.9		92.5	98	90	97.3	93.7	93.73333	3.298889
21	90.2		92.3	98.3	89.7	98	94.1	93.76667	3.741479
22	91.2		92	98.5	91.4	99.2	94.3	94.43333	3.601481
23	91.9		91.6	98.7	91.8	98.9	93.8	94.45	3.462225
24	92.8		90.4	98.8	92.3	97.9	94.4	94.43333	3.303735
25	92.8		90.1	97.3	92.6	97.8	95.2	94.3	2.994662
26	93.3		89.5	99	92.8	98.9	95.4	94.81667	3.718826
27	92.8		87.4	98.9	93.4	98	95.2	94.28333	4.155198
28	92.4		86.9	98.6	93.7	98.5	94.4	94.08333	4.349444
29	93.8		86.2	98.7	94.2	99.2	95.5	94.6	4.6934
30	92.9		85.3	99.2	94.5	99	95.5	94.4	5.108424
31	94.2		84.6	99.2	93.7	98.9	95.9	94.41667	5.331197
32	94.1		84.1	99.2	94.3	99.2	94.5	94.23333	5.515675
33	93		86.7	99	93.8	98.9	94.5	94.31667	4.538465
34	93.7		88.2	98.1	94.7	98.3	94.8	94.63333	3.681123
35	93.6		83	99	95.6	97.8	95.2	94.03333	5.737479
36	94.4		80.5	98.7	95.6	99.2	95.5	93.98333	6.875294
37	94.5		79.9	98.9	94.8	97.8	96.2	93.68333	6.962591
38	94.3		82.1	98.8	95.9	99.4	96.2	94.45	6.342476
39	93.4		84.4	99.3	95.2	99.3	96.1	94.61667	5.518484
40	93.8		84.6	99.3	96.5	98.3	95	94.58333	5.295061
41	94.8		86.3	97.5	95.5	99.2	95.8	94.85	4.480513
42	95.1			99	96.5	97.7	96.1	96.88	1.507315
43	95.3	98.3		99.3	95.5	98	96.1	97.08333	1.666633
44	95	98.3		98	95.6	98.7	96.3	96.98333	1.551021
45		98.6		98.5	95.9	98.7	96.3	97.6	1.378405
46		97.6		97.5	95.6	99.4	95.1	97.04	1.727136
47		97.7		99.2	97	98.4	94.9	97.44	1.637987
48		99.1		99.2	97	99.4	95.7	98.08	1.648332
49		99		99.3	94.6	99.4	95.6	97.58	2.296084
50		99.2		98.5		97.6	94.9	97.55	1.884144
51		97.6		97.8		99	96.2	97.65	1.147461
52		99.4		97.3		97.6	95.1	97.35	1.763519
53		99.3		97.3		99.5	95.1	97.8	2.055886
54		97.5		99.2		98.5	95.1	97.575	1.791415
55						98.8	95.1	96.95	2.616295
56						99.7	96.5	98.1	2.262742
57						98.2	95.2	96.7	2.12132
58						98.7	95	96.85	2.616295
59						99.7	96.4	98.05	2.333452
60							95.6	95.6	
61							95.9	95.9	
62							95.1	95.1	

Garment #5									
Time (min)	Subject							Mean	Std. Dev.
	1	2	3	4	5	6	7		
0		32.4			34.9	34	33.6	33.725	1.037224
1		82.6			57.2	57.4	57.9	63.775	12.55345
2		84.1			58.8	66	59.5	67.1	11.78785
3		85.8			60.6	73	62.6	70.5	11.55797
4		87.4			62.9	76.8	65.9	73.25	11.16497
5		88.4			64.1	78.6	67.4	74.625	11.08343
6		89.7			65.7	78.8	69.2	75.85	10.76677
7		91.2			67.3	79.6	70.1	77.05	10.80262
8		90.7			69	80.6	72.3	78.15	9.6859
9		92.2			70	80.8	74	79.25	9.716481
10		92.6			70.2	82.1	75.3	80.05	9.683147
11		94			72.1	82.5	77	81.4	9.413111
12		94.7			72.6	82.2	77.5	81.75	9.481385
13		94.9			73.8	81.3	78.4	82.1	9.074874
14		94.2			75.1	81.7	79.9	82.725	8.141407
15		96.1			75.8	80.2	80.2	83.075	8.927626
16		96.9			84.1	80.8	81.5	85.825	7.518588
17		96.4			88.8	86.6	83.2	88.75	5.59613
18		96.7			87.8	92.7	83.7	90.225	5.671787
19		95.4			88.6	90.3	83.6	89.475	4.867152
20		95.7			89.2	85.5	86	89.1	4.695388
21		95.7			90.4	86.9	87.6	90.15	3.997082
22		96.9			91.4	89.9	87.8	91.5	3.891015
23		97.2		91.7	92.2	90.2	88.9	92.04	3.162752
24		98		92.7	92.8	90.7	88.4	92.52	3.550634
25		96.8		94	92.6	90.7	89.6	92.74	2.833733
26		97.1		94.9	92.8	90.9	90	93.14	2.905684
27		97.3		95.6	93.6	91.6	89.5	93.52	3.101129
28		97.4		94.9	93.7	90.8	91.1	93.58	2.749
29		98.3		94.9	93.3	92.3	91.2	94	2.762245
30		99.1		94.9	93	91.2	91.4	93.92	3.255303
31		98.9		96.8	94	90.9	91.9	94.5	3.33991
32		97.5		97	92.7	90.9	91.6	93.94	3.094027
33		99.1		98	94.9	93.1	90.8	95.18	3.424471
34		98.3		96.9	95.5	94.2	90.4	95.06	3.022085
35		99		98	94.2	95.9	90.7	95.56	3.292871
36		97.6		96.6	95.1	96.4	91.8	95.5	2.251668
37		97.6		96.6	94.9	94.3	92.1	95.1	2.131901
38		98.6		96.4	94.6	93.7	93.3	95.32	2.187921
39		97.6		98.2	94.9	95	93.8	95.9	1.897367
40		99.4		98.5	93.6	95.2	94.2	96.18	2.611896
41		98.5		98.4	94.9	95.2	94.2	96.24	2.050122
42		99		97.1	94.8	95.7	93.3	95.98	2.181055
43		97.8		98.2	94.9	96.4	94.5	96.36	1.662227
44		98.5		97.4	94.8	96.7	93.7	96.22	1.948589
45		99.4		97.3	94.7	97	94.5	96.58	2.031502
46		98.2		97.2	94.5	96.3	94.8	96.2	1.570032
47		99.4		97.3	93.2	95.7	93.5	95.82	2.610939
48		99.4		98.4	94.1	96.8	95.4	96.82	2.15453
49		98		99.3	93.8	96.7	94.2	96.4	2.380128
50		99.4		99.2	95.3	96.2	95.9	97.2	1.945508
51		97.6		99.4	94.5	96.8	95.1	96.68	1.96901
52		99.2		98.5	94.5	98.5	96.8	97.5	1.896049
53		99		99.3	94.4	97.4	96.5	97.32	1.996747
54		99.4		97.8	94.5	98.5	96.8	97.4	1.88016
55				98.7	93.1	96.9	97	96.425	2.365551
56				98.6	94.4	98.5	97	97.125	1.958528
57				99.4	94.6	98.7	96.8	97.375	2.15155
58				97.7	94.9	98.5	96.8	96.975	1.547848
59				97.7	94.3	97.8	97.1	96.725	1.645955
60				99.1	93.4	99	97.2	97.175	2.663801
61				99.4	94.6	97.4	96.8	97.05	1.975686
62				98.3		98.9	96.5	97.9	1.249
63				98.6		99.1	95.3	97.66667	2.064784
64				99.3		98.2	95.6	97.7	1.9
65				98.2		98.7	95.2	97.36667	1.892969
66				98.9		99	95.4	97.76667	2.050203
67				97.4		99		98.2	1.131371
68				98.9		97.4		98.15	1.06066
69				97.8		99.2		98.5	0.989949
70				98.9		98.7		98.8	0.141421
71				98.9		98.3		98.6	0.424264
72						99.4		99.4	

Garment #6									
Time (min)	Subject							Mean	Std. Dev.
	1	2	3	4	5	6	7		
0	34.6	33.7	32.7	33.2	34.2	32.6	33.7	33.52857	0.743223
1	76.1	71.2	69.7	52.1	60.7	62	59.1	64.41429	8.266887
2	78.1	72.1	71.6	67.9	64.3	64	66	69.14286	5.104526
3	80.3	73.4	73.1	74.1	66.1	65	70.6	71.8	5.195511
4	81.5	75.1	74.1	78.5	68.8	66.2	71.2	73.62857	5.361503
5	82.9	77.3	75.1	79.8	71.1	69.6	72.8	75.51429	4.797718
6	83.9	78.9	75.9	81.3	72.8	72.4	73.3	76.92857	4.534576
7	86.3	79.9	75.4	82	74	74	74.5	78.01429	4.821974
8	87.1	80.8	76.2	83.4	75.8	74.9	75.9	79.15714	4.699949
9	88.1	81.5	77.2	84.5	77.2	76.6	75.9	80.14286	4.69072
10	88.3	82	78.5	85.3	78	77.3	77.1	80.92857	4.413885
11	88.8	83.4	78.9	87.2	78.4	78.7	77.5	81.84286	4.632802
12	89.4	84.1	79.1	88.3	79.5	78.7	78	82.44286	4.813819
13	89	84.7	79.2	88.9	79.7	77.8	79.4	82.67143	4.800595
14	89.6	85.3	80	88.9	80.8	83	79.1	83.81429	4.243987
15	89.7	86.9	80.8	90.3	81.7	83.6	79.3	84.61429	4.391821
16	90.1	86.3	82.4	91.1	81.9	84	81.9	85.38571	3.891199
17	89.2	88	84	91.4	84.6	84.9	84.9	86.71429	2.834566
18	89.5	89.8	84.8	90	86.7	86	86.3	87.58571	2.125581
19	90.2	90.7	82.9	91.2	87.1	86.3	85.4	87.68571	3.113106
20	90.7	91.8	82.2	93.1	88.5	87	86.2	88.5	3.744329
21	90.9	91	82.6	94.3	88.6	87.2	87.8	88.91429	3.684394
22	91	92.6	81.6	92.9	90	87.6	87.2	88.98571	3.939724
23	91.4	92.6	81.3	93.4	90.4	87.4	88.3	89.25714	4.121431
24	91.5	92.1	82.3	94.7	90.3	88.1	88.9	89.7	3.922584
25	90.4	92.7	82.1	94.6	89.7	87.6	88.4	89.35714	4.011175
26	90.7	92.2	82.6	95.2	90.9	88.3	88.4	89.75714	3.93652
27	92.3	93.8	81.7	95.4	90.7	88.8	89.6	90.32857	4.455601
28	91.6	92.6	82.8	95	90.9	89.6	89.5	90.28571	3.803695
29	92.6	92.8	82.7	95.7	90.2	89	90.3	90.47143	4.08155
30	93.2	94.4	83.1	95.9	91.5	86.7	91.1	90.84286	4.498095
31	92.6	94.4	83.6	94.7	91.8	88.9	91.5	91.07143	3.826101
32	93.8	94.1	83.4	95.3	91.2	91.7	90.7	91.45714	3.933979
33	95	93.4	84.6	96.6	92	92.5	91.6	92.24286	3.805197
34	95.3	94.3	86	96.2	92.5	94	93.2	93.07143	3.353463
35	96.6	95.5	86	96.8	93.2	93.3	93.3	93.52857	3.67229
36	96.9	95.8	83.2	95.7	92.8	93.6	93	93	4.596738
37	95.6	96	83.2	95.7	93.5	94.9	93.9	93.25714	4.533158
38	97.3	97.1	85.3	97.4	93.1	96.3	95.1	94.51429	4.343742
39	95.9	95.6	85.6	97	93.8	95.2	95.9	94.14286	3.887526
40	96.8	95.9	87.2	97.5	93.9	95.5	96	94.68571	3.48589
41	97	97.3	88.1	98.3	93.3	95.1	96.3	95.05714	3.472883
42	97.4	95.7	87.6	98.3	93.2	94.8	96.1	94.72857	3.556081
43	96.5	95.9	87.1	98.6	94.3	94.7	95.1	94.6	3.603239
44	96.3	97.5		97.9	93.8	95.9	96.5	96.31667	1.445568
45	97.8	97.1		98.9	94.3	95.2	96.6	96.65	1.68612
46	97.7	96.7		97.4	94.6	92.1	95.4	95.65	2.104044
47		97.1		97.1	93.7	95	97	95.98	1.557883
48		97.6		98.3	93.3	95.6	95.6	96.08	1.963925
49		97.6		97.3	94.5	95.6	97.1	96.42	1.321741
50		96.3		98.7	94.5	95.7	97.1	96.46	1.570987
51		96.2		97.2	95.4	96.1	97.2	96.42	0.775887
52		98		99	94.8	96.9	96.3	97	1.607794
53		98		99	95.1	97.3	96.5	97.18	1.482228
54		96.6		98.9	93.8	96.7	95.8	96.36	1.836573
55		98.3		98.9	94.7	98.7	97.1	97.54	1.734359
56		97.5		98.8	94.9	97.3	96.5	97	1.43527
57		96.4		97.4	95.2	98.9	96.1	96.8	1.412445
58		96.2		99.1	95.1		97.8	97.05	1.759735
59		97.6		97.8			96.5	97.3	0.7
60		95.9		97.3			96.2	96.46667	0.737111
61		97.3		98.6			97.3	97.73333	0.750555
62				98.5			97.2	97.85	0.919239
63				97.4			96.8	97.1	0.424264
64				98				98	
65				98.6				98.6	

## **Appendix N**

### **Detailed Data from the Subjective Evaluation**

## Key to "Comfort Rating Form" Labels

The six evaluators subjects, identified as sub 1 - 7, wore and rated each garment. Some ratings were made after each of the periods and others were rated only once. They are designated by the item number as found on the Comfort Rating Form (Appendix B).

### Item #1

**WC1** = wear comfort, period 1

**WC2** = wear comfort, period 2

**WC3** = wear comfort, period 3

### Item #2

**HS1** = heat sensation, period 1

**HS2** = heat sensation, period 2

**HS3** = heat sensation, period 3

### Item #3

**M1** = moistness, period 1

**M2** = moistness, period 2

**M3** = moistness, period 3

### Item #4

**H1** = heaviness, period 1

**H2** = heaviness, period 2

**H3** = heaviness, period 3

### Item #5

**F1** = flexibility, period 1

**F2** = flexibility, period 2

**F3** = flexibility, period 3

### Item #6

**Fa** = fatigued/ not fatigued

### Item #7

**Fus** = unsatisfactory/ satisfactory fit

### Item #8

**Ftl** = fits tight/ fits loose

### Item #9

**Fp** = very unprotective feeling/ very protective feeling

### Item #10

**Lke** = overall dislike/ overall like

Warm Ratings

Garment #1

Sub	all			all			all					
	WC1	WC2	WC3	HS1	HS2	HS3	M1	M2	M3			
1	6	3	2	5	4	2	5	3	1			
2	6	6	6	5	3	2	5	4	2			
4	5	3	2	4	3	2	3	2	1			
5	5	3	2	5	3	2	6	3	2			
6	6	4	3	4	3	3	5	3	2			
7	6	6	5	5	3	2	7	3	2			
<b>Avg</b>	5.67	4.17	3.33	4.39	4.67	3.17	2.08	3.31	5.17	3.00	1.67	3.28
<b>StD</b>	0.52	1.47	1.75	1.25	0.52	0.41	0.20	0.38	1.33	0.63	0.52	0.83

Sub	all			all			Fa	Fus	Ftl	Fp	Lke		
	H1	H2	H3	F1	F2	F3							
1	4	3	3	5	5	5	5	5	5	5	5		
2	6	6	6	6	6	6	1	6	6	6	6		
4	5	5	5	6	6	6	1	6	6	5	5		
5	7	7	6	7	7	6	2	6	5	6	6		
6	7	5	4	4	4	3							
7	6	6	6	6	6	6	1	5	5	5	1		
<b>Avg</b>	5.83	5.33	5.00	5.39	5.67	5.67	5.33	5.56	2.00	5.60	5.40	5.40	4.60
<b>StD</b>	1.17	1.37	1.26	1.27	1.03	1.03	1.21	1.09	1.73	0.55	0.55	0.55	2.07

Warm Ratings

Garment #2	all			all			all					
Sub	WC1	WC2	WC3	HS1	HS2	HS3	M1	M2	M3			
1	5	3	2	5	4	2	6	3	1			
2	5	5	5	4	4	3	5	4	3			
4	6	4	4	3	2	2	5	2	1			
5	6	5	2	5	3	2	6	3	2			
6	6	6	5	6	4	4	5	3	2			
7	6	4	2	6	4	2	7	5	3			
<b>Avg</b>	5.67	4.50	3.33	4.50	4.83	3.50	2.50	3.61	5.67	3.33	2.00	3.67
<b>StD</b>	0.52	1.05	1.51	1.02	1.17	0.84	0.84	0.95	0.82	1.03	0.89	0.91

Sub	all			all			Fa	Fus	Ftl	Fp	Lke		
Sub	H1	H2	H3	F1	F2	F3	Fa	Fus	Ftl	Fp	Lke		
1	4	4	3	5	5	5	3	5	5	5	5		
2	5	5	5	6	6	6	1	5	5	7	4		
4	4	4	4	4	4	4	1	5	6	6	5		
5	7	7	7	7	7	7	3	5	5	6	6		
6	6	5	4	6	6	5	2	5	5	2	4		
7	5	5	5	6	6	6	1	6	4	5	6		
<b>Avg</b>	5.17	5.00	4.67	4.94	5.67	5.67	5.50	5.61	1.83	5.17	5.00	5.17	5.00
<b>StD</b>	1.17	1.10	1.37	1.21	1.03	1.03	1.05	1.04	0.98	0.41	0.63	1.72	0.89

Warm Ratings

Garment #3	all			all			all					
Sub	WC1	WC2	WC3	HS1	HS2	HS3	M1	M2	M3			
1	4	3	2	5	3	2	6	3	1			
2	6	6	6	5	4	3	6	5	3			
4	4	3	2	3	2	2	5	2	1			
5	5	3	1	5	4	2	6	3	1			
6	6	5	4	5	4	3	5	4	2			
7	5	4	3	5	3	2	6	3	2			
<b>Avg</b>	5.00	4.00	3.00	4.00	4.67	3.33	2.33	3.44	5.67	3.33	1.67	3.56
<b>AtD</b>	0.89	1.26	1.79	1.32	0.82	0.82	0.52	0.72	0.52	1.03	0.82	0.79

