

SAS program for RBD design with block - work type

Obs	work_type	bmi_level	glucose
1	govt_job	bmi1	193.94
2	private	bmi1	186.21
3	self_emp	bmi1	174.12
4	govt_job	bmi2	120.46
5	private	bmi2	228.69
6	self_emp	bmi2	167.41
7	govt_job	bmi3	66.13
8	private	bmi3	221.58
9	self_emp	bmi3	233.29
10	govt_job	bmi1	84.20
11	private	bmi1	70.09
12	self_emp	bmi1	228.70
13	govt_job	bmi2	116.55
14	private	bmi2	105.92
15	self_emp	bmi2	252.72
16	govt_job	bmi3	56.63
17	private	bmi3	224.10
18	self_emp	bmi3	143.43
19	govt_job	bmi1	213.03
20	private	bmi1	94.39
21	self_emp	bmi1	104.12
22	govt_job	bmi2	190.32
23	private	bmi2	171.23
24	self_emp	bmi2	99.33
25	govt_job	bmi3	187.52
26	private	bmi3	203.87
27	self_emp	bmi3	205.84
28	govt_job	bmi1	180.93
29	private	bmi1	58.57
30	self_emp	bmi1	195.23
31	govt_job	bmi2	64.17
32	private	bmi2	191.61

33	self_emp	bmi2	124.13
34	govt_job	bmi3	107.50
35	private	bmi3	64.44
36	self_emp	bmi3	78.99
37	govt_job	bmi1	78.92
38	private	bmi1	80.43
39	self_emp	bmi1	196.92
40	govt_job	bmi2	216.94
41	private	bmi2	89.22
42	self_emp	bmi2	194.99
43	govt_job	bmi3	231.69
44	private	bmi3	205.77
45	self_emp	bmi3	73.41
46	govt_job	bmi1	82.81
47	private	bmi1	104.51
48	self_emp	bmi1	61.94
49	govt_job	bmi2	263.32
50	private	bmi2	208.30
51	self_emp	bmi2	68.02
52	govt_job	bmi3	128.23
53	private	bmi3	242.52
54	self_emp	bmi3	83.34
55	govt_job	bmi1	74.10
56	private	bmi1	214.09
57	self_emp	bmi1	72.67
58	govt_job	bmi2	67.41
59	private	bmi2	212.08
60	self_emp	bmi2	191.82
61	govt_job	bmi3	89.95
62	private	bmi3	210.95
63	self_emp	bmi3	212.97
64	govt_job	bmi1	110.52
65	private	bmi1	221.29
66	self_emp	bmi1	66.72
67	govt_job	bmi2	87.85

	private	bmi2	219.72
69	self_emp	bmi2	72.17
70	govt_job	bmi3	84.47
71	private	bmi3	82.24
72	self_emp	bmi3	96.04
73	govt_job	bmi1	82.10
74	private	bmi1	102.87
75	self_emp	bmi1	79.79
76	govt_job	bmi2	205.35
77	private	bmi2	92.62
78	self_emp	bmi2	76.57
79	govt_job	bmi3	102.51
80	private	bmi3	75.18
81	self_emp	bmi3	192.37
82	govt_job	bmi1	131.41
83	private	bmi1	100.98
84	self_emp	bmi1	68.56
85	govt_job	bmi2	77.08
86	private	bmi2	243.58
87	self_emp	bmi2	195.71
88	govt_job	bmi3	59.83
89	private	bmi3	107.41
90	self_emp	bmi3	99.23
91	govt_job	bmi1	200.59
92	private	bmi1	83.41
93	self_emp	bmi1	76.34
94	govt_job	bmi2	82.34
95	private	bmi2	107.26
96	self_emp	bmi2	89.13
97	govt_job	bmi3	87.10
98	private	bmi3	71.16
99	self_emp	bmi3	215.81
100	govt_job	bmi1	103.68
101	private	bmi1	84.03
102	self_emp	bmi1	78.70

	govt_job	bmi2	220.49
104	private	bmi2	58.09
105	self_emp	bmi2	91.54
106	govt_job	bmi3	176.78
107	private	bmi3	203.81
108	self_emp	bmi3	239.19
109	govt_job	bmi1	162.23
110	private	bmi1	74.63
111	self_emp	bmi1	76.11
112	govt_job	bmi2	239.64
113	private	bmi2	196.71
114	self_emp	bmi2	91.02
115	govt_job	bmi3	205.01
116	private	bmi3	72.79
117	self_emp	bmi3	209.15
118	govt_job	bmi1	98.02
119	private	bmi1	60.91
120	self_emp	bmi1	82.28
121	govt_job	bmi2	64.40
122	private	bmi2	59.32
123	self_emp	bmi2	185.49
124	govt_job	bmi3	228.05
125	private	bmi3	74.44
126	self_emp	bmi3	198.30
127	govt_job	bmi1	215.94
128	private	bmi1	78.03
129	self_emp	bmi1	206.09
130	govt_job	bmi2	73.02
131	private	bmi2	185.17
132	self_emp	bmi2	116.69
133	govt_job	bmi3	99.65
134	private	bmi3	103.78
135	self_emp	bmi3	59.62
136	govt_job	bmi1	106.58
137	private	bmi1	71.22