Sub	all			all			Fa	Fus	Ftl	Fp	Lke		
	H1	H2	H3	F1	F2	F3							
1	4	4	4	5	5	5	3	5	5	6	5		
2	6	6	6	6	6	6	1	6	6	6	6		
4	5	5	5	5	5	5	1	6	6	5	6		
5	7	7	6	7	7	6	6	4	6	5			
6	6	5	3	6	6	4	2	3	4	4	3		
7	5	5	5	6	6	6	1	5	4	6	5		
<b>Avg</b>	5.50	5.33	4.83	5.22	5.83	5.83	5.33	5.67	2.33	4.83	5.17	5.33	5.00
<b>AtD</b>	1.05	1.03	1.17	1.08	0.75	0.75	0.82	0.77	1.97	1.17	0.98	0.82	1.22

Warm Ratings

Garment #4

Sub	all			all			all					
	WC1	WC2	WC3	HS1	HS2	HS3	M1	M2	M3			
1	4	2	1	4	3	2	5	2	1			
2	6	5	5	4	3	1	6	3	1			
4	3	2	2	2	2	2	4	2	1			
5	6	3	1	5	3	1	6	2	1			
6	6	6	3	5	3	2	5	3	1			
7	6	3	2	4	3	2	6	3	2			
<b>Avg</b>	5.17	3.50	2.33	3.67	4.00	2.83	1.67	2.83	5.33	2.50	1.17	3.00
<b>StD</b>	1.33	1.64	1.51	1.49	1.10	0.41	0.52	0.67	0.82	0.55	0.41	0.59

Sub	all			all			all				Lke		
	H1	H2	H3	F1	F2	F3	Fa	Fus	Ftl	Fp			
1	5	4	3	5	5	5	3	4	4	5	6		
2	6	5	4	6	6	6	2	6	6	6	5		
4	5	5	5	4	4	4	2	6	6	5	2		
5	7	7	7	7	7	7	3	6	4	6	6		
6	6	5	3	7	7	3	1	5	5	2	1		
7	5	5	5	6	6	6	1	5	5	5	4		
<b>Avg</b>	5.67	5.17	4.50	5.11	5.83	5.83	5.17	5.61	2.00	5.33	5.00	4.83	4.00
<b>StD</b>	0.82	0.98	1.52	1.11	1.17	1.17	1.47	1.27	0.89	0.82	0.89	1.47	2.10

Warm Ratings

Garment #5

Sub	all			all			all					
	WC1	WC2	WC3	HS1	HS2	HS3	M1	M2	M3			
1	3	3	2	4	3	2	5	3	1			
2	7	7	7	4	3	2	5	3	2			
4	5	3	3	3	2	2	5	3	2			
5	6	3	2	5	3	2	6	3	1			
6	6	6	5	5	4	3	5	4	2			
7	6	4	4	5	4	3	6	4	3			
<b>Avg</b>	5.50	4.33	3.83	4.56	4.33	3.17	2.33	3.28	5.33	3.33	1.83	3.50
<b>StD</b>	1.38	1.75	1.94	1.69	0.82	0.75	0.52	0.70	0.52	0.52	0.75	0.60

Sub	all			all									
	H1	H2	H3	F1	F2	F3	Fa	Fus	Ftl	Fp	Lke		
1	4	4	3	5	5	5	3	5	5	6	5		
2	7	7	7	7	7	7	1	7	7	5	5		
4	5	5	5	6	6	6	2	6	6	5	5		
5	7	7	7	7	7	7	2	6	6	6	6		
6	7	5	4	7	7	7	1	7	5	6	5		
7	6	5	5	6	6	6	1	5	4	4	6		
<b>Avg</b>	6.00	5.50	5.17	5.56	6.33	6.33	6.33	6.33	1.67	6.00	5.50	5.33	5.33
<b>StD</b>	1.26	1.22	1.60	1.36	0.82	0.82	0.82	0.82	0.82	0.89	1.05	0.82	0.52

Warm Ratings

Garment #6

Sub	all			all			all					
	WC1	WC2	WC3	HS1	HS2	HS3	M1	M2	M3			
1	5	1	1	4	2	2	5	1	1			
2	6	6	6	4	4	1	5	3	1			
4	4	3	2	4	3	2	4	2	1			
5	6	5	3	6	4	2	6	4	1			
6	6	6	4	6	5	3	5	4	3			
7	5	5	3	5	4	3	6	5	2			
<b>Avg</b>	5.33	4.33	3.17	4.28	4.83	3.67	2.17	3.56	5.17	3.17	1.50	3.28
<b>StD</b>	0.82	1.97	1.72	1.50	0.98	1.03	0.75	0.92	0.75	1.47	0.84	1.02

Sub	all			all			Fa	Fus	Ftl	Fp	Lke		
	H1	H2	H3	F1	F2	F3							
1	4	2	2	5	4	4	2	5	4	1	5		
2	6	6	6	6	6	6	1	6	6	6	6		
4	5	5	5	6	6	6	1	5	5	5	5		
5	7	7	7	7	7	7	2	6	4	6	6		
6	6	5	4	6	6	4	1	3	4	3	4		
7	6	6	6	7	7	7	1	6	4	2	3		
<b>Avg</b>	5.67	5.17	5.00	5.28	6.17	6.00	5.67	5.94	1.33	5.17	4.50	3.83	4.83
<b>StD</b>	1.03	1.72	1.79	1.51	0.75	1.10	1.37	1.07	0.52	1.17	0.84	2.14	1.17

## **Appendix O**

### **Summary and Statistical Analysis of Data from the Subjective Evaluation**

**Table P-1. Rating Mean (Standard Deviation) on Comfort Factors  
for Three Warm Periods Combined**

Sensory Term	-----Turnout Systems-----					
	1	2	3	4	5	6
Wear Comfort*	4.39 (1.25)	4.50 (1.02)	4.00 (1.32)	3.67 (1.49)	4.56 (1.69)	4.28 (1.50)
Heat Sensation*	3.31 (0.38)	3.61 (0.95)	3.44 (0.72)	2.83 (0.67)	3.28 (0.70)	3.56 (0.92)
Moistness*	3.28 (0.83)	3.67 (0.91)	3.56 (0.79)	3.00 (0.59)	3.50 (0.60)	3.28 (1.02)
Heaviness*	5.39 (1.27)	4.94 (1.21)	5.22 (1.08)	5.11 (1.11)	5.56 (1.36)	5.28 (1.51)
Flexability*	5.56 (1.09)	5.61 (1.04)	5.67 (0.77)	5.61 (1.27)	6.33 (0.82)	5.94 (1.07)
Fatigue	2.00 (1.73)	1.83 (0.98)	2.33 (1.97)	2.00 (0.89)	1.67 (0.82)	1.33 (0.52)
Satisfactory Fit	5.60 (0.55)	5.17 (0.41)	4.83 (1.17)	5.33 (0.82)	6.00 (0.89)	5.17 (1.17)
Tight/ Loose Fit	5.40 (0.55)	5.00 (0.63)	5.17 (0.98)	5.00 (0.89)	5.50 (1.05)	4.50 (0.84)
Protective	5.40 (0.55)	5.17 (1.72)	5.33 (0.82)	4.83 (1.47)	5.33 (0.82)	3.83 (2.14)
Overall Dis/ Like	4.60 (2.07)	5.00 (0.89)	5.00 (1.22)	4.00 (2.10)	5.33 (0.52)	4.83 (1.17)

Ratings: 1 = lowest/ worst; 7 = highest/ best rating

\*Combined average rating for all periods.

## 1998 Firefighter Wear Trial

Warm Environment (39°C, 35%RH) Summary of Subjective Ratings  
t-Test Paired Two Sample Means (Average of 3 Rating Periods)

1. Wear Comfort (WC)						2. Heat Sensation (HS)						3. Moistness (M)					
	2	3	4	5	6		2	3	4	5	6		2	3	4	5	6
1	0	0	0	0	0	1	0	0	**	0	0	1	*	0	*	0	0
2		0	*	0	0	2		0	***	*	0	2		0	***	0	0
3			0	**	0	3			**	0	0	3			**	0	0
4				**	*	4				**	**	4				**	0
5					0	5					0	5					0
4. Heavy (H)						5. Flexible (F)						6. Fatigued (Fa)					
	2	3	4	5	6		2	3	4	5	6		2	3	4	5	6
1	0	0	0	0	0	1	0	0	0	0	*	1	0	0	0	0	0
2		0	0	0	0	2		0	0	*	0	2		0	0	0	*
3			0	0	0	3			0	*	0	3			0	0	0
4				0	0	4				*	0	4				0	**
5					0	5					0	5					0
7. Fit Un/Satisfact (Fu)						8. Fits Tight/Loose (Ft)						9. Feels Protective (Fp)					
	2	3	4	5	6		2	3	4	5	6		2	3	4	5	6
1	0	0	0	0	0	1	0	0	0	0	***	1	0	0	0	0	*
2		0	0	0	0	2		0	0	0	0	2		0	0	0	0
3			0	0	0	3			0	0	0	3			0	0	0
4				0	0	4				0	*	4				0	0
5					0	5					**	5					0
10. Like/Dislike (Lk)																	
	2	3	4	5	6												
1	0	0	0	0	0												
2		0	0	0	0												
3			0	0	0												
4				0	0												
5					0												

\* Significant at the 90% level  
 \*\* Significant at the 95% level  
 \*\*\* Significant at the 99% level  
 0 Not significant at the 90% level

## 1998 Firefighter Wear Trial

### Warm Environment (39°C, 35%RH) Summary of Subjective Ratings Paired Contrast by Rating Period

1. Wear Comfort (WC)						2. Heat Sensation (HS)						3. Moistness (M)					
	2	3	4	5	6	I.D.	2	3	4	5	6	I.D.	2	3	4	5	6
1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
2		0	0	0	0	2		0	0		0	2		0	* <sup>(3)</sup> 2>4	0	0
3			0	0	0	3			* <sup>(3)</sup> 3>4	0	0	3			0	0	0
4				0	0	4				* <sup>(3)</sup> 5>4	* <sup>(2)</sup> 06>4	4				0	0
5					0	5					0	5					0
4. Heavy (H)						5. Flexible (F)						6. Fatigued (Fa)					
I.D.	2	3	4	5	6	I.D.	2	3	4	5	6	I.D.	2	3	4	5	6
1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
2		0	0	0	0	2		0	0	0	0	2		0	0	0	0
3			0	0	0	3			0	0	0	3				0	0
4				0	0	4				* <sup>(3)</sup> 5>4	0	4				0	0
5					0	5					0	5					0
7. Fit Un/Satisfactory (Fu)						8. Fits Tight/Loose (Ft)						9. Feels Protective (Fp)					
I.D.	2	3	4	5	6	I.D.	2	3	4	5	6	I.D.	2	3	4	5	6
1	0	0	0	0	0	1	0	0	0	0	*** 1>6	1	0	0	0	0	1>6
2		0	0	0	0	2		0	0	0	0	2		0	0	0	0
3			0	** 5>3	0	3			0	0	0	3			0	0	3>6
4				0	0	4				0	0	4				0	0
5					0	5					* 5>6	5					* 5>6

(See notes at the end of the table, after item #10 on the next page.)

## 1998 Firefighter Wear Trial

### Warm Environment (39°C, 35%RH) Summary of Subjective Ratings Paired Contrast by Rating Period

#### 10. Like/Dislike (Lk)

I.D.	2	3	4	5	6
1	0	0	0	0	0
2		0	0	0	0
3			0	0	0
4				0	0
5					0

---

\* Significant at the 90% level

\*\* Significant at the 95% level

\*\*\* Significant at the 99% level

0 Not significant at the 90% level

( ) = test period with significant differences between garments

NOTE: Only items #1 - 5 were rated after each walk period.

Items 6 - 10 were rated only once at the end of the test.

## KEY TO LABELS IN DETAILED DATA AND STATISTICAL OUTPUT

Garments: 1-6

Subjects: 1-7

### Subjective Ratings (values 1-7)

WC = wear comfort

HS = heat sensation

M = moistness

H = heaviness

F = flexibility

Fa = fatigued-not fatigued

Fu = fits unsatisfactory-satisfactory (or Fus)

Ft = fits tight-fits loose (or Ftl)

Fp = feels unprotective-feels protective

Lk = dislikes overall-likes overall (or Lke)

### Significant Statistical Differences

\*\*\* Significant at the 99% probability level

\*\* Significant at the 95% probability level

\* Significant at the 90% probability level

0 Not significant at the 90% level

**Firefighter Study Subjective Ratings t-Test, Warm Condition (39 C, 35%RH), All Periods Combined**  
**I. Wear Comfort (WC)**

	WC1	WC2		WC1	WC3		WC1	WC4
Mean	4.388889	4.5	Mean	4.388889	4	Mean	4.388889	3.666667
Variance	1.396296	0.655556	Variance	1.396296	1.6	Variance	1.396296	1.644444
Observatio:	6	6	Observatio:	6	6	Observatio:	6	6
Pearson Cc	0.19743		Pearson Cc	0.802846		Pearson Cc	0.703931	
Hypothesiz	0		Hypothesiz	0		Hypothesiz	0	
df	5		df	5		df	5	
t Stat	-0.210352		t Stat	1.233588		t Stat	1.857143	
P(T<=t) on	0.420848		P(T<=t) on	0.13609		P(T<=t) on	0.06121	
t Critical o:	2.015049		t Critical o:	2.015049		t Critical o:	2.015049	
P(T<=t) tw	0.841697	nsd	P(T<=t) tw	0.272179	nsd	P(T<=t) tw	0.12242	nsd
t Critical tv	2.570578		t Critical tv	2.570578		t Critical tv	2.570578	

	WC1	WC5		WC1	WC6		WC2	WC3
Mean	4.388889	4.555556	Mean	4.388889	4.277778	Mean	4.5	4
Variance	1.396296	2.474074	Variance	1.396296	1.92963	Variance	0.655556	1.6
Observatio:	6	6	Observatio:	6	6	Observatio:	6	6
Pearson Cc	0.781137		Pearson Cc	0.625015		Pearson Cc	0.650945	
Hypothesiz	0		Hypothesiz	0		Hypothesiz	0	
df	5		df	5		df	5	
t Stat	-0.415227		t Stat	0.241121		t Stat	1.275345	
P(T<=t) on	0.347596		P(T<=t) on	0.409518		P(T<=t) on	0.129114	
t Critical o:	2.015049		t Critical o:	2.015049		t Critical o:	2.015049	
P(T<=t) tw	0.695192	nsd	P(T<=t) tw	0.819037	nsd	P(T<=t) tw	0.258228	nsd
t Critical tv	2.570578		t Critical tv	2.570578		t Critical tv	2.570578	

	WC2	WC4		WC2	WC5		WC2	WC6
Mean	4.5	3.666667	Mean	4.5	4.555556	Mean	4.5	4.277778
Variance	0.655556	1.644444	Variance	0.655556	2.474074	Variance	0.655556	1.92963
Observatio:	6	6	Observatio:	6	6	Observatio:	6	6
Pearson Cc	0.727699		Pearson Cc	0.732868		Pearson Cc	0.721172	
Hypothesiz	0		Hypothesiz	0		Hypothesiz	0	
df	5		df	5		df	5	
t Stat	2.298193		t Stat	-0.12109		t Stat	0.5547	
P(T<=t) on	0.034965		P(T<=t) on	0.454168		P(T<=t) on	0.301499	
t Critical o:	2.015049		t Critical o:	2.015049		t Critical o:	2.015049	
P(T<=t) tw	0.06993	*	P(T<=t) tw	0.908336	nsd	P(T<=t) tw	0.602997	nsd
t Critical tv	2.570578		t Critical tv	2.570578		t Critical tv	2.570578	

	WC3	WC4		WC3	WC5		WC3	WC6
Mean	4	3.666667	Mean	4	4.555556	Mean	4	4.277778
Variance	1.6	1.644444	Variance	1.6	2.474074	Variance	1.6	1.92963
Observatio:	6	6	Observatio:	6	6	Observatio:	6	6
Pearson Cc	0.945294		Pearson Cc	0.971718		Pearson Cc	0.834708	
Hypothesiz	0		Hypothesiz	0		Hypothesiz	0	
df	5		df	5		df	5	
t Stat	1.936492		t Stat	-2.988072		t Stat	-0.881134	
P(T<=t) on	0.055283		P(T<=t) on	0.015257		P(T<=t) on	0.20929	
t Critical o:	2.015049		t Critical o:	2.015049		t Critical o:	2.015049	
P(T<=t) tw	0.110567	nsd	P(T<=t) tw	0.030515	**	P(T<=t) tw	0.41858	nsd
t Critical tv	2.570578		t Critical tv	2.570578		t Critical tv	2.570578	

	WC4	WC5
Mean	3.666667	4.555556
Variance	1.644444	2.474074
Observatio:	6	6
Pearson Cc	0.94748	
Hypothesiz	0	
df	5	
t Stat	-4	
P(T<=t) on	0.005162	
t Critical o:	2.015049	
P(T<=t) tw	0.010323	**
t Critical tv	2.570578	

	WC4	WC6
Mean	3.666667	4.277778
Variance	1.644444	1.92963
Observatio:	6	6
Pearson Cc	0.948101	
Hypothesiz	0	
df	5	
t Stat	-3.378623	
P(T<=t) on	0.009852	
t Critical o:	2.015049	
P(T<=t) tw	0.019704	**
t Critical tv	2.570578	

	WC5	WC6
Mean	4.555556	4.277778
Variance	2.474074	1.92963
Observatio:	6	6
Pearson Cc	0.901788	
Hypothesiz	0	
df	5	
t Stat	1	
P(T<=t) on	0.181609	
t Critical o:	2.015049	
P(T<=t) tw	0.363217	nsd
t Critical tv	2.570578	

## 2. Heat Sensation (HS)

	HS1	HS2
Mean	3.305556	3.611111
Variance	0.049074	0.596296
Observatio:	6	6
Pearson Cc	0.31394	
Hypothesiz	0	
df	5	
t Stat	-1.020445	
P(T<=t) on	0.177163	
t Critical o:	2.015049	
P(T<=t) tw	0.354326	nsd
t Critical tv	2.570578	