	self_emp	bmi1	194.37
139	govt_job	bmi2	109.51
140	private	bmi2	93.72
141	self_emp	bmi2	118.03
142	govt_job	bmi3	56.94
143	private	bmi3	69.24
144	self_emp	bmi3	90.71
145	govt_job	bmi1	103.43
146	private	bmi1	144.90
147	self_emp	bmi1	77.82
148	govt_job	bmi2	97.40
149	private	bmi2	86.23
150	self_emp	bmi2	90.00
151	govt_job	bmi3	228.26
152	private	bmi3	73.31
153	self_emp	bmi3	212.19
154	govt_job	bmi1	219.73
155	private	bmi1	127.29
156	self_emp	bmi1	92.98
157	govt_job	bmi2	81.60
158	private	bmi2	96.16
159	self_emp	bmi2	109.47
160	govt_job	bmi3	81.36
161	private	bmi3	80.83
162	self_emp	bmi3	97.68
163	govt_job	bmi1	70.30
164	private	bmi1	74.90
165	self_emp	bmi1	74.02
166	govt_job	bmi2	94.29
167	private	bmi2	59.35
168	self_emp	bmi2	134.80
169	govt_job	bmi3	221.08
170	private	bmi3	188.11
171	self_emp	bmi3	66.71
172	govt_job	bmi1	57.33

	private	bmi1	113.01
174	self_emp	bmi1	133.19
175	govt_job	bmi2	94.48
176	private	bmi2	86.94
177	self_emp	bmi2	70.94
178	govt_job	bmi3	79.60
179	private	bmi3	69.40
180	self_emp	bmi3	211.83
181	govt_job	bmi1	94.61
182	private	bmi1	104.47
183	self_emp	bmi1	56.11
184	govt_job	bmi2	68.19
185	private	bmi2	235.63
186	self_emp	bmi2	162.14
187	govt_job	bmi3	133.24
188	private	bmi3	112.43
189	self_emp	bmi3	126.85

SAS program for RBD design with block - work type

The MEANS Procedure

Work Type=govt_job

Analysis Variable : glucose Glucose Level				
N	Mean	Std Dev	Minimum	Maximum
63	127.1546032	60.8623736	56.6300000	263.3200000

Work Type=private

Analysis Variable : glucose Glucose Level				
N	Mean	Std Dev	Minimum	Maximum
63	127.5419048	62.0810815	58.0900000	243.5800000

Work Type=self_emp

Analysis Variable : glucose Glucose Level				
N	Mean	Std Dev	Minimum	Maximum
63	130.8865079	59.5326894	56.1100000	252.7200000

SAS program for RBD design with block - work type

The GLM Procedure

Class Level Information		
Class	Levels	Values
work_type	3	govt_job private self_emp
bmi_level	3	bmi1 bmi2 bmi3