	HS1	HS3
Mean	3.305556	3.444444
Variance	0.049074	0.385185
Observatio:	6	6
Pearson Cc	0.350202	
Hypothesiz	0	
df	5	
t Stat	-0.585206	
P(T<=t) on	0.291911	
t Critical o:	2.015049	
P(T<=t) tw	0.583823	nsd
t Critical tv	2.570578	

	HS1	HS4
Mean	3.305556	2.833333
Variance	0.049074	0.211111
Observatio:	6	6
Pearson Cc	0.491234	
Hypothesiz	0	
df	5	
t Stat	2.890087	
P(T<=t) on	0.017092	
t Critical o:	2.015049	
P(T<=t) tw	0.034183	**
t Critical tv	2.570578	

	HS1	HS5
Mean	3.305556	3.277778
Variance	0.049074	0.418519
Observatio:	6	6
Pearson Cc	0.14214	
Hypothesiz	0	
df	5	
t Stat	0.104144	
P(T<=t) on	0.460552	
t Critical o:	2.015049	
P(T<=t) tw	0.921103	nsd
t Critical tv	2.570578	

	HS1	HS6
Mean	3.305556	3.555556
Variance	0.049074	0.607407
Observatio:	6	6
Pearson Cc	-0.343234	
Hypothesiz	0	
df	5	
t Stat	-0.695608	
P(T<=t) on	0.258836	
t Critical o:	2.015049	
P(T<=t) tw	0.517672	nsd
t Critical tv	2.570578	

	HS2	HS3
Mean	3.611111	3.444444
Variance	0.596296	0.385185
Observatio:	6	6
Pearson Cc	0.803718	
Hypothesiz	0	
df	5	
t Stat	0.888523	
P(T<=t) on	0.207477	
t Critical o:	2.015049	
P(T<=t) tw	0.414954	nsd
t Critical tv	2.570578	

	HS2	HS4
Mean	3.611111	2.833333
Variance	0.596296	0.211111
Observatio:	6	6
Pearson Cc	0.908174	
Hypothesiz	0	
df	5	
t Stat	4.719399	
P(T<=t) on	0.002623	
t Critical o:	2.015049	
P(T<=t) tw	0.005245	***
t Critical tv	2.570578	

	HS2	HS5
Mean	3.611111	3.277778
Variance	0.596296	0.418519
Observatio:	6	6
Pearson Cc	0.882256	
Hypothesiz	0	
df	5	
t Stat	2.236068	
P(T<=t) on	0.037793	
t Critical o:	2.015049	
P(T<=t) tw	0.075587	*
t Critical tv	2.570578	

	HS2	HS6
Mean	3.611111	3.555556
Variance	0.596296	0.607407
Observatio:	6	6
Pearson Cc	0.615411	
Hypothesiz	0	
df	5	
t Stat	0.2	
P(T<=t) on	0.42468	
t Critical o:	2.015049	
P(T<=t) tw	0.849361	nsd
t Critical tv	2.570578	

	HS3	HS4
Mean	3.444444	2.833333
Variance	0.385185	0.211111
Observatio:	6	6
Pearson Cc	0.779287	
Hypothesiz	0	
df	5	
t Stat	3.841367	
P(T<=t) on	0.006053	
t Critical o:	2.015049	
P(T<=t) tw	0.012107	**
t Critical tv	2.570578	

	HS4	HS5
Mean	2.833333	3.277778
Variance	0.211111	0.418519
Observatio:	6	6
Pearson Cc	0.859751	
Hypothesiz	0	
df	5	
t Stat	-3.162278	
P(T<=t) on	0.012516	
t Critical o:	2.015049	
P(T<=t) tw	0.025031	**
t Critical tv	2.570578	

	HS3	HS5
Mean	3.444444	3.277778
Variance	0.385185	0.418519
Observatio:	6	6
Pearson Cc	0.627268	
Hypothesiz	0	
df	5	
t Stat	0.745356	
P(T<=t) on	0.244795	
t Critical o:	2.015049	
P(T<=t) tw	0.48959	nsd
t Critical tv	2.570578	

	HS4	HS6
Mean	2.833333	3.555556
Variance	0.211111	0.607407
Observatio:	6	6
Pearson Cc	0.620572	
Hypothesiz	0	
df	5	
t Stat	-2.892462	
P(T<=t) on	0.017044	
t Critical o:	2.015049	
P(T<=t) tw	0.034089	**
t Critical tv	2.570578	

	HS3	HS6
Mean	3.444444	3.555556
Variance	0.385185	0.607407
Observatio:	6	6
Pearson Cc	0.444109	
Hypothesiz	0	
df	5	
t Stat	-0.362738	
P(T<=t) on	0.365815	
t Critical o:	2.015049	
P(T<=t) tw	0.73163	nsd
t Critical tv	2.570578	

	HS5	HS6
Mean	3.277778	3.555556
Variance	0.418519	0.607407
Observatio:	6	6
Pearson Cc	0.822729	
Hypothesiz	0	
df	5	
t Stat	-1.535738	
P(T<=t) on	0.092599	
t Critical o:	2.015049	
P(T<=t) tw	0.185199	nsd
t Critical tv	2.570578	

### 3. Moistness (M)

	M1	M2
Mean	3.277778	3.666667
Variance	0.507407	0.622222
Observatio:	6	6
Pearson Cc	0.87008	
Hypothesiz	0	
df	5	
t Stat	-2.444506	
P(T<=t) on	0.029165	
t Critical o:	2.015049	
P(T<=t) tw	0.058329	*
t Critical tv	2.570578	

	M1	M5
Mean	3.277778	3.5
Variance	0.507407	0.211111
Observatio:	6	6
Pearson Cc	0.509231	
Hypothesiz	0	
df	5	
t Stat	-0.877058	
P(T<=t) on	0.210296	
t Critical o:	2.015049	
P(T<=t) tw	0.420591	nsd
t Critical tv	2.570578	

	M1	M3
Mean	3.277778	3.555556
Variance	0.507407	0.42963
Observatio:	6	6
Pearson Cc	0.698061	
Hypothesiz	0	
df	5	
t Stat	-1.274118	
P(T<=t) on	0.129314	
t Critical o:	2.015049	
P(T<=t) tw	0.258629	nsd
t Critical tv	2.570578	

	M1	M6
Mean	3.277778	3.277778
Variance	0.507407	0.72963
Observatio:	6	6
Pearson Cc	0.760881	
Hypothesiz	0	
df	5	
t Stat	0	
P(T<=t) on	0.5	
t Critical o:	2.015049	
P(T<=t) tw	1	nsd
t Critical tv	2.570578	

	M1	M4
Mean	3.277778	3
Variance	0.507407	0.222222
Observatio:	6	6
Pearson Cc	0.926496	
Hypothesiz	0	
df	5	
t Stat	2.076137	
P(T<=t) on	0.046258	
t Critical o:	2.015049	
P(T<=t) tw	0.092515	*
t Critical tv	2.570578	

	M2	M3
Mean	3.666667	3.555556
Variance	0.622222	0.42963
Observatio:	6	6
Pearson Cc	0.558742	
Hypothesiz	0	
df	5	
t Stat	0.395285	
P(T<=t) on	0.354467	
t Critical o:	2.015049	
P(T<=t) tw	0.708934	nsd
t Critical tv	2.570578	

	M2	M4
Mean	3.666667	3
Variance	0.622222	0.222222
Observatio:	6	6
Pearson Cc	0.956183	
Hypothesiz	0	
df	5	
t Stat	4.472136	
P(T<=t) on	0.003283	
t Critical o:	2.015049	
P(T<=t) tw	0.006566	***
t Critical tv	2.570578	

	M3	M4
Mean	3.555556	3
Variance	0.42963	0.222222
Observatio:	6	6
Pearson Cc	0.719195	
Hypothesiz	0	
df	5	
t Stat	2.988072	
P(T<=t) on	0.015257	
t Critical o:	2.015049	
P(T<=t) tw	0.030515	**
t Critical tv	2.570578	

	M4	M5
Mean	3	3.5
Variance	0.222222	0.211111
Observatio:	6	6
Pearson Cc	0.718185	
Hypothesiz	0	
df	5	
t Stat	-3.503245	
P(T<=t) on	0.008612	
t Critical o:	2.015049	
P(T<=t) tw	0.017225	**
t Critical tv	2.570578	

	M2	M5
Mean	3.666667	3.5
Variance	0.622222	0.211111
Observatio:	6	6
Pearson Cc	0.735767	
Hypothesiz	0	
df	5	
t Stat	0.745356	
P(T<=t) on	0.244795	
t Critical o:	2.015049	
P(T<=t) tw	0.48959	nsd
t Critical tv	2.570578	

	M3	M5
Mean	3.555556	3.5
Variance	0.42963	0.211111
Observatio:	6	6
Pearson Cc	0.147576	
Hypothesiz	0	
df	5	
t Stat	0.183186	
P(T<=t) on	0.430924	
t Critical o:	2.015049	
P(T<=t) tw	0.861849	nsd
t Critical tv	2.570578	

	M4	M6
Mean	3	3.277778
Variance	0.222222	0.72963
Observatio:	6	6
Pearson Cc	0.772628	
Hypothesiz	0	
df	5	
t Stat	-1.185114	
P(T<=t) on	0.144612	
t Critical o:	2.015049	
P(T<=t) tw	0.289225	nsd
t Critical tv	2.570578	

	M2	M6
Mean	3.666667	3.277778
Variance	0.622222	0.72963
Observatio:	6	6
Pearson Cc	0.6926	
Hypothesiz	0	
df	5	
t Stat	1.472461	
P(T<=t) on	0.10044	
t Critical o:	2.015049	
P(T<=t) tw	0.20088	nsd
t Critical tv	2.570578	

	M3	M6
Mean	3.555556	3.277778
Variance	0.42963	0.72963
Observatio:	6	6
Pearson Cc	0.304296	
Hypothesiz	0	
df	5	
t Stat	0.752071	
P(T<=t) on	0.242942	
t Critical o:	2.015049	
P(T<=t) tw	0.485883	nsd
t Critical tv	2.570578	

	M5	M6
Mean	3.5	3.277778
Variance	0.211111	0.72963
Observatio:	6	6
Pearson Cc	0.821011	
Hypothesiz	0	
df	5	
t Stat	1	
P(T<=t) on	0.181609	
t Critical o:	2.015049	
P(T<=t) tw	0.363217	nsd
t Critical tv	2.570578	

#### 4. Heavy (H)

	H1	H2
Mean	5.388889	4.944444
Variance	1.351852	1.351852
Observatio:	6	6
Pearson Cc	0.841096	
Hypothesiz	0	
df	5	
t Stat	1.66091	
P(T<=t) on	0.078812	
t Critical o:	2.015049	
P(T<=t) tw	0.157623	nsd
t Critical tv	2.570578	

	H1	H3
Mean	5.388889	5.222222
Variance	1.351852	0.918519
Observatio:	6	6
Pearson Cc	0.864174	
Hypothesiz	0	
df	5	
t Stat	0.695608	
P(T<=t) on	0.258836	
t Critical o:	2.015049	
P(T<=t) tw	0.517672	nsd
t Critical tv	2.570578	

	H1	H4
Mean	5.388889	5.111111
Variance	1.351852	1.007407
Observatio:	6	6
Pearson Cc	0.793431	
Hypothesiz	0	
df	5	
t Stat	0.955201	
P(T<=t) on	0.191672	
t Critical o:	2.015049	
P(T<=t) tw	0.383343	nsd
t Critical tv	2.570578	

	H1	H5
Mean	5.388889	5.555556
Variance	1.351852	1.62963
Observatio:	6	6
Pearson Cc	0.903308	
Hypothesiz	0	
df	5	
t Stat	-0.745356	
P(T<=t) on	0.244795	
t Critical o:	2.015049	
P(T<=t) tw	0.48959	nsd
t Critical tv	2.570578	

	H2	H4
Mean	4.944444	5.111111
Variance	1.351852	1.007407
Observatio:	6	6
Pearson Cc	0.92038	
Hypothesiz	0	
df	5	
t Stat	-0.888523	
P(T<=t) on	0.207477	
t Critical o:	2.015049	
P(T<=t) tw	0.414954	nsd
t Critical tv	2.570578	

	H3	H4
Mean	5.222222	5.111111
Variance	0.918519	1.007407
Observatio:	6	6
Pearson Cc	0.89326	
Hypothesiz	0	
df	5	
t Stat	0.597614	
P(T<=t) on	0.288066	
t Critical o:	2.015049	
P(T<=t) tw	0.576132	nsd
t Critical tv	2.570578	

	H4	H5
Mean	5.111111	5.555556
Variance	1.007407	1.62963
Observatio:	6	6
Pearson Cc	0.757339	
Hypothesiz	0	
df	5	
t Stat	-1.304656	
P(T<=t) on	0.124414	
t Critical o:	2.015049	
P(T<=t) tw	0.248829	nsd
t Critical tv	2.570578	

	H1	H6
Mean	5.388889	5.277778
Variance	1.351852	2.196296
Observatio:	6	6
Pearson Cc	0.995193	
Hypothesiz	0	
df	5	
t Stat	0.790569	
P(T<=t) on	0.232511	
t Critical o:	2.015049	
P(T<=t) tw	0.465023	nsd
t Critical tv	2.570578	

	H2	H5
Mean	4.944444	5.555556
Variance	1.351852	1.62963
Observatio:	6	6
Pearson Cc	0.803495	
Hypothesiz	0	
df	5	
t Stat	-1.938495	
P(T<=t) on	0.055142	
t Critical o:	2.015049	
P(T<=t) tw	0.110283	nsd
t Critical tv	2.570578	

	H3	H5
Mean	5.222222	5.555556
Variance	0.918519	1.62963
Observatio:	6	6
Pearson Cc	0.950555	
Hypothesiz	0	
df	5	
t Stat	-1.732051	
P(T<=t) on	0.071905	
t Critical o:	2.015049	
P(T<=t) tw	0.143811	nsd
t Critical tv	2.570578	

	H4	H6
Mean	5.111111	5.277778
Variance	1.007407	2.196296
Observatio:	6	6
Pearson Cc	0.826659	
Hypothesiz	0	
df	5	
t Stat	-0.47316	
P(T<=t) on	0.328017	
t Critical o:	2.015049	
P(T<=t) tw	0.656035	nsd
t Critical tv	2.570578	

	H2	H3
Mean	4.944444	5.222222
Variance	1.351852	0.918519
Observatio:	6	6
Pearson Cc	0.850879	
Hypothesiz	0	
df	5	
t Stat	-1.112485	
P(T<=t) on	0.158268	
t Critical o:	2.015049	
P(T<=t) tw	0.316536	nsd
t Critical tv	2.570578	

	H2	H6
Mean	4.944444	5.277778
Variance	1.351852	2.196296
Observatio:	6	6
Pearson Cc	0.836134	
Hypothesiz	0	
df	5	
t Stat	-1	
P(T<=t) on	0.181609	
t Critical o:	2.015049	
P(T<=t) tw	0.363217	nsd
t Critical tv	2.570578	

	H3	H6
Mean	5.222222	5.277778
Variance	0.918519	2.196296
Observatio:	6	6
Pearson Cc	0.886596	
Hypothesiz	0	
df	5	
t Stat	-0.176227	
P(T<=t) on	0.433516	
t Critical o:	2.015049	
P(T<=t) tw	0.867031	nsd
t Critical tv	2.570578	

	H5	H6
Mean	5.555556	5.277778
Variance	1.62963	2.196296
Observatio:	6	6
Pearson Cc	0.900542	
Hypothesiz	0	
df	5	
t Stat	1.051758	
P(T<=t) on	0.170531	
t Critical o:	2.015049	
P(T<=t) tw	0.341062	nsd
t Critical tv	2.570578	

5. Flexible (F)

	F1	F2
Mean	5.555556	5.611111
Variance	1.140741	1.040741
Observatio:	6	6
Pearson Cc	0.258336	
Hypothesiz	0	
df	5	
t Stat	-0.106966	
P(T<=t) on	0.459488	
t Critical o:	2.015049	
P(T<=t) tw	0.918976	nsd
t Critical tv	2.570578	

	F1	F5
Mean	5.555556	6.333333
Variance	1.140741	0.666667
Observatio:	6	6
Pearson Cc	0.050965	
Hypothesiz	0	
df	5	
t Stat	-1.453296	
P(T<=t) on	0.102938	
t Critical o:	2.015049	
P(T<=t) tw	0.205877	nsd
t Critical tv	2.570578	

	F2	F4
Mean	5.611111	5.611111
Variance	1.040741	1.040741
Observatio:	6	6
Pearson Cc	1	
Hypothesiz	0	
df	5	
t Stat	#DIV/0!	
P(T<=t) on	#DIV/0!	
t Critical o:	#DIV/0!	
P(T<=t) tw	#DIV/0!	nsd
t Critical tv	#DIV/0!	

	F3	F4
Mean	5.666667	5.611111
Variance	0.444444	1.040741
Observatio:	6	6
Pearson Cc	0.914883	
Hypothesiz	0	
df	5	
t Stat	0.27735	
P(T<=t) on	0.396306	
t Critical o:	2.015049	
P(T<=t) tw	0.792613	nsd
t Critical tv	2.570578	

	F1	F3
Mean	5.555556	5.666667
Variance	1.140741	0.444444
Observatio:	6	6
Pearson Cc	0.592978	
Hypothesiz	0	
df	5	
t Stat	-0.316228	
P(T<=t) on	0.382302	
t Critical o:	2.015049	
P(T<=t) tw	0.764605	nsd
t Critical tv	2.570578	

	F1	F6
Mean	5.555556	5.944444
Variance	1.140741	1.040741
Observatio:	6	6
Pearson Cc	0.68663	
Hypothesiz	0	
df	5	
t Stat	-1.150793	
P(T<=t) on	0.150931	
t Critical o:	2.015049	
P(T<=t) tw	0.301861	nsd
t Critical tv	2.570578	

	F2	F5
Mean	5.611111	6.333333
Variance	1.040741	0.666667
Observatio:	6	6
Pearson Cc	0.586928	
Hypothesiz	0	
df	5	
t Stat	-2.071072	
P(T<=t) on	0.046556	
t Critical o:	2.015049	
P(T<=t) tw	0.093113	*
t Critical tv	2.570578	

	F3	F5
Mean	5.666667	6.333333
Variance	0.444444	0.666667
Observatio:	6	6
Pearson Cc	0.612372	
Hypothesiz	0	
df	5	
t Stat	-2.44949	
P(T<=t) on	0.028986	
t Critical o:	2.015049	
P(T<=t) tw	0.057973	*
t Critical tv	2.570578	

	F1	F4
Mean	5.555556	5.611111
Variance	1.140741	1.040741
Observatio:	6	6
Pearson Cc	0.258336	
Hypothesiz	0	
df	5	
t Stat	-0.106966	
P(T<=t) on	0.459488	
t Critical o:	2.015049	
P(T<=t) tw	0.918976	nsd
t Critical tv	2.570578	

	F2	F3
Mean	5.611111	5.666667
Variance	1.040741	0.444444
Observatio:	6	6
Pearson Cc	0.914883	
Hypothesiz	0	
df	5	
t Stat	-0.27735	
P(T<=t) on	0.396306	
t Critical o:	2.015049	
P(T<=t) tw	0.792613	nsd
t Critical tv	2.570578	

	F2	F6
Mean	5.611111	5.944444
Variance	1.040741	1.040741
Observatio:	6	6
Pearson Cc	0.530249	
Hypothesiz	0	
df	5	
t Stat	-0.825723	
P(T<=t) on	0.223278	
t Critical o:	2.015049	
P(T<=t) tw	0.446556	nsd
t Critical tv	2.570578	

	F3	F6
Mean	5.666667	5.944444
Variance	0.444444	1.040741
Observatio:	6	6
Pearson Cc	0.784185	
Hypothesiz	0	
df	5	
t Stat	-1.051758	
P(T<=t) on	0.170531	
t Critical o:	2.015049	
P(T<=t) tw	0.341062	nsd
t Critical tv	2.570578	

	F4	F5
Mean	5.611111	6.333333
Variance	1.040741	0.666667
Observatio:	6	6
Pearson Cc	0.586928	
Hypothesiz	0	
df	5	
t Stat	-2.071072	
P(T<=t) on	0.046556	
t Critical o:	2.015049	
P(T<=t) tw	0.093113	*
t Critical tv	2.570578	

	F4	F6
Mean	5.611111	5.944444
Variance	1.040741	1.040741
Observatio:	6	6
Pearson Cc	0.530249	
Hypothesiz	0	
df	5	
t Stat	-0.825723	
P(T<=t) on	0.223278	
t Critical o:	2.015049	
P(T<=t) tw	0.446556	nsd
t Critical tv	2.570578	

	F5	F6
Mean	6.333333	5.944444
Variance	0.666667	1.040741
Observatio:	6	6
Pearson Cc	0.506892	
Hypothesiz	0	
df	5	
t Stat	1.025428	
P(T<=t) on	0.176094	
t Critical o:	2.015049	
P(T<=t) tw	0.352187	nsd
t Critical tv	2.570578	

#### 6. Fatigued (Fa)

	Fa1	Fa2
Mean	2	1.833333
Variance	2.4	0.966667
Observatio:	6	6
Pearson Cc	0.787839	
Hypothesiz	0	
df	5	
t Stat	0.415227	
P(T<=t) on	0.347596	
t Critical o:	2.015049	
P(T<=t) tw	0.695192	nsd
t Critical tv	2.570578	

	Fa1	Fa3
Mean	2	2.333333
Variance	2.4	3.866667
Observatio:	6	6
Pearson Cc	0.393919	
Hypothesiz	0	
df	5	
t Stat	-0.415227	
P(T<=t) on	0.347596	
t Critical o:	2.015049	
P(T<=t) tw	0.695192	nsd
t Critical tv	2.570578	

	Fa1	Fa4
Mean	2	2
Variance	2.4	0.8
Observatio:	6	6
Pearson Cc	0.57735	
Hypothesiz	0	
df	5	
t Stat	0	
P(T<=t) on	0.5	
t Critical o:	2.015049	
P(T<=t) tw	1	nsd
t Critical tv	2.570578	

	Fa1	Fa5
Mean	2	1.666667
Variance	2.4	0.666667
Observatio:	6	6
Pearson Cc	0.790569	
Hypothesiz	0	
df	5	
t Stat	0.790569	
P(T<=t) on	0.232511	
t Critical o:	2.015049	
P(T<=t) tw	0.465023	nsd
t Critical tv	2.570578	

	Fa1	Fa6
Mean	2	1.333333
Variance	2.4	0.266667
Observatio:	6	6
Pearson Cc	0.75	
Hypothesiz	0	
df	5	
t Stat	1.3484	
P(T<=t) on	0.117694	
t Critical o:	2.015049	
P(T<=t) tw	0.235387	nsd
t Critical tv	2.570578	

	Fa2	Fa3
Mean	1.833333	2.333333
Variance	0.966667	3.866667
Observatio:	6	6
Pearson Cc	0.862069	
Hypothesiz	0	
df	5	
t Stat	-1	
P(T<=t) on	0.181609	
t Critical o:	2.015049	
P(T<=t) tw	0.363217	nsd
t Critical tv	2.570578	

	Fa2	Fa4
Mean	1.833333	2
Variance	0.966667	0.8
Observatio:	6	6
Pearson Cc	0.682288	
Hypothesiz	0	
df	5	
t Stat	-0.542326	
P(T<=t) on	0.305441	
t Critical o:	2.015049	
P(T<=t) tw	0.610881	nsd
t Critical tv	2.570578	

	Fa2	Fa5
Mean	1.833333	1.666667
Variance	0.966667	0.666667
Observatio:	6	6
Pearson Cc	0.664364	
Hypothesiz	0	
df	5	
t Stat	0.542326	
P(T<=t) on	0.305441	
t Critical o:	2.015049	
P(T<=t) tw	0.610881	nsd
t Critical tv	2.570578	

	Fa2	Fa6
Mean	1.833333	1.333333
Variance	0.966667	0.266667
Observatio:	6	6
Pearson Cc	0.919145	
Hypothesiz	0	
df	5	
t Stat	2.236068	
P(T<=t) on	0.037793	
t Critical o:	2.015049	
P(T<=t) tw	0.075587	*
t Critical tv	2.570578	

	Fa3	Fa4
Mean	2.333333	2
Variance	3.866667	0.8
Observatio:	6	6
Pearson Cc	0.682288	
Hypothesiz	0	
df	5	
t Stat	0.542326	
P(T<=t) on	0.305441	
t Critical o:	2.015049	
P(T<=t) tw	0.610881	nsd
t Critical tv	2.570578	

	Fa4	Fa5
Mean	2	1.666667
Variance	0.8	0.666667
Observatio:	6	6
Pearson Cc	0.821584	
Hypothesiz	0	
df	5	
t Stat	1.581139	
P(T<=t) on	0.087344	
t Critical o:	2.015049	
P(T<=t) tw	0.174688	nsd
t Critical tv	2.570578	

	Fa3	Fa5
Mean	2.333333	1.666667
Variance	3.866667	0.666667
Observatio:	6	6
Pearson Cc	0.45675	
Hypothesiz	0	
df	5	
t Stat	0.932505	
P(T<=t) on	0.19694	
t Critical o:	2.015049	
P(T<=t) tw	0.39388	nsd
t Critical tv	2.570578	

	Fa4	Fa6
Mean	2	1.333333
Variance	0.8	0.266667
Observatio:	6	6
Pearson Cc	0.866025	
Hypothesiz	0	
df	5	
t Stat	3.162278	
P(T<=t) on	0.012516	
t Critical o:	2.015049	
P(T<=t) tw	0.025031	**
t Critical tv	2.570578	

	Fa3	Fa6
Mean	2.333333	1.333333
Variance	3.866667	0.266667
Observatio:	6	6
Pearson Cc	0.853492	
Hypothesiz	0	
df	5	
t Stat	1.581139	
P(T<=t) on	0.087344	
t Critical o:	2.015049	
P(T<=t) tw	0.174688	nsd
t Critical tv	2.570578	

	Fa5	Fa6
Mean	1.666667	1.333333
Variance	0.666667	0.266667
Observatio:	6	6
Pearson Cc	0.790569	
Hypothesiz	0	
df	5	
t Stat	1.581139	
P(T<=t) on	0.087344	
t Critical o:	2.015049	
P(T<=t) tw	0.174688	nsd
t Critical tv	2.570578	

#### 7. Fits Unsatisfactory/Satisfactory (Fu)

	Fu1	Fu2
Mean	5.6	5.166667
Variance	0.24	0.166667
Observatio:	6	6
Pearson Cc	-0.6	
Hypothesiz	0	
df	5	
t Stat	1.31995	
P(T<=t) on	0.122025	
t Critical o:	2.015049	
P(T<=t) tw	0.244051	nsd
t Critical tv	2.570578	

	Fu1	Fu5
Mean	5.6	6
Variance	0.24	0.8
Observatio:	6	6
Pearson Cc	0.730297	
Hypothesiz	0	
df	5	
t Stat	-1.549193	
P(T<=t) on	0.09101	
t Critical o:	2.015049	
P(T<=t) tw	0.182021	nsd
t Critical tv	2.570578	

	Fu1	Fu3
Mean	5.6	4.833333
Variance	0.24	1.366667
Observatio:	6	6
Pearson Cc	0.139686	
Hypothesiz	0	
df	5	
t Stat	1.561342	
P(T<=t) on	0.089599	
t Critical o:	2.015049	
P(T<=t) tw	0.179197	nsd
t Critical tv	2.570578	

	Fu1	Fu6
Mean	5.6	5.166667
Variance	0.24	1.366667
Observatio:	6	6
Pearson Cc	0.069843	
Hypothesiz	0	
df	5	
t Stat	0.859064	
P(T<=t) on	0.214778	
t Critical o:	2.015049	
P(T<=t) tw	0.429557	nsd
t Critical tv	2.570578	

	Fu1	Fu4
Mean	5.6	5.333333
Variance	0.24	0.666667
Observatio:	6	6
Pearson Cc	0.9	
Hypothesiz	0	
df	5	
t Stat	1.511858	
P(T<=t) on	0.095486	
t Critical o:	2.015049	
P(T<=t) tw	0.190972	nsd
t Critical tv	2.570578	

	Fu2	Fu3
Mean	5.166667	4.833333
Variance	0.166667	1.366667
Observatio:	6	6
Pearson Cc	0.069843	
Hypothesiz	0	
df	5	
t Stat	0.6742	
P(T<=t) on	0.265046	
t Critical o:	2.015049	
P(T<=t) tw	0.530092	nsd
t Critical tv	2.570578	

	Fu2	Fu4
Mean	5.166667	5.333333
Variance	0.166667	0.666667
Observatio:	6	6
Pearson Cc	-0.2	
Hypothesiz	0	
df	5	
t Stat	-0.415227	
P(T<=t) on	0.347596	
t Critical o:	2.015049	
P(T<=t) tw	0.695192	nsd
t Critical tv	2.570578	

	Fu3	Fu4
Mean	4.833333	5.333333
Variance	1.366667	0.666667
Observatio:	6	6
Pearson Cc	0.279372	
Hypothesiz	0	
df	5	
t Stat	-1	
P(T<=t) on	0.181609	
t Critical o:	2.015049	
P(T<=t) tw	0.363217	nsd
t Critical tv	2.570578	

	Fu4	Fu5
Mean	5.333333	6
Variance	0.666667	0.8
Observatio:	6	6
Pearson Cc	0.547723	
Hypothesiz	0	
df	5	
t Stat	-2	
P(T<=t) on	0.05097	
t Critical o:	2.015049	
P(T<=t) tw	0.101939	nsd
t Critical tv	2.570578	

	Fu2	Fu5
Mean	5.166667	6
Variance	0.166667	0.8
Observatio:	6	6
Pearson Cc	-0.547723	
Hypothesiz	0	
df	5	
t Stat	-1.746076	
P(T<=t) on	0.070617	
t Critical o:	2.015049	
P(T<=t) tw	0.141235	nsd
t Critical tv	2.570578	

	Fu3	Fu5
Mean	4.833333	6
Variance	1.366667	0.8
Observatio:	6	6
Pearson Cc	-0.191273	
Hypothesiz	0	
df	5	
t Stat	-1.783765	
P(T<=t) on	0.06727	
t Critical o:	2.015049	
P(T<=t) tw	0.134541	nsd
t Critical tv	2.570578	

	Fu4	Fu6
Mean	5.333333	5.166667
Variance	0.666667	1.366667
Observatio:	6	6
Pearson Cc	0.349215	
Hypothesiz	0	
df	5	
t Stat	0.349215	
P(T<=t) on	0.370577	
t Critical o:	2.015049	
P(T<=t) tw	0.741154	nsd
t Critical tv	2.570578	

	Fu2	Fu6
Mean	5.166667	5.166667
Variance	0.166667	1.366667
Observatio:	6	6
Pearson Cc	0.349215	
Hypothesiz	0	
df	5	
t Stat	0	
P(T<=t) on	0.5	
t Critical o:	2.015049	
P(T<=t) tw	1	nsd
t Critical tv	2.570578	

	Fu3	Fu6
Mean	4.833333	5.166667
Variance	1.366667	1.366667
Observatio:	6	6
Pearson Cc	0.609756	
Hypothesiz	0	
df	5	
t Stat	-0.790569	
P(T<=t) on	0.232511	
t Critical o:	2.015049	
P(T<=t) tw	0.465023	nsd
t Critical tv	2.570578	

	Fu5	Fu6
Mean	6	5.166667
Variance	0.8	1.366667
Observatio:	6	6
Pearson Cc	-0.382546	
Hypothesiz	0	
df	5	
t Stat	1.185114	
P(T<=t) on	0.144612	
t Critical o:	2.015049	
P(T<=t) tw	0.289225	nsd
t Critical tv	2.570578	

### 8. Feels Tight Loose (Ft)

	Ft1	Ft2
Mean	5.4	5
Variance	0.24	0.4
Observatio:	6	6
Pearson Cc	0.645497	
Hypothesiz	0	
df	5	
t Stat	2	
P(T<=t) on	0.05097	
t Critical o:	2.015049	
P(T<=t) tw	0.101939	nsd
t Critical tv	2.570578	

	Ft1	Ft3
Mean	5.4	5.166667
Variance	0.24	0.966667
Observatio:	6	6
Pearson Cc	0.498273	
Hypothesiz	0	
df	5	
t Stat	0.670478	
P(T<=t) on	0.266135	
t Critical o:	2.015049	
P(T<=t) tw	0.532271	nsd
t Critical tv	2.570578	

	Ft1	Ft4
Mean	5.4	5
Variance	0.24	0.8
Observatio:	6	6
Pearson Cc	0.912871	
Hypothesiz	0	
df	5	
t Stat	2	
P(T<=t) on	0.05097	
t Critical o:	2.015049	
P(T<=t) tw	0.101939	nsd
t Critical tv	2.570578	

	<i>Ft1</i>	<i>Ft5</i>
Mean	5.4	5.5
Variance	0.24	1.1
Observatio:	6	6
Pearson Cc	0.700649	
Hypothesiz	0	
df	5	
t Stat	-0.311086	
P(T<=t) on	0.384144	
t Critical o:	2.015049	
P(T<=t) tw	0.768287	nsd
t Critical tv	2.570578	

	<i>Ft2</i>	<i>Ft4</i>
Mean	5	5
Variance	0.4	0.8
Observatio:	6	6
Pearson Cc	0.353553	
Hypothesiz	0	
df	5	
t Stat	0	
P(T<=t) on	0.5	
t Critical o:	2.015049	
P(T<=t) tw	1	nsd
t Critical tv	2.570578	

	<i>Ft3</i>	<i>Ft4</i>
Mean	5.166667	5
Variance	0.966667	0.8
Observatio:	6	6
Pearson Cc	0.227429	
Hypothesiz	0	
df	5	
t Stat	0.349215	
P(T<=t) on	0.370577	
t Critical o:	2.015049	
P(T<=t) tw	0.741154	nsd
t Critical tv	2.570578	

	<i>Ft4</i>	<i>Ft5</i>
Mean	5	5.5
Variance	0.8	1.1
Observatio:	6	6
Pearson Cc	0.426401	
Hypothesiz	0	
df	5	
t Stat	-1.167748	
P(T<=t) on	0.147779	
t Critical o:	2.015049	
P(T<=t) tw	0.295559	nsd
t Critical tv	2.570578	

	<i>Ft1</i>	<i>Ft6</i>
Mean	5.4	4.5
Variance	0.24	0.7
Observatio:	6	6
Pearson Cc	0.87831	
Hypothesiz	0	
df	5	
t Stat	4.700097	
P(T<=t) on	0.002668	
t Critical o:	2.015049	
P(T<=t) tw	0.005337	***
t Critical tv	2.570578	

	<i>Ft2</i>	<i>Ft5</i>
Mean	5	5.5
Variance	0.4	1.1
Observatio:	6	6
Pearson Cc	0.603023	
Hypothesiz	0	
df	5	
t Stat	-1.46385	
P(T<=t) on	0.101555	
t Critical o:	2.015049	
P(T<=t) tw	0.203111	nsd
t Critical tv	2.570578	

	<i>Ft3</i>	<i>Ft5</i>
Mean	5.166667	5.5
Variance	0.966667	1.1
Observatio:	6	6
Pearson Cc	0.872786	
Hypothesiz	0	
df	5	
t Stat	-1.581139	
P(T<=t) on	0.087344	
t Critical o:	2.015049	
P(T<=t) tw	0.174688	nsd
t Critical tv	2.570578	

	<i>Ft4</i>	<i>Ft6</i>
Mean	5	4.5
Variance	0.8	0.7
Observatio:	6	6
Pearson Cc	0.801784	
Hypothesiz	0	
df	5	
t Stat	2.236068	
P(T<=t) on	0.037793	
t Critical o:	2.015049	
P(T<=t) tw	0.075587	*
t Critical tv	2.570578	

	<i>Ft2</i>	<i>Ft3</i>
Mean	5	5.166667
Variance	0.4	0.966667
Observatio:	6	6
Pearson Cc	0.643268	
Hypothesiz	0	
df	5	
t Stat	-0.542326	
P(T<=t) on	0.305441	
t Critical o:	2.015049	
P(T<=t) tw	0.610881	nsd
t Critical tv	2.570578	