Number of Observations Read	189
Number of Observations Used	189

SAS program for RBD design with block - work type

The GLM Procedure

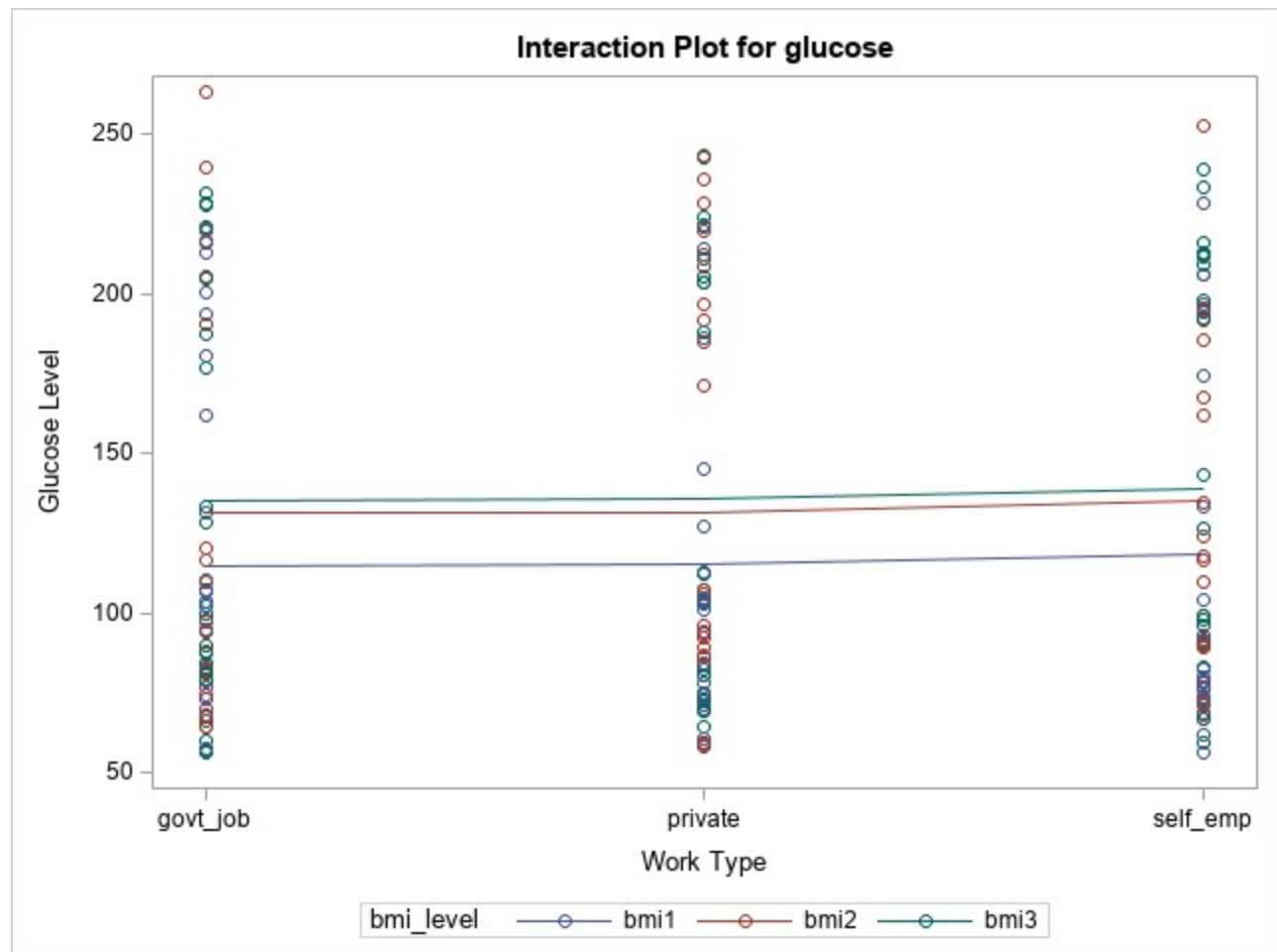
Dependent Variable: glucose Glucose Level