	<i>Ft2</i>	<i>Ft6</i>
Mean	5	4.5
Variance	0.4	0.7
Observatio:	6	6
Pearson Cc	0.377964	
Hypothesiz	0	
df	5	
t Stat	1.46385	
P(T<=t) on	0.101555	
t Critical o:	2.015049	
P(T<=t) tw	0.203111	nsd
t Critical tv	2.570578	

	<i>Ft3</i>	<i>Ft6</i>
Mean	5.166667	4.5
Variance	0.966667	0.7
Observatio:	6	6
Pearson Cc	0.607831	
Hypothesiz	0	
df	5	
t Stat	2	
P(T<=t) on	0.05097	
t Critical o:	2.015049	
P(T<=t) tw	0.101939	nsd
t Critical tv	2.570578	

	<i>Ft5</i>	<i>Ft6</i>
Mean	5.5	4.5
Variance	1.1	0.7
Observatio:	6	6
Pearson Cc	0.797724	
Hypothesiz	0	
df	5	
t Stat	3.872983	
P(T<=t) on	0.005862	
t Critical o:	2.015049	
P(T<=t) tw	0.011725	**
t Critical tv	2.570578	

9. Feels Protective (Fp)

	<i>Fp1</i>	<i>Fp2</i>
Mean	5.4	5.166667
Variance	0.24	2.966667
Observatio:	6	6
Pearson Cc	0.331832	
Hypothesiz	0	
df	5	
t Stat	0.35132	
P(T<=t) on	0.369834	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.739668	nsd
t Critical tv	2.570578	

	<i>Fp1</i>	<i>Fp3</i>
Mean	5.4	5.333333
Variance	0.24	0.666667
Observatio:	6	6
Pearson Cc	-0.1	
Hypothesiz	0	
df	5	
t Stat	0.164399	
P(T<=t) on	0.437928	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.875856	nsd
t Critical tv	2.570578	

	<i>Fp1</i>	<i>Fp4</i>
Mean	5.4	4.833333
Variance	0.24	2.166667
Observatio:	6	6
Pearson Cc	0.33282	
Hypothesiz	0	
df	5	
t Stat	1	
P(T<=t) on	0.181609	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.363217	nsd
t Critical tv	2.570578	

	<i>Fp1</i>	<i>Fp5</i>
Mean	5.4	5.333333
Variance	0.24	0.666667
Observatio:	6	6
Pearson Cc	0.3	
Hypothesiz	0	
df	5	
t Stat	0.2	
P(T<=t) on	0.42468	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.849361	nsd
t Critical tv	2.570578	

	<i>Fp1</i>	<i>Fp6</i>
Mean	5.4	3.833333
Variance	0.24	4.566667
Observatio:	6	6
Pearson Cc	0.764161	
Hypothesiz	0	
df	5	
t Stat	2.143016	
P(T<=t) on	0.042496	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.084992	*
t Critical tv	2.570578	

	<i>Fp2</i>	<i>Fp3</i>
Mean	5.166667	5.333333
Variance	2.966667	0.666667
Observatio:	6	6
Pearson Cc	0.663664	
Hypothesiz	0	
df	5	
t Stat	-0.307148	
P(T<=t) on	0.385556	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.771112	nsd
t Critical tv	2.570578	

	<i>Fp2</i>	<i>Fp4</i>
Mean	5.166667	4.833333
Variance	2.966667	2.166667
Observatio:	6	6
Pearson Cc	0.959779	
Hypothesiz	0	
df	5	
t Stat	1.581139	
P(T<=t) on	0.087344	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.174688	nsd
t Critical tv	2.570578	

	<i>Fp2</i>	<i>Fp5</i>
Mean	5.166667	5.333333
Variance	2.966667	0.666667
Observatio:	6	6
Pearson Cc	-0.331832	
Hypothesiz	0	
df	5	
t Stat	-0.19104	
P(T<=t) on	0.428005	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.856009	nsd
t Critical tv	2.570578	

	<i>Fp2</i>	<i>Fp6</i>
Mean	5.166667	3.833333
Variance	2.966667	4.566667
Observatio:	6	6
Pearson Cc	0.552427	
Hypothesiz	0	
df	5	
t Stat	1.754116	
P(T<=t) on	0.06989	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.139779	nsd
t Critical tv	2.570578	

	<i>Fp3</i>	<i>Fp4</i>
Mean	5.333333	4.833333
Variance	0.666667	2.166667
Observatio:	6	6
Pearson Cc	0.72111	
Hypothesiz	0	
df	5	
t Stat	1.167748	
P(T<=t) on	0.147779	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.295559	nsd
t Critical tv	2.570578	

	<i>Fp3</i>	<i>Fp5</i>
Mean	5.333333	5.333333
Variance	0.666667	0.666667
Observatio:	6	6
Pearson Cc	-0.5	
Hypothesiz	0	
df	5	
t Stat	0	
P(T<=t) on	0.5	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	1	nsd
t Critical tv	2.570578	

	<i>Fp3</i>	<i>Fp6</i>
Mean	5.333333	3.833333
Variance	0.666667	4.566667
Observatio:	6	6
Pearson Cc	-0.19104	
Hypothesiz	0	
df	5	
t Stat	1.512658	
P(T<=t) on	0.095388	
t Critical $\alpha$ :	2.015049	
P(T<=t) tw	0.190776	nsd
t Critical tv	2.570578	

	<i>Fp4</i>	<i>Fp5</i>
Mean	4.833333	5.333333
Variance	2.166667	0.666667
Observatio:	6	6
Pearson Cc	-0.27735	
Hypothesiz	0	
df	5	
t Stat	-0.654654	
P(T<=t) on	0.270802	
t Critical o:	2.015049	
P(T<=t) tw	0.541605	nsd
t Critical tv	2.570578	

	<i>Fp4</i>	<i>Fp6</i>
Mean	4.833333	3.833333
Variance	2.166667	4.566667
Observatio:	6	6
Pearson Cc	0.434477	
Hypothesiz	0	
df	5	
t Stat	1.224745	
P(T<=t) on	0.13761	
t Critical o:	2.015049	
P(T<=t) tw	0.27522	nsd
t Critical tv	2.570578	

	<i>Fp5</i>	<i>Fp6</i>
Mean	5.333333	3.833333
Variance	0.666667	4.566667
Observatio:	6	6
Pearson Cc	0.038208	
Hypothesiz	0	
df	5	
t Stat	1.626978	
P(T<=t) on	0.082335	
t Critical o:	2.015049	
P(T<=t) tw	0.16467	nsd
t Critical tv	2.570578	

10. Overall Like/Dislike (Lk)

	<i>Lk1</i>	<i>Lk2</i>
Mean	4.6	5
Variance	3.44	0.8
Observatio:	6	6
Pearson Cc	-0.434019	
Hypothesiz	0	
df	5	
t Stat	-0.411113	
P(T<=t) on	0.349008	
t Critical o:	2.015049	
P(T<=t) tw	0.698017	nsd
t Critical tv	2.570578	

	<i>Lk1</i>	<i>Lk3</i>
Mean	4.6	5
Variance	3.44	1.2
Observatio:	6	6
Pearson Cc	0.177187	
Hypothesiz	0	
df	5	
t Stat	-0.494872	
P(T<=t) on	0.320834	
t Critical o:	2.015049	
P(T<=t) tw	0.641667	nsd
t Critical tv	2.570578	

	<i>Lk1</i>	<i>Lk4</i>
Mean	4.6	4
Variance	3.44	4.4
Observatio:	6	6
Pearson Cc	0.21591	
Hypothesiz	0	
df	5	
t Stat	0.592157	
P(T<=t) on	0.289753	
t Critical o:	2.015049	
P(T<=t) tw	0.579507	nsd
t Critical tv	2.570578	

	<i>Lk1</i>	<i>Lk5</i>
Mean	4.6	5.333333
Variance	3.44	0.266667
Observatio:	6	6
Pearson Cc	-0.459398	
Hypothesiz	0	
df	5	
t Stat	-0.838742	
P(T<=t) on	0.219929	
t Critical o:	2.015049	
P(T<=t) tw	0.439859	nsd
t Critical tv	2.570578	

	<i>Lk1</i>	<i>Lk6</i>
Mean	4.6	4.833333
Variance	3.44	1.366667
Observatio:	6	6
Pearson Cc	0.9224	
Hypothesiz	0	
df	5	
t Stat	-0.636364	
P(T<=t) on	0.276263	
t Critical o:	2.015049	
P(T<=t) tw	0.552526	nsd
t Critical tv	2.570578	

	<i>Lk2</i>	<i>Lk3</i>
Mean	5	5
Variance	0.8	1.2
Observatio:	6	6
Pearson Cc	0.204124	
Hypothesiz	0	
df	5	
t Stat	0	
P(T<=t) on	0.5	
t Critical o:	2.015049	
P(T<=t) tw	1	nsd
t Critical tv	2.570578	

	<i>Lk2</i>	<i>Lk4</i>
Mean	5	4
Variance	0.8	4.4
Observatio:	6	6
Pearson Cc	0.426401	
Hypothesiz	0	
df	5	
t Stat	1.290994	
P(T<=t) on	0.126585	
t Critical o:	2.015049	
P(T<=t) tw	0.25317	nsd
t Critical tv	2.570578	

	<i>Lk2</i>	<i>Lk5</i>
Mean	5	5.333333
Variance	0.8	0.266667
Observatio:	6	6
Pearson Cc	0.866025	
Hypothesiz	0	
df	5	
t Stat	-1.581139	
P(T<=t) on	0.087344	
t Critical o:	2.015049	
P(T<=t) tw	0.174688	nsd
t Critical tv	2.570578	

	<i>Lk2</i>	<i>Lk6</i>
Mean	5	4.833333
Variance	0.8	1.366667
Observatio:	6	6
Pearson Cc	-0.191273	
Hypothesiz	0	
df	5	
t Stat	0.254824	
P(T<=t) on	0.404504	
t Critical o:	2.015049	
P(T<=t) tw	0.809008	nsd
t Critical tv	2.570578	

	<i>Lk3</i>	<i>Lk4</i>
Mean	5	4
Variance	1.2	4.4
Observatio:	6	6
Pearson Cc	0.435194	
Hypothesiz	0	
df	5	
t Stat	1.290994	
P(T<=t) on	0.126585	
t Critical o:	2.015049	
P(T<=t) tw	0.25317	nsd
t Critical tv	2.570578	

	<i>Lk4</i>	<i>Lk5</i>
Mean	4	5.333333
Variance	4.4	0.266667
Observatio:	6	6
Pearson Cc	0.369274	
Hypothesiz	0	
df	5	
t Stat	-1.66091	
P(T<=t) on	0.078812	
t Critical o:	2.015049	
P(T<=t) tw	0.157623	nsd
t Critical tv	2.570578	

	<i>Lk3</i>	<i>Lk5</i>
Mean	5	5.333333
Variance	1.2	0.266667
Observatio:	6	6
Pearson Cc	0	
Hypothesiz	0	
df	5	
t Stat	-0.6742	
P(T<=t) on	0.265046	
t Critical o:	2.015049	
P(T<=t) tw	0.530092	nsd
t Critical tv	2.570578	

	<i>Lk4</i>	<i>Lk6</i>
Mean	4	4.833333
Variance	4.4	1.366667
Observatio:	6	6
Pearson Cc	0.489355	
Hypothesiz	0	
df	5	
t Stat	-1.112485	
P(T<=t) on	0.158268	
t Critical o:	2.015049	
P(T<=t) tw	0.316536	nsd
t Critical tv	2.570578	

	<i>Lk3</i>	<i>Lk6</i>
Mean	5	4.833333
Variance	1.2	1.366667
Observatio:	6	6
Pearson Cc	0.468521	
Hypothesiz	0	
df	5	
t Stat	0.349215	
P(T<=t) on	0.370577	
t Critical o:	2.015049	
P(T<=t) tw	0.741154	nsd
t Critical tv	2.570578	

	<i>Lk5</i>	<i>Lk6</i>
Mean	5.333333	4.833333
Variance	0.266667	1.366667
Observatio:	6	6
Pearson Cc	-0.220863	
Hypothesiz	0	
df	5	
t Stat	0.888523	
P(T<=t) on	0.207477	
t Critical o:	2.015049	
P(T<=t) tw	0.414954	nsd
t Critical tv	2.570578	

## **Appendix P**

### **Detailed Data of Weights**

**Table Q-1. Summary of Weights (kilograms)**

Composite Identification	Turnout Suit		Turnout Coat		Turnout Pants		Station Uniform		Underwear & Socks		Turnout Liner	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
<b>1</b>	4.09	4.32	2.20	2.34	1.89	1.98	0.99	1.38	0.30	0.52	0.82	0.93
<b>2</b>	4.08	4.35	2.19	2.35	1.89	1.99	0.99	1.40	0.30	0.55	0.81	0.93
<b>3</b>	4.14	4.39	2.22	2.37	1.92	2.02	0.99	1.41	0.30	0.58	0.83	0.96
<b>4</b>	4.95	5.27	2.74	2.93	2.21	2.34	0.99	1.45	0.30	0.58	1.17	1.32
<b>5</b>	4.08	4.31	2.20	2.34	1.87	1.96	0.98	1.45	0.30	0.55	0.83	0.91
<b>6</b>	4.19	4.43	2.26	2.40	1.94	2.03	0.99	1.39	0.30	0.55	0.85	0.95

## Key to Record of Weights Labels

Results in the detailed data are according to composite identification. Each garment was worn by each subject (1 - 7). Initial weight was at the start of the test and final weight was taken at the end of the test.

**Gar** - composite identification number

**Sub** - subject identification number

**Nude wti** - initial weight of subject in underwear

**Nude wtf** - final weight of subject in underwear

**SUti** - initial weight of the subject in underwear and station uniform

**SUf** - final weight of the subject in underwear and station uniform

**TCli** - initial weight of the subject in underwear, station uniform and turnout gear

**TCf** - final weight of the subject in underwear, station uniform and turnout gear

**TOi** - initial weight of the turnout gear (coat and pants)

**TOf** - final weight of the turnout gear (coat and pants)

**TCi** - initial weight of the turnout coat

**TCf** - final weight of the turnout coat

**TPi** - initial weight of the turnout pants

**TPf** - final weight of the turnout pants

**SUi** - initial weight of the station uniform

**SUf** - final weight of the station uniform

**U&Si** - initial weight of underwear and socks

**U&Sf** - final weight of underwear and socks

**CLi** - initial weight of turnout coat liner

**CLf** - final weight of turnout coat liner

**Applicable to all:**

**Dif** - difference in final weight and initial weight

**% Chang** - percent change in initial weight and final weight

Warm Environment

**Subject and Garment Weights**

Gar	Sub	Nude		%		SUTI	Sutf	%		TCli	TCIf	%		
		wti	wtf	Dif	Chang			Dif	Chang			Dif	Chang	
	1	1	86.25	85.1	1.15	0.013	87.43	86.94	0.49	0.006	94.52	94.3	0.22	0.002
	1	4	116.15	114.25	1.9	0.016	117.42	116.45	0.97	0.008	124.97	124.6	0.37	0.003
	1	5	91.73	90.56	1.17	0.013	92.9	92.28	0.62	0.007	100.11	99.81	0.3	0.003
	1	6	91.31	89.8	1.51	0.017	92.51	91.66	0.85	0.009	99.86	99.5	0.36	0.004
	1	7	89.49	88.38	1.11	0.012	90.67	90.07	0.6	0.007	97.65	97.32	0.33	0.003
<b>Avg</b>			94.986	93.618	1.368	0.014	96.186	95.480	0.706	0.007	103.422	103.106	0.316	0.003

Gar	Sub	TOI	TOf	%		TCI	TCf	%		TPI	TPf	%		
				Dif	Chang			Dif	Chang			Dif	Chang	
	1	1	3.95	4.09	0.14	0.035	2.11	2.19	0.08	0.038	1.84	1.9	0.06	0.033
	1	4	4.39	4.83	0.44	0.100	2.34	2.59	0.25	0.107	2.05	2.24	0.19	0.093
	1	5	4.05	4.22	0.17	0.042	2.21	2.32	0.11	0.050	1.84	1.9	0.06	0.033
	1	6	4.15	4.4	0.25	0.060	2.25	2.41	0.16	0.071	1.9	1.99	0.09	0.047
	1	7	3.93	4.07	0.14	0.036	2.1	2.2	0.1	0.048	1.83	1.87	0.04	0.022
<b>Avg</b>			4.094	4.322	0.228	0.055	2.202	2.342	0.140	0.063	1.892	1.98	0.088	0.045

Gar	Sub	SUI	SUF	%		U&S i	U&s f	%		CLi	CLf	%		
				Dif	Chang			Dif	Chang			Dif	Chang	
	1	1	0.97	1.31	0.340	0.351	0.29	0.53	0.24	0.828	0.78	0.83	0.05	0.064
	1	4	1.05	1.62	0.570	0.543	0.32	0.74	0.42	1.313	0.9	1.08	0.18	0.200
	1	5	0.96	1.3	0.340	0.354	0.29	0.39	0.1	0.345	0.82	0.91	0.09	0.110
	1	6	1.01	1.41	0.400	0.396	0.29	0.42	0.13	0.448	0.85	0.96	0.11	0.129
	1	7	0.96	1.28	0.320	0.333	0.29	0.5	0.21	0.724	0.77	0.85	0.08	0.104
<b>Avg</b>			0.990	1.384	0.394	0.395	0.296	0.516	0.220	0.731	0.824	0.926	0.102	0.121

Warm Environment

**Subject and Garment Weights**

Gar	Sub	Nude		%		SUti	Sutf	%		TCIi	TCIf	%	
		wti	wtf	Dif	Chang			Dif	Chang			Dif	Chang
2	1	86.72	85.68	1.04	0.012	87.89	87.42	0.47	0.005	94.98	94.78	0.2	0.002
2	4	119.29	116.88	2.41	0.020	120.57	119.16	1.41	0.012	128.06	127.56	0.5	0.004
2	5	91.82	90.56	1.26	0.014	93.02	92.34	0.68	0.007	100.2	99.98	0.22	0.002
2	6	91.08	89.45	1.63	0.018	92.32	91.38	0.94	0.010	99.63	99.28	0.35	0.004
2	7	90.94	89.78	1.16	#DIV/0!	92.11	91.5	0.61	0.007	99.18	98.87	0.31	0.003
<b>Average</b>		95.970	94.470	1.500	#DIV/0!	97.182	96.360	0.822	0.008	104.410	104.094	0.316	0.003

Gar	Sub	TOi	TOf	%		TCi	TCf	%		TPI	TPf	%	
				Dif	Chang			Dif	Chang			Dif	Chang
2	1	3.93	4.08	0.15	0.038	2.1	2.19	0.09	0.043	1.83	1.89	0.06	0.033
2	4	4.37	4.94	0.57	0.130	2.32	2.63	0.31	0.134	2.05	2.31	0.26	0.127
2	5	4.05	4.24	0.19	0.047	2.2	2.34	0.14	0.064	1.85	1.9	0.05	0.027
2	6	4.11	4.39	0.28	0.068	2.23	2.41	0.18	0.081	1.88	1.98	0.1	0.053
2	7	3.93	4.08	0.15	0.038	2.09	2.2	0.11	0.053	1.83	1.88	0.05	0.027
<b>Average</b>		4.078	4.346	0.268	0.064	2.188	2.354	0.166	0.075	1.888	1.992	0.104	0.053

Gar	Sub	SUI	SUF	%		U&S i	U&s f	%		CLI	CLf	%	
				Dif	Chang			Dif	Chang			Dif	Chang
2	1	0.95	1.29	0.34	0.358	0.29	0.4	0.11	0.379	0.76	0.83	0.07	0.092
2	4	1.05	1.66	0.61	0.581	0.32	0.74	0.42	1.313	0.87	1.11	0.24	0.276
2	5	0.96	1.3	0.34	0.354	0.3	0.55	0.25	0.833	0.82	0.92	0.1	0.122
2	6	1.02	1.45	0.43	0.422	0.3	0.57	0.27	0.900	0.82	0.95	0.13	0.159
2	7	0.97	1.31	0.34	0.351	0.28	0.49	0.21	0.750	0.76	0.84	0.08	0.105
<b>Average</b>		0.990	1.402	0.412	0.413	0.298	0.550	0.252	0.835	0.806	0.930	0.124	0.151

Warm Environment

**Subject and Garment Weights**

Gar	Sub	Nude		%		SUti	Sutf	%		TCIi	TCIf	%	
		wti	wtf	Dif	Chang			Dif	Chang			Dif	Chang
3	1	86.32	85.28	1.04	0.012	88.32	87.88	0.44	0.005	94.59	94.37	0.22	0.002
3	4	117.25	115.1	2.15	0.018	118.51	117.35	1.16	0.010	126.19	125.8	0.39	0.003
3	5	92.43	91.32	1.11	0.012	93.61	93.06	0.55	0.006	100.9	100.66	0.24	0.002
3	6	90.39	88.88	1.51	0.017	91.63	90.81	0.82	0.009	99.03	98.74	0.29	0.003
3	7	90.54	89.37	1.17	0.013	91.72	91.14	0.58	0.006	98.82	98.58	0.24	0.002
<b>Average</b>	<b>4.6</b>	<b>95.386</b>	<b>93.990</b>	<b>1.396</b>	<b>0.014</b>	<b>96.758</b>	<b>96.048</b>	<b>0.710</b>	<b>0.007</b>	<b>103.906</b>	<b>103.630</b>	<b>0.276</b>	<b>0.003</b>

Gar	Sub	TOi	TOf	%		TCi	TCf	%		TPI	TPf	%	
				Dif	Chang			Dif	Chang			Dif	Chang
3	1	3.96	4.1	0.14	0.035	2.11	2.19	0.08	0.038	1.85	1.91	0.06	0.032
3	4	4.46	4.96	0.5	0.112	2.37	2.65	0.28	0.118	2.09	2.31	0.22	0.105
3	5	4.14	4.3	0.16	0.039	2.24	2.35	0.11	0.049	1.9	1.95	0.05	0.026
3	6	4.19	4.46	0.27	0.064	2.27	2.44	0.17	0.075	1.92	2.02	0.1	0.052
3	7	3.94	4.12	0.18	0.046	2.1	2.22	0.12	0.0571	1.84	1.9	0.06	0.033
<b>Average</b>	<b>4.6</b>	<b>4.138</b>	<b>4.388</b>	<b>0.250</b>	<b>0.059</b>	<b>2.218</b>	<b>2.370</b>	<b>0.152</b>	<b>0.067</b>	<b>1.920</b>	<b>2.018</b>	<b>0.098</b>	<b>0.050</b>

Gar	Sub	SUI	SUF	%		U&S i	U&s f	%		CLI	CLf	%	
				Dif	Chang			Dif	Chang			Dif	Chang
3	1	0.95	1.29	0.34	0.358	0.31	0.56	0.25	0.806	0.78	0.89	0.11	0.141
3	4	1.05	1.66	0.61	0.581	0.33	0.74	0.41	1.242	0.91	1.13	0.22	0.242
3	5	0.96	1.31	0.35	0.365	0.28	0.5	0.22	0.786	0.85	0.93	0.08	0.094
3	6	1.02	1.45	0.43	0.422	0.3	0.58	0.28	0.933	0.86	0.98	0.12	0.140
3	7	0.97	1.34	0.37	0.381	0.29	0.52	0.23	0.793	0.77	0.87	0.1	0.130
<b>Average</b>	<b>4.6</b>	<b>0.990</b>	<b>1.410</b>	<b>0.420</b>	<b>0.421</b>	<b>0.302</b>	<b>0.580</b>	<b>0.278</b>	<b>0.912</b>	<b>0.834</b>	<b>0.960</b>	<b>0.126</b>	<b>0.149</b>

Warm Environment

**Subject and Garment Weights**

Gar	Sub	Nude		%		SUti	Sutf	%		TCli	TCIf	%	
		wti	wtf	Dif	Chang			Dif	Chang			Dif	Chang
4	1	86.86	85.71	1.15	0.013	88.01	87.54	0.47	0.005	95.88	95.73	0.15	0.002
4	4	117.16	115.1	2.06	0.018	118.42	117.4	1.02	0.009	126.84	126.65	0.19	0.001
4	5	92.03	90.07	1.96	0.021	93.3	92.81	0.49	0.005	101.29	101.19	0.1	0.001
4	6	91.43	89.92	1.51	0.017	92.68	91.91	0.77	0.008	100.83	100.2	0.63	0.006
4	7	90.33	89.24	1.09	0.012	91.49	91.01	0.48	0.005	99.36	99.18	0.18	0.002
<b>Average</b>		95.562	94.008	1.554	0.016	98.973	98.283	0.690	0.007	107.080	106.805	0.275	0.003

Gar	Sub	TOI	TOf	%		TCI	TCf	%		TPI	TPf	%	
				Dif	Chang			Dif	Chang			Dif	Chang
4	1	4.71	4.91	0.2	0.042	2.59	2.7	0.11	0.042	2.12	2.21	0.09	0.042
4	4	5.26	5.8	0.54	0.103	2.86	3.16	0.3	0.105	2.4	2.64	0.24	0.100
4	5	4.87	5.07	0.2	0.041	2.73	2.85	0.12	0.044	2.14	2.22	0.08	0.037
4	6	4.97	5.3	0.33	0.066	2.79	3	0.21	0.075	2.17	2.3	0.13	0.060
4	7	4.71	4.89	0.18	0.038	2.58	2.7	0.12	0.047	2.13	2.19	0.06	0.028
<b>Average</b>		4.9525	5.265	0.313	0.062	2.740	2.928	0.188	0.068	2.21	2.338	0.1275	0.056

Gar	Sub	SUI	SUF	%		U&S I	U&s f	%		CLi	CLf	%	
				Dif	Chang			Dif	Chang			Dif	Chang
4	1	0.93	1.38	0.45	0.484	0.3	0.57	0.27	0.900	1.11	1.19	0.08	0.072
4	4	1.04	1.68	0.64	0.615	0.32	0.72	0.4	1.250	1.26	1.5	0.24	0.190
4	5	0.97	1.29	0.32	0.330	0.3	0.49	0.19	0.633	1.14	1.29	0.15	0.132
4	6	1.01	1.49	0.48	0.475	0.3	0.59	0.29	0.967	1.23	1.39	0.16	0.130
4	7	0.93	1.32	0.39	0.419	0.29	0.53	0.24	0.828	1.12	1.21	0.09	0.080
<b>Average</b>		0.988	1.445	0.458	0.460	0.303	0.583	0.280	0.919	1.172	1.316	0.144	0.121

Warm Environment

**Subject and Garment Weights**

Gar	Sub	Nude		%		SUti	Sutf	%		TCli	TCif	%	
		wti	wtf	Dif	Chang			Dif	Chang			Dif	Chang
5	1	85.79	84.56	1.23	0.014	86.94	86.39	0.55	0.006	94.05	93.81	0.24	0.003
5	4	117.5	115.29	2.21	0.019	118.75	117.58	1.17	0.010	126.27	125.82	0.45	0.004
5	5	91.62	90.35	1.27	0.014	92.81	92.15	0.66	0.007	100.05	99.7	0.35	0.003
5	6	90.58	89.03	1.55	0.017	91.82	90.93	0.89	0.010	99.12	98.79	0.33	0.003
5	7	89.91	88.73	1.18	0.013	91.09	90.46	0.63	0.007	98.17	97.83	0.34	0.003
<b>Average</b>		95.080	93.592	1.488	0.015	96.282	95.502	0.780	0.008	103.532	103.190	0.342	0.003

Gar	Sub	TOi	TOf	%		TCi	TCf	%		TPi	TPf	%	
				Dif	Chang			Dif	Chang			Dif	Chang
5	1	3.92	4.09	0.17	0.043	2.09	2.2	0.11	0.053	1.82	1.89	0.07	0.038
5	4	4.37	4.78	0.41	0.094	2.34	2.58	0.24	0.103	2.03	2.2	0.17	0.084
5	5	4.06	4.24	0.18	0.044	2.23	2.33	0.1	0.045	1.84	1.91	0.07	0.038
5	6	4.11	4.33	0.22	0.054	2.25	2.39	0.14	0.062	1.86	1.94	0.08	0.043
5	7	3.94	4.09	0.15	0.038	2.11	2.21	0.1	0.047	1.82	1.88	0.06	0.033
<b>Average</b>		4.080	4.306	0.226	0.05462	2.204	2.342	0.138	0.06193	1.874	1.964	0.090	0.047

Gar	Sub	SUi	SUF	%		U&S i	U&s f	%		CLi	CLf	%	
				Dif	Chang			Dif	Chang			Dif	Chang
5	1	0.94	1.36	0.42	0.447	0.3	0.62	0.32	1.067	0.78	0.83	0.05	0.0641
5	4	1.04	1.71	0.67	0.644	0.32	0.76	0.44	1.375	0.88	1.05	0.17	0.193
5	5	0.95	1.46	0.51	0.537	0.29	0.54	0.25	0.862	0.84	0.91	0.07	0.083
5	6	1.01	1.41	0.4	0.396	0.31	0.46	0.15	0.484	0.85	0.92	0.07	0.082
5	7	0.94	1.31	0.37	0.394	0.29	0.39	0.1	0.345	0.78	0.86	0.08	0.103
<b>Average</b>		0.976	1.450	0.474	0.484	0.302	0.554	0.252	0.826	0.826	0.914	0.088	0.105

Warm Environment

**Subject and Garment Weights**

Gar	Sub	Nude		%		SUTI	SUF	%		TCII	TCIF	%	
		wti	wtf	Dif	Chang			Dif	Chang			Dif	Chang
6	1	85.33	84.11	1.22	0.014	86.5	85.94	0.56	0.006	93.23	93.44	0.21	0.002
6	4	117.91	115.84	2.07	0.018	119.18	118.06	1.12	0.009	126.86	126.42	0.44	0.003
6	5	92.38	91.26	1.12	0.012	93.57	92.99	0.58	0.006	101	100.76	0.24	0.002
6	6	89.52	88.28	1.24	0.014	90.76	90.09	0.67	0.007	98.18	97.95	0.23	0.002
6	7	90.02	88.87	1.15	0.013	91.21	90.62	0.59	0.006	98.35	98.06	0.29	0.003
<b>Average</b>		95.032	93.672	1.360	0.014	96.244	95.540	0.704	0.007	103.524	103.326	0.282	0.003

Gar	Sub	TOI	TOF	%		TCI	TCF	%		TPI	TPF	%	
				Dif	Chang			Dif	Chang			Dif	Chang
6	1	4.03	4.21	0.18	0.045	2.12	2.23	0.11	0.052	1.9	1.98	0.08	0.042
6	4	4.45	4.91	0.46	0.103	2.37	2.62	0.25	0.105	2.09	2.29	0.2	0.096
6	5	4.3	4.46	0.16	0.037	2.39	2.5	0.11	0.046	1.91	1.96	0.05	0.026
6	6	4.22	4.42	0.2	0.047	2.29	2.42	0.13	0.057	1.93	2	0.07	0.036
6	7	3.96	4.15	0.19	0.048	2.13	2.24	0.11	0.052	1.86	1.91	0.05	0.027
<b>Average</b>		4.192	4.430	0.238	0.056	2.260	2.402	0.142	0.062	1.938	2.028	0.090	0.045

Gar	Sub	SUI	SUF	%		U&S I	U&S f	%		CLI	CLF	%	
				Dif	Chang			Dif	Chang			Dif	Chang
6	1	0.95	1.35	0.4	0.421	0.3	0.6	0.3	1.000	0.8	0.89	0.09	0.113
6	4	1.04	1.64	0.6	0.577	0.33	0.8	0.47	1.424	0.92	1.1	0.18	0.196
6	5	0.96	1.29	0.33	0.344	0.29	0.41	0.12	0.414	0.85	0.94	0.09	0.106
6	6	1.01	1.35	0.34	0.337	0.31	0.43	0.12	0.387	0.87	0.96	0.09	0.103
6	7	0.97	1.31	0.34	0.351	0.29	0.5	0.21	0.724	0.81	0.88	0.07	0.086
<b>Average</b>		0.986	1.388	0.402	0.406	0.304	0.548	0.244	0.790	0.850	0.954	0.104	0.121

## **Appendix Q**

### **Statistical Analysis on Weight Data**

**1998 Firefighter Wear Trial  
Warm Environment (39°C, 35%RH) Summary of Evaluator and Garment Weight  
Changes: t-Test Paired Two Sample Means**

<b>1. Nude Weight Loss (nw)</b>						<b>2. Weight Loss in Station Uniform (sw)</b>					
ID.	2	3	4	5	6	ID.	2	3	4	5	6
1	0	0	0	0	0	1	0	0	0	5>1	0
2		0	0	0	0	2		2>3	2>4	0	0
3			0	0	0	3			3>4	5>3	0
4				0	0	4				5>4	0
5					0	5					0

<b>3. Weight Loss in Turnout (tw)</b>						<b>4. Weight Gain T. Coat &amp; Pants (cp)</b>					
ID.	2	3	4	5	6	ID.	2	3	4	5	6
1	0	0	0	0	0	1	0	0	4>1	0	0
2		0	0	0	0	2		0	0	0	0
3			0	0	0	3			4>3	0	0
4				0	0	4				4>5	4>6
5					0	5					0

<b>5. Station Uniform Weight Gain (su)</b>						<b>6. Underwear Weight Gain (u)</b>					
ID.	2	3	4	5	6	ID.	2	3	4	5	6
1	*	**	**	**	0	1	0	0	0	0	0
2	2>1	3>1	4>1	5>1	0	2		0	0	0	0
3		0	0	0	0	3			0	0	0
4				0	4>6	4				0	0
5					5>6	5					0

* Significant at the 90% level	*** Significant at the 99% level
** Significant at the 95% level	0 Not significant at the 90% level

Table Continued

Warm Environment (39°C, 35%RH) Summary of Evaluator and Garment Weight Changes: t-Test Paired Two Sample Means

7. Coat Liner Weight Loss(L)

I.D.	2	3	4	5	6
	*		**		
1	1>2	0	4>1	0	0
			*	**	
2		0	4>2	2>5	0
				**	*
3			0	3>5	3>6
				**	**
4				4>5	4>6
					*
5					6>5

\* Significant at the 90% level  
 \*\* Significant at the 95% level

\*\*\* Significant at the 99% level  
 0 Not significant at the 90% level

## KEY TO LABELS IN DETAILED DATA AND STATISTICAL OUTPUT

Garments: 1-6

Subjects: 1-7

### Change in Subject and Garment Weights (gains or losses)

- i = initial pretest weight
- f = final posttest weight
- NW = subject nude weight (or Nude Wt)
- SW = subject weight dressed in station uniform (or SU)
- TW = subject weight dresses in full turnout (or TCI)
- CP = garment weight of turnout coat and pants (or (TO)
- TC = garment weight of turnout coat
- TP = garment weight of turnout pants
- SU = garment weight of station uniform
- U = garment weight of underwear, including socks (or U&S)
- L = garment weight of coat liner (or CL)

### Significant Statistical Differences

- \*\*\* Significant at the 99% probability level
- \*\* Significant at the 95% probability level
- \* Significant at the 90% probability level
- 0 Not significant at the 90% level

**t-Test for Changes in Evaluator and Garment Weights in Warm Condition**

**Evaluator Nude Weight Loss (nw)**

	<i>1nw</i>	<i>2nw</i>
Mean	1.368	1.5
Variance	0.11412	0.30745
Observatio:	5	5
Pearson Cc	0.985115	
Hypothesiz	0	
df	4	
t Stat	-1.287943	
P(T<=t) on	0.133612	
t Critical o:	2.131846	
P(T<=t) tw	0.267224	nsd
t Critical tv	2.776451	

	<i>1nw</i>	<i>3nw</i>
Mean	1.368	1.396
Variance	0.11412	0.21028
Observatio:	5	5
Pearson Cc	0.984216	
Hypothesiz	0	
df	4	
t Stat	-0.448704	
P(T<=t) on	0.33844	
t Critical o:	2.131846	
P(T<=t) tw	0.67688	nsd
t Critical tv	2.776451	

	<i>1nw</i>	<i>4nw</i>
Mean	1.368	1.554
Variance	0.11412	0.20033
Observatio:	5	5
Pearson Cc	0.6454	
Hypothesiz	0	
df	4	
t Stat	-1.204243	
P(T<=t) on	0.14744	
t Critical o:	2.131846	
P(T<=t) tw	0.29488	nsd
t Critical tv	2.776451	

	<i>1nw</i>	<i>5nw</i>
Mean	1.368	2.71
Variance	0.11412	9.85565
Observatio:	5	5
Pearson Cc	0.901034	
Hypothesiz	0	
df	4	
t Stat	-1.057078	
P(T<=t) on	0.175045	
t Critical o:	2.131846	
P(T<=t) tw	0.35009	nsd
t Critical tv	2.776451	

	<i>1nw</i>	<i>6nw</i>
Mean	1.368	1.36
Variance	0.11412	0.15995
Observatio:	5	5
Pearson Cc	0.912065	
Hypothesiz	0	
df	4	
t Stat	0.107637	
P(T<=t) on	0.459733	
t Critical o:	2.131846	
P(T<=t) tw	0.919466	nsd
t Critical tv	2.776451	

	<i>2nw</i>	<i>3nw</i>
Mean	1.5	1.396
Variance	0.30745	0.21028
Observatio:	5	5
Pearson Cc	0.993256	
Hypothesiz	0	
df	4	
t Stat	2.069268	
P(T<=t) on	0.05366	
t Critical o:	2.131846	
P(T<=t) tw	0.107319	nsd
t Critical tv	2.776451	

	<i>2nw</i>	<i>4nw</i>
Mean	1.5	1.554
Variance	0.30745	0.20033
Observatio:	5	5
Pearson Cc	0.706051	
Hypothesiz	0	
df	4	
t Stat	-0.30442	
P(T<=t) on	0.387994	
t Critical o:	2.131846	
P(T<=t) tw	0.775988	nsd
t Critical tv	2.776451	

	<i>2nw</i>	<i>5nw</i>
Mean	1.5	2.71
Variance	0.30745	9.85565
Observatio:	5	5
Pearson Cc	0.933649	
Hypothesiz	0	
df	4	
t Stat	-1.029078	
P(T<=t) on	0.180799	
t Critical o:	2.131846	
P(T<=t) tw	0.361598	nsd
t Critical tv	2.776451	

	<i>2nw</i>	<i>6nw</i>
Mean	1.5	1.36
Variance	0.30745	0.15995
Observatio:	5	5
Pearson Cc	0.928828	
Hypothesiz	0	
df	4	
t Stat	1.32942	
P(T<=t) on	0.127231	
t Critical o:	2.131846	
P(T<=t) tw	0.254461	nsd
t Critical tv	2.776451	

	<i>3nw</i>	<i>4nw</i>
Mean	1.396	1.554
Variance	0.21028	0.20033
Observatio:	5	5
Pearson Cc	0.620089	
Hypothesiz	0	
df	4	
t Stat	-0.894298	
P(T<=t) on	0.210855	
t Critical o:	2.131846	
P(T<=t) tw	0.42171	nsd
t Critical tv	2.776451	

	<i>3nw</i>	<i>5nw</i>
Mean	1.396	2.71
Variance	0.21028	9.85565
Observatio:	5	5
Pearson Cc	0.93467	
Hypothesiz	0	
df	4	
t Stat	-1.081943	
P(T<=t) on	0.170073	
t Critical o:	2.131846	
P(T<=t) tw	0.340145	nsd
t Critical tv	2.776451	

	<i>3nw</i>	<i>6nw</i>
Mean	1.396	1.36
Variance	0.21028	0.15995
Observatio:	5	5
Pearson Cc	0.937313	
Hypothesiz	0	
df	4	
t Stat	0.495152	
P(T<=t) on	0.323229	
t Critical o:	2.131846	
P(T<=t) tw	0.646459	nsd
t Critical tv	2.776451	

Nude Weight continued

	4nw	5nw
Mean	1.554	2.71
Variance	0.20033	9.85565
Observatio:	5	5
Pearson Cc	0.642807	
Hypothesiz	0	
df	4	
t Stat	-0.89997	
P(T<=t) on	0.20951	
t Critical o:	2.131846	
P(T<=t) tw	0.41902	nsd
t Critical tv	2.776451	

	4nw	6nw
Mean	1.554	1.36
Variance	0.20033	0.15995
Observatio:	5	5
Pearson Cc	0.588112	
Hypothesiz	0	
df	4	
t Stat	1.121069	
P(T<=t) on	0.162506	
t Critical o:	2.131846	
P(T<=t) tw	0.325013	nsd
t Critical tv	2.776451	

	5nw	6nw
Mean	2.71	1.36
Variance	9.85565	0.15995
Observatio:	5	5
Pearson Cc	0.994861	
Hypothesiz	0	
df	4	
t Stat	1.100994	
P(T<=t) on	0.166349	
t Critical o:	2.131846	
P(T<=t) tw	0.332699	nsd
t Critical tv	2.776451	

Evaluator Weight Loss in Station Uniform (sw)

	1sw	2sw
Mean	0.706	0.822
Variance	0.03893	0.13717
Observatio:	5	5
Pearson Cc	0.967972	
Hypothesiz	0	
df	4	
t Stat	-1.393852	
P(T<=t) on	0.117904	
t Critical o:	2.131846	
P(T<=t) tw	0.235808	nsd
t Critical tv	2.776451	

	1sw	3sw
Mean	0.706	0.71
Variance	0.03893	0.0825
Observatio:	5	5
Pearson Cc	0.972701	
Hypothesiz	0	
df	4	
t Stat	-0.084591	
P(T<=t) on	0.468326	
t Critical o:	2.131846	
P(T<=t) tw	0.936651	nsd
t Critical tv	2.776451	

	1sw	4sw
Mean	0.706	0.646
Variance	0.03893	0.05953
Observatio:	5	5
Pearson Cc	0.96395	
Hypothesiz	0	
df	4	
t Stat	1.784892	
P(T<=t) on	0.074417	
t Critical o:	2.131846	
P(T<=t) tw	0.148833	nsd
t Critical tv	2.776451	

	1sw	5sw
Mean	0.706	0.78
Variance	0.03893	0.0635
Observatio:	5	5
Pearson Cc	0.978987	
Hypothesiz	0	
df	4	
t Stat	-2.321586	
P(T<=t) on	0.040498	
t Critical o:	2.131846	
P(T<=t) tw	0.080996	*
t Critical tv	2.776451	

	1sw	6sw
Mean	0.706	0.704
Variance	0.03893	0.05583
Observatio:	5	5
Pearson Cc	0.851451	
Hypothesiz	0	
df	4	
t Stat	0.036073	
P(T<=t) on	0.486476	
t Critical o:	2.131846	
P(T<=t) tw	0.972953	nsd
t Critical tv	2.776451	

	2sw	3sw
Mean	0.822	0.71
Variance	0.13717	0.0825
Observatio:	5	5
Pearson Cc	0.993851	
Hypothesiz	0	
df	4	
t Stat	2.762276	
P(T<=t) on	0.025366	
t Critical o:	2.131846	
P(T<=t) tw	0.050731	*
t Critical tv	2.776451	

	2sw	4sw
Mean	0.822	0.646
Variance	0.13717	0.05953
Observatio:	5	5
Pearson Cc	0.978925	
Hypothesiz	0	
df	4	
t Stat	2.798237	
P(T<=t) on	0.02445	
t Critical o:	2.131846	
P(T<=t) tw	0.048899	**
t Critical tv	2.776451	

	2sw	5sw
Mean	0.822	0.78
Variance	0.13717	0.0635
Observatio:	5	5
Pearson Cc	0.996743	
Hypothesiz	0	
df	4	
t Stat	0.776713	
P(T<=t) on	0.24035	
t Critical o:	2.131846	
P(T<=t) tw	0.480699	nsd
t Critical tv	2.776451	

	2sw	6sw
Mean	0.822	0.704
Variance	0.13717	0.05583
Observatio:	5	5
Pearson Cc	0.951479	
Hypothesiz	0	
df	4	
t Stat	1.621773	
P(T<=t) on	0.090085	
t Critical o:	2.131846	
P(T<=t) tw	0.180171	nsd
t Critical tv	2.776451	

Evaluator Weight in Station Uniform continue

	3sw	4sw
Mean	0.71	0.646
Variance	0.0825	0.05953
Observatio:	5	5
Pearson Cc	0.984587	
Hypothesiz	0	
df	4	
t Stat	2.254304	
P(T<=t) on	0.043614	
t Critical o:	2.131846	
P(T<=t) tw	0.087229	*
t Critical tv	2.776451	

	3sw	5sw
Mean	0.71	0.78
Variance	0.0825	0.0635
Observatio:	5	5
Pearson Cc	0.996142	
Hypothesiz	0	
df	4	
t Stat	-3.689324	
P(T<=t) on	0.010516	
t Critical o:	2.131846	
P(T<=t) tw	0.021031	**
t Critical tv	2.776451	

	3sw	6sw
Mean	0.71	0.704
Variance	0.0825	0.05583
Observatio:	5	5
Pearson Cc	0.9467	
Hypothesiz	0	
df	4	
t Stat	0.135319	
P(T<=t) on	0.449448	
t Critical o:	2.131846	
P(T<=t) tw	0.898896	nsd
t Critical tv	2.776451	

	4sw	5sw
Mean	0.646	0.78
Variance	0.05953	0.0635
Observatio:	5	5
Pearson Cc	0.990518	
Hypothesiz	0	
df	4	
t Stat	-8.543528	
P(T<=t) on	0.000515	
t Critical o:	2.131846	
P(T<=t) tw	0.00103	***
t Critical tv	2.776451	

	4sw	6sw
Mean	0.646	0.704
Variance	0.05953	0.05583
Observatio:	5	5
Pearson Cc	0.932258	
Hypothesiz	0	
df	4	
t Stat	-1.461927	
P(T<=t) on	0.108787	
t Critical o:	2.131846	
P(T<=t) tw	0.217573	nsd
t Critical tv	2.776451	

	5sw	6sw
Mean	0.78	0.704
Variance	0.0635	0.05583
Observatio:	5	5
Pearson Cc	0.938839	
Hypothesiz	0	
df	4	
t Stat	1.958399	
P(T<=t) on	0.060889	
t Critical o:	2.131846	
P(T<=t) tw	0.121778	nsd
t Critical tv	2.776451	

Evaluator Weight Loss in Turnout (tw)

	1tw	2rw
Mean	0.316	0.316
Variance	0.00363	0.01443
Observatio:	5	5
Pearson Cc	0.82971	
Hypothesiz	0	
df	4	
t Stat	8.17E-14	
P(T<=t) on	0.5	
t Critical o:	2.131846	
P(T<=t) tw	1	nsd
t Critical tv	2.776451	

	1tw	3tw
Mean	0.316	0.276
Variance	0.00363	0.00473
Observatio:	5	5
Pearson Cc	0.737271	
Hypothesiz	0	
df	4	
t Stat	1.885618	
P(T<=t) on	0.066209	
t Critical o:	2.131846	
P(T<=t) tw	0.132419	nsd
t Critical tv	2.776451	

	1tw	4tw
Mean	0.316	0.25
Variance	0.00363	0.04635
Observatio:	5	5
Pearson Cc	0.472202	
Hypothesiz	0	
df	4	
t Stat	0.759776	
P(T<=t) on	0.244852	
t Critical o:	2.131846	
P(T<=t) tw	0.489704	nsd
t Critical tv	2.776451	

	1tw	5tw
Mean	0.316	2.448
Variance	0.00363	22.75037
Observatio:	5	5
Pearson Cc	0.507666	
Hypothesiz	0	
df	4	
t Stat	-1.005879	
P(T<=t) on	0.185692	
t Critical o:	2.131846	
P(T<=t) tw	0.371384	nsd
t Critical tv	2.776451	

	1tw	6tw
Mean	0.316	0.282
Variance	0.00363	0.00867
Observatio:	5	5
Pearson Cc	0.621212	
Hypothesiz	0	
df	4	
t Stat	1.041359	
P(T<=t) on	0.178255	
t Critical o:	2.131846	
P(T<=t) tw	0.35651	nsd
t Critical tv	2.776451	

	2rw	3tw
Mean	0.316	0.276
Variance	0.01443	0.00473
Observatio:	5	5
Pearson Cc	0.956837	
Hypothesiz	0	
df	4	
t Stat	1.545335	
P(T<=t) on	0.098578	
t Critical o:	2.131846	
P(T<=t) tw	0.197157	nsd
t Critical tv	2.776451	

Weight in Turnout continued

	2rw	4tw
Mean	0.316	0.25
Variance	0.01443	0.04635
Observatio:	5	5
Pearson Cc	0.27357	
Hypothesiz	0	
df	4	
t Stat	0.683433	
P(T<=t) on	0.265934	
t Critical o:	2.131846	
P(T<=t) tw	0.531868	nsd
t Critical tv	2.776451	

	3tw	4tw
Mean	0.276	0.25
Variance	0.00473	0.04635
Observatio:	5	5
Pearson Cc	0.202612	
Hypothesiz	0	
df	4	
t Stat	0.273821	
P(T<=t) on	0.39889	
t Critical o:	2.131846	
P(T<=t) tw	0.79778	nsd
t Critical tv	2.776451	

	4tw	5tw
Mean	0.25	2.448
Variance	0.04635	22.75037
Observatio:	5	5
Pearson Cc	-0.154278	
Hypothesiz	0	
df	4	
t Stat	-1.022302	
P(T<=t) on	0.182216	
t Critical o:	2.131846	
P(T<=t) tw	0.364433	nsd
t Critical tv	2.776451	

	2rw	5tw
Mean	0.316	2.448
Variance	0.01443	22.75037
Observatio:	5	5
Pearson Cc	0.858719	
Hypothesiz	0	
df	4	
t Stat	-1.021493	
P(T<=t) on	0.182386	
t Critical o:	2.131846	
P(T<=t) tw	0.364772	nsd
t Critical tv	2.776451	

	3tw	5tw
Mean	0.276	2.448
Variance	0.00473	22.75037
Observatio:	5	5
Pearson Cc	0.92829	
Hypothesiz	0	
df	4	
t Stat	-1.03204	
P(T<=t) on	0.180182	
t Critical o:	2.131846	
P(T<=t) tw	0.360365	nsd
t Critical tv	2.776451	

	4tw	6tw
Mean	0.25	0.282
Variance	0.04635	0.00867
Observatio:	5	5
Pearson Cc	-0.203279	
Hypothesiz	0	
df	4	
t Stat	-0.284695	
P(T<=t) on	0.395005	
t Critical o:	2.131846	
P(T<=t) tw	0.790009	nsd
t Critical tv	2.776451	

	2rw	6tw
Mean	0.316	0.282
Variance	0.01443	0.00867
Observatio:	5	5
Pearson Cc	0.885994	
Hypothesiz	0	
df	4	
t Stat	1.327477	
P(T<=t) on	0.127523	
t Critical o:	2.131846	
P(T<=t) tw	0.255046	nsd
t Critical tv	2.776451	

	3tw	6tw
Mean	0.276	0.282
Variance	0.00473	0.00867
Observatio:	5	5
Pearson Cc	0.879942	
Hypothesiz	0	
df	4	
t Stat	-0.290701	
P(T<=t) on	0.392865	
t Critical o:	2.131846	
P(T<=t) tw	0.78573	nsd
t Critical tv	2.776451	

	5tw	6tw
Mean	2.448	0.282
Variance	22.75037	0.00867
Observatio:	5	5
Pearson Cc	0.950423	
Hypothesiz	0	
df	4	
t Stat	1.034605	
P(T<=t) on	0.17965	
t Critical o:	2.131846	
P(T<=t) tw	0.3593	nsd
t Critical tv	2.776451	

Garment Weight Gain of Turnout: Coat and Pants (cp)

	1cp	2cp
Mean	0.228	0.268
Variance	0.01607	0.03132
Observatio:	5	5
Pearson Cc	0.998234	
Hypothesiz	0	
df	4	
t Stat	-1.754116	
P(T<=t) on	0.077136	
t Critical o:	2.131846	
P(T<=t) tw	0.154273	nsd
t Critical tv	2.776451	

	1cp	3cp
Mean	0.228	0.25
Variance	0.01607	0.022
Observatio:	5	5
Pearson Cc	0.990551	
Hypothesiz	0	
df	4	
t Stat	-1.717911	
P(T<=t) on	0.080472	
t Critical o:	2.131846	
P(T<=t) tw	0.160943	nsd
t Critical tv	2.776451	

	1cp	4cp
Mean	0.228	0.29
Variance	0.01607	0.0231
Observatio:	5	5
Pearson Cc	0.995225	
Hypothesiz	0	
df	4	
t Stat	-4.841387	
P(T<=t) on	0.004196	
t Critical o:	2.131846	
P(T<=t) tw	0.008392	***
t Critical tv	2.776451	

Turnout Weight continued

	1cp	5cp
Mean	0.228	0.226
Variance	0.01607	0.01123
Observatio:	5	5
Pearson Cc	0.989298	
Hypothesiz	0	
df	4	
t Stat	0.166667	
P(T<=t) on	0.437859	
t Critical o:	2.131846	
P(T<=t) tw	0.875718	nsd
t Critical tv	2.776451	

	2cp	4cp
Mean	0.268	0.29
Variance	0.03132	0.0231
Observatio:	5	5
Pearson Cc	0.990787	
Hypothesiz	0	
df	4	
t Stat	-1.469937	
P(T<=t) on	0.107761	
t Critical o:	2.131846	
P(T<=t) tw	0.215523	nsd
t Critical tv	2.776451	

	3cp	4cp
Mean	0.25	0.29
Variance	0.022	0.0231
Observatio:	5	5
Pearson Cc	0.98699	
Hypothesiz	0	
df	4	
t Stat	-3.651484	
P(T<=t) on	0.010871	
t Critical o:	2.131846	
P(T<=t) tw	0.021743	**
t Critical tv	2.776451	

	4cp	5cp
Mean	0.29	0.226
Variance	0.0231	0.01123
Observatio:	5	5
Pearson Cc	0.982535	
Hypothesiz	0	
df	4	
t Stat	2.764379	
P(T<=t) on	0.025311	
t Critical o:	2.131846	
P(T<=t) tw	0.050622	*
t Critical tv	2.776451	

	1cp	6cp
Mean	0.228	0.238
Variance	0.01607	0.01562
Observatio:	5	5
Pearson Cc	0.948029	
Hypothesiz	0	
df	4	
t Stat	-0.550482	
P(T<=t) on	0.305643	
t Critical o:	2.131846	
P(T<=t) tw	0.611285	nsd
t Critical tv	2.776451	

	2cp	5cp
Mean	0.268	0.226
Variance	0.03132	0.01123
Observatio:	5	5
Pearson Cc	0.995239	
Hypothesiz	0	
df	4	
t Stat	1.299867	
P(T<=t) on	0.131746	
t Critical o:	2.131846	
P(T<=t) tw	0.263493	nsd
t Critical tv	2.776451	

	3cp	5cp
Mean	0.25	0.226
Variance	0.022	0.01123
Observatio:	5	5
Pearson Cc	0.978169	
Hypothesiz	0	
df	4	
t Stat	1.077632	
P(T<=t) on	0.170925	
t Critical o:	2.131846	
P(T<=t) tw	0.341851	nsd
t Critical tv	2.776451	

	4cp	6cp
Mean	0.29	0.238
Variance	0.0231	0.01562
Observatio:	5	5
Pearson Cc	0.941021	
Hypothesiz	0	
df	4	
t Stat	2.133586	
P(T<=t) on	0.049902	
t Critical o:	2.131846	
P(T<=t) tw	0.099805	*
t Critical tv	2.776451	

	2cp	3cp
Mean	0.268	0.25
Variance	0.03132	0.022
Observatio:	5	5
Pearson Cc	0.990492	
Hypothesiz	0	
df	4	
t Stat	1.107823	
P(T<=t) on	0.165033	
t Critical o:	2.131846	
P(T<=t) tw	0.330066	nsd
t Critical tv	2.776451	

	2cp	6cp
Mean	0.268	0.238
Variance	0.03132	0.01562
Observatio:	5	5
Pearson Cc	0.962778	
Hypothesiz	0	
df	4	
t Stat	1.017095	
P(T<=t) on	0.183312	
t Critical o:	2.131846	
P(T<=t) tw	0.366624	nsd
t Critical tv	2.776451	

	3cp	6cp
Mean	0.25	0.238
Variance	0.022	0.01562
Observatio:	5	5
Pearson Cc	0.96426	
Hypothesiz	0	
df	4	
t Stat	0.620505	
P(T<=t) on	0.284265	
t Critical o:	2.131846	
P(T<=t) tw	0.568531	nsd
t Critical tv	2.776451	

	5cp	6cp
Mean	0.226	0.238
Variance	0.01123	0.01562
Observatio:	5	5
Pearson Cc	0.973246	
Hypothesiz	0	
df	4	
t Stat	-0.820303	
P(T<=t) on	0.229056	
t Critical o:	2.131846	
P(T<=t) tw	0.458112	nsd
t Critical tv	2.776451	

**Garment Weight Gain of Station Uniform (su)**

	1su	2su
Mean	0.394	0.412
Variance	0.01058	0.01377
Observatio:	5	5
Pearson Cc	0.995437	
Hypothesiz	0	
df	4	
t Stat	-2.25	
P(T<=t) on	0.043823	
t Critical α	2.131846	
P(T<=t) tw	0.087645	*
t Critical tv	2.776451	

	1su	5su
Mean	0.394	0.474
Variance	0.01058	0.01473
Observatio:	5	5
Pearson Cc	0.855514	
Hypothesiz	0	
df	4	
t Stat	-2.846272	
P(T<=t) on	0.023286	
t Critical α	2.131846	
P(T<=t) tw	0.046571	**
t Critical tv	2.776451	

	2su	4su
Mean	0.412	0.456
Variance	0.01377	0.01433
Observatio:	5	5
Pearson Cc	0.922603	
Hypothesiz	0	
df	4	
t Stat	-2.107218	
P(T<=t) on	0.051406	
t Critical α	2.131846	
P(T<=t) tw	0.102813	nsd
t Critical tv	2.776451	

	3su	4su
Mean	0.42	0.456
Variance	0.0125	0.01433
Observatio:	5	5
Pearson Cc	0.905949	
Hypothesiz	0	
df	4	
t Stat	-1.584812	
P(T<=t) on	0.094094	
t Critical α	2.131846	
P(T<=t) tw	0.188187	nsd
t Critical tv	2.776451	

	1su	3su
Mean	0.394	0.42
Variance	0.01058	0.0125
Observatio:	5	5
Pearson Cc	0.984783	
Hypothesiz	0	
df	4	
t Stat	-2.803652	
P(T<=t) on	0.024315	
t Critical α	2.131846	
P(T<=t) tw	0.04863	**
t Critical tv	2.776451	

	1su	6su
Mean	0.394	0.402
Variance	0.01058	0.01302
Observatio:	5	5
Pearson Cc	0.917204	
Hypothesiz	0	
df	4	
t Stat	-0.393179	
P(T<=t) on	0.357122	
t Critical α	2.131846	
P(T<=t) tw	0.714243	nsd
t Critical tv	2.776451	

	2su	5su
Mean	0.412	0.474
Variance	0.01377	0.01473
Observatio:	5	5
Pearson Cc	0.81204	
Hypothesiz	0	
df	4	
t Stat	-1.891862	
P(T<=t) on	0.065734	
t Critical α	2.131846	
P(T<=t) tw	0.131468	nsd
t Critical tv	2.776451	

	3su	5su
Mean	0.42	0.474
Variance	0.0125	0.01473
Observatio:	5	5
Pearson Cc	0.801443	
Hypothesiz	0	
df	4	
t Stat	-1.63113	
P(T<=t) on	0.089099	
t Critical α	2.131846	
P(T<=t) tw	0.178198	nsd
t Critical tv	2.776451	

	1su	4su
Mean	0.394	0.456
Variance	0.01058	0.01433
Observatio:	5	5
Pearson Cc	0.915288	
Hypothesiz	0	
df	4	
t Stat	-2.847754	
P(T<=t) on	0.023251	
t Critical α	2.131846	
P(T<=t) tw	0.046501	**
t Critical tv	2.776451	

	2su	3su
Mean	0.412	0.42
Variance	0.01377	0.0125
Observatio:	5	5
Pearson Cc	0.994692	
Hypothesiz	0	
df	4	
t Stat	-1.371989	
P(T<=t) on	0.120991	
t Critical α	2.131846	
P(T<=t) tw	0.241982	nsd
t Critical tv	2.776451	

	2su	6su
Mean	0.412	0.402
Variance	0.01377	0.01302
Observatio:	5	5
Pearson Cc	0.893967	
Hypothesiz	0	
df	4	
t Stat	0.418854	
P(T<=t) on	0.348418	
t Critical α	2.131846	
P(T<=t) tw	0.696836	nsd
t Critical tv	2.776451	

	3su	6su
Mean	0.42	0.402
Variance	0.0125	0.01302
Observatio:	5	5
Pearson Cc	0.887723	
Hypothesiz	0	
df	4	
t Stat	0.751305	
P(T<=t) on	0.247128	
t Critical α	2.131846	
P(T<=t) tw	0.494255	nsd
t Critical tv	2.776451	

Station Uniform Weight continued

	4su	5su
Mean	0.456	0.474
Variance	0.01433	0.01473
Observatio:	5	5
Pearson Cc	0.629447	
Hypothesiz	0	
df	4	
t Stat	-0.387837	
P(T<=t) on	0.358946	
t Critical o:	2.131846	
P(T<=t) tw	0.717891	nsd
t Critical tv	2.776451	

	4su	6su
Mean	0.456	0.402
Variance	0.01433	0.01302
Observatio:	5	5
Pearson Cc	0.893896	
Hypothesiz	0	
df	4	
t Stat	2.230719	
P(T<=t) on	0.04477	
t Critical o:	2.131846	
P(T<=t) tw	0.089539	*
t Critical tv	2.776451	

	5su	6su
Mean	0.474	0.402
Variance	0.01473	0.01302
Observatio:	5	5
Pearson Cc	0.854958	
Hypothesiz	0	
df	4	
t Stat	2.523599	
P(T<=t) on	0.032553	
t Critical o:	2.131846	
P(T<=t) tw	0.065107	*
t Critical tv	2.776451	

Garment Weight Gain in Underwear (u)

	1u	2u
Mean	0.22	0.252
Variance	0.01575	0.01262
Observatio:	5	5
Pearson Cc	0.528429	
Hypothesiz	0	
df	4	
t Stat	-0.616526	
P(T<=t) on	0.285453	
t Critical o:	2.131846	
P(T<=t) tw	0.570906	nsd
t Critical tv	2.776451	

	1u	3u
Mean	0.22	0.278
Variance	0.01575	0.00597
Observatio:	5	5
Pearson Cc	0.853376	
Hypothesiz	0	
df	4	
t Stat	-1.803714	
P(T<=t) on	0.072804	
t Critical o:	2.131846	
P(T<=t) tw	0.145608	nsd
t Critical tv	2.776451	

	1u	4u
Mean	0.22	0.278
Variance	0.01575	0.00607
Observatio:	5	5
Pearson Cc	0.871886	
Hypothesiz	0	
df	4	
t Stat	-1.877819	
P(T<=t) on	0.066809	
t Critical o:	2.131846	
P(T<=t) tw	0.133618	nsd
t Critical tv	2.776451	

	1u	5u
Mean	0.22	0.252
Variance	0.01575	0.01837
Observatio:	5	5
Pearson Cc	0.733408	
Hypothesiz	0	
df	4	
t Stat	-0.747223	
P(T<=t) on	0.24823	
t Critical o:	2.131846	
P(T<=t) tw	0.49646	nsd
t Critical tv	2.776451	

	1u	6u
Mean	0.22	0.244
Variance	0.01575	0.02153
Observatio:	5	5
Pearson Cc	0.986989	
Hypothesiz	0	
df	4	
t Stat	-1.759765	
P(T<=t) on	0.076629	
t Critical o:	2.131846	
P(T<=t) tw	0.153259	nsd
t Critical tv	2.776451	

	2u	3u
Mean	0.252	0.278
Variance	0.01262	0.00597
Observatio:	5	5
Pearson Cc	0.815674	
Hypothesiz	0	
df	4	
t Stat	-0.873487	
P(T<=t) on	0.215851	
t Critical o:	2.131846	
P(T<=t) tw	0.431702	nsd
t Critical tv	2.776451	

	2u	4u
Mean	0.252	0.278
Variance	0.01262	0.00607
Observatio:	5	5
Pearson Cc	0.674677	
Hypothesiz	0	
df	4	
t Stat	-0.700913	
P(T<=t) on	0.260994	
t Critical o:	2.131846	
P(T<=t) tw	0.521987	nsd
t Critical tv	2.776451	

	2u	5u
Mean	0.252	0.252
Variance	0.01262	0.01837
Observatio:	5	5
Pearson Cc	0.434784	
Hypothesiz	0	
df	4	
t Stat	-3.73E-16	
P(T<=t) on	0.5	
t Critical o:	2.131846	
P(T<=t) tw	1	nsd
t Critical tv	2.776451	

	2u	6u
Mean	0.252	0.244
Variance	0.01262	0.02153
Observatio:	5	5
Pearson Cc	0.446808	
Hypothesiz	0	
df	4	
t Stat	0.128366	
P(T<=t) on	0.452027	
t Critical o:	2.131846	
P(T<=t) tw	0.904054	nsd
t Critical tv	2.776451	

Underwear Weight continued

	3u	4u
Mean	0.278	0.278
Variance	0.00597	0.00607
Observatio:	5	5
Pearson Cc	0.966811	
Hypothesiz	0	
df	4	
t Stat	1.24E-15	
P(T<=t) on	0.5	
t Critical o:	2.131846	
P(T<=t) tw	1	nsd
t Critical tv	2.776451	

	4u	5u
Mean	0.278	0.252
Variance	0.00607	0.01837
Observatio:	5	5
Pearson Cc	0.642068	
Hypothesiz	0	
df	4	
t Stat	0.55737	
P(T<=t) on	0.303495	
t Critical o:	2.131846	
P(T<=t) tw	0.606991	nsd
t Critical tv	2.776451	

	3u	5u
Mean	0.278	0.252
Variance	0.00597	0.01837
Observatio:	5	5
Pearson Cc	0.71904	
Hypothesiz	0	
df	4	
t Stat	0.60351	
P(T<=t) on	0.289361	
t Critical o:	2.131846	
P(T<=t) tw	0.578722	nsd
t Critical tv	2.776451	

	4u	6u
Mean	0.278	0.244
Variance	0.00607	0.02153
Observatio:	5	5
Pearson Cc	0.827513	
Hypothesiz	0	
df	4	
t Stat	0.816026	
P(T<=t) on	0.230145	
t Critical o:	2.131846	
P(T<=t) tw	0.460291	nsd
t Critical tv	2.776451	

	3u	6u
Mean	0.278	0.244
Variance	0.00597	0.02153
Observatio:	5	5
Pearson Cc	0.812364	
Hypothesiz	0	
df	4	
t Stat	0.79785	
P(T<=t) on	0.234821	
t Critical o:	2.131846	
P(T<=t) tw	0.469641	nsd
t Critical tv	2.776451	

	5u	6u
Mean	0.252	0.244
Variance	0.01837	0.02153
Observatio:	5	5
Pearson Cc	0.809058	
Hypothesiz	0	
df	4	
t Stat	0.203595	
P(T<=t) on	0.424304	
t Critical o:	2.131846	
P(T<=t) tw	0.848608	nsd
t Critical tv	2.776451	

Garment Weight Gain of Coat Liner (L)

	1L	2L
Mean	0.102	0.124
Variance	0.00237	0.00473
Observatio:	5	5
Pearson Cc	0.982633	
Hypothesiz	0	
df	4	
t Stat	-2.157277	
P(T<=t) on	0.048593	
t Critical o:	2.131846	
P(T<=t) tw	0.097185	*
t Critical tv	2.776451	

	1L	5L
Mean	0.102	0.088
Variance	0.00237	0.00222
Observatio:	5	5
Pearson Cc	0.9395	
Hypothesiz	0	
df	4	
t Stat	1.870829	
P(T<=t) on	0.067351	
t Critical o:	2.131846	
P(T<=t) tw	0.134702	nsd
t Critical tv	2.776451	

	1L	3L
Mean	0.102	0.126
Variance	0.00237	0.00298
Observatio:	5	5
Pearson Cc	0.86922	
Hypothesiz	0	
df	4	
t Stat	-1.986254	
P(T<=t) on	0.058977	
t Critical o:	2.131846	
P(T<=t) tw	0.117955	nsd
t Critical tv	2.776451	

	1L	6L
Mean	0.102	0.104
Variance	0.00237	0.00188
Observatio:	5	5
Pearson Cc	0.883539	
Hypothesiz	0	
df	4	
t Stat	-0.196116	
P(T<=t) on	0.42704	
t Critical o:	2.131846	
P(T<=t) tw	0.85408	nsd
t Critical tv	2.776451	

	1L	4L
Mean	0.102	0.144
Variance	0.00237	0.00413
Observatio:	5	5
Pearson Cc	0.963692	
Hypothesiz	0	
df	4	
t Stat	-4.331969	
P(T<=t) on	0.006165	
t Critical o:	2.131846	
P(T<=t) tw	0.012331	**
t Critical tv	2.776451	

	2L	3L
Mean	0.124	0.126
Variance	0.00473	0.00298
Observatio:	5	5
Pearson Cc	0.930912	
Hypothesiz	0	
df	4	
t Stat	-0.166667	
P(T<=t) on	0.437859	
t Critical o:	2.131846	
P(T<=t) tw	0.875718	nsd
t Critical tv	2.776451	

Coat Liner Weight Continued

	2L	4L
Mean	0.124	0.144
Variance	0.00473	0.00413
Observatio:	5	5
Pearson Cc	0.95705	
Hypothesiz	0	
df	4	
t Stat	-2.236068	
P(T<=t) on	0.044505	
t Critical o:	2.131846	
P(T<=t) tw	0.089009	*
t Critical tv	2.776451	

	3L	4L
Mean	0.126	0.144
Variance	0.00298	0.00413
Observatio:	5	5
Pearson Cc	0.789581	
Hypothesiz	0	
df	4	
t Stat	-1.015799	
P(T<=t) on	0.183586	
t Critical o:	2.131846	
P(T<=t) tw	0.367172	nsd
t Critical tv	2.776451	

	4L	5L
Mean	0.144	0.088
Variance	0.00413	0.00222
Observatio:	5	5
Pearson Cc	0.853707	
Hypothesiz	0	
df	4	
t Stat	3.64529	
P(T<=t) on	0.010931	
t Critical o:	2.131846	
P(T<=t) tw	0.021862	**
t Critical tv	2.776451	

	2L	5L
Mean	0.124	0.088
Variance	0.00473	0.00222
Observatio:	5	5
Pearson Cc	0.94431	
Hypothesiz	0	
df	4	
t Stat	2.794142	
P(T<=t) on	0.024552	
t Critical o:	2.131846	
P(T<=t) tw	0.049104	**
t Critical tv	2.776451	

	3L	5L
Mean	0.126	0.088
Variance	0.00298	0.00222
Observatio:	5	5
Pearson Cc	0.919489	
Hypothesiz	0	
df	4	
t Stat	3.919401	
P(T<=t) on	0.008628	
t Critical o:	2.131846	
P(T<=t) tw	0.017256	**
t Critical tv	2.776451	

	4L	6L
Mean	0.144	0.104
Variance	0.00413	0.00188
Observatio:	5	5
Pearson Cc	0.872072	
Hypothesiz	0	
df	4	
t Stat	2.637522	
P(T<=t) on	0.028865	
t Critical o:	2.131846	
P(T<=t) tw	0.05773	*
t Critical tv	2.776451	

	2L	6L
Mean	0.124	0.104
Variance	0.00473	0.00188
Observatio:	5	5
Pearson Cc	0.949023	
Hypothesiz	0	
df	4	
t Stat	1.450953	
P(T<=t) on	0.110207	
t Critical o:	2.131846	
P(T<=t) tw	0.220415	nsd
t Critical tv	2.776451	

	3L	6L
Mean	0.126	0.104
Variance	0.00298	0.00188
Observatio:	5	5
Pearson Cc	0.948482	
Hypothesiz	0	
df	4	
t Stat	2.557448	
P(T<=t) on	0.031404	
t Critical o:	2.131846	
P(T<=t) tw	0.062808	*
t Critical tv	2.776451	

	5L	6L
Mean	0.088	0.104
Variance	0.00222	0.00188
Observatio:	5	5
Pearson Cc	0.92269	
Hypothesiz	0	
df	4	
t Stat	-1.969464	
P(T<=t) on	0.060122	
t Critical o:	2.131846	
P(T<=t) tw	0.120243	nsd
t Critical tv	2.776451	