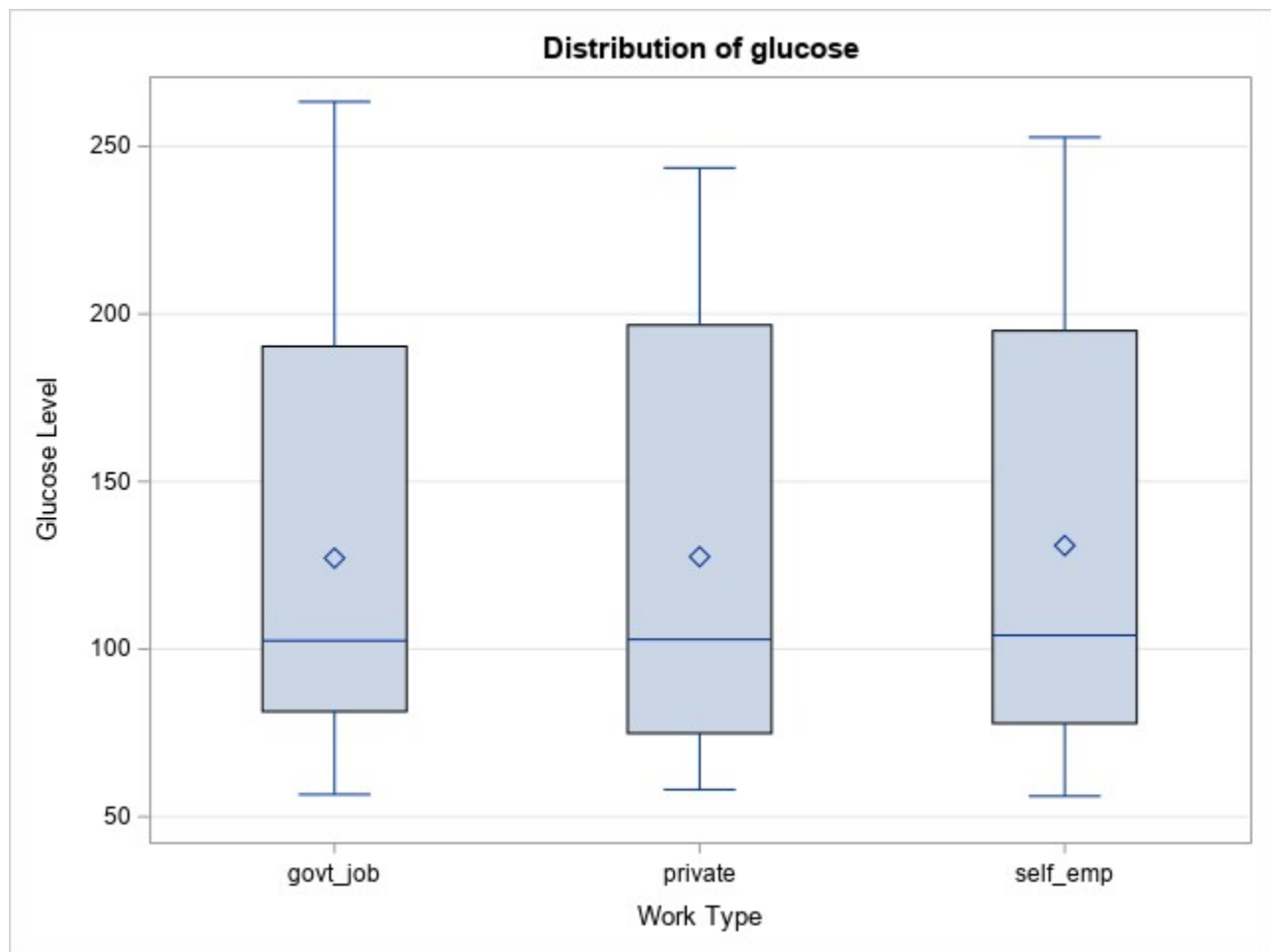
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	15735.1676	3933.7919	1.08	0.3701
Error	184	673146.0450	3658.4024		
Corrected Total	188	688881.2126			

R-Square	Coeff Var	Root MSE	glucose Mean
0.022842	47.05969	60.48473	128.5277

Source	DF	Type I SS	Mean Square	F Value	Pr > F
bmi_level	2	15204.63439	7602.31719	2.08	0.1281
work_type	2	530.53321	265.26660	0.07	0.9301

Source	DF	Type III SS	Mean Square	F Value	Pr > F
bmi_level	2	15204.63439	7602.31719	2.08	0.1281
work_type	2	530.53321	265.26660	0.07	0.9301



SAS program for RBD design with block - work type**The GLM Procedure**

SAS program for RBD design with block - work type

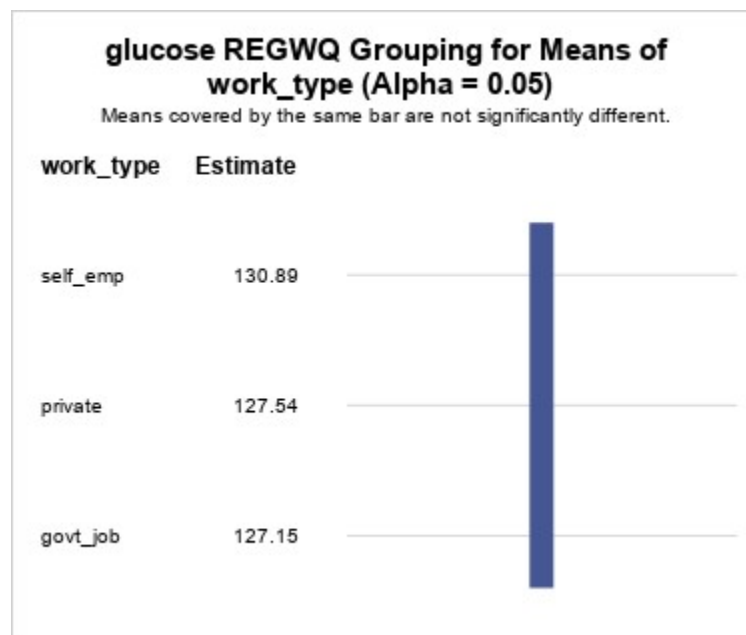
The GLM Procedure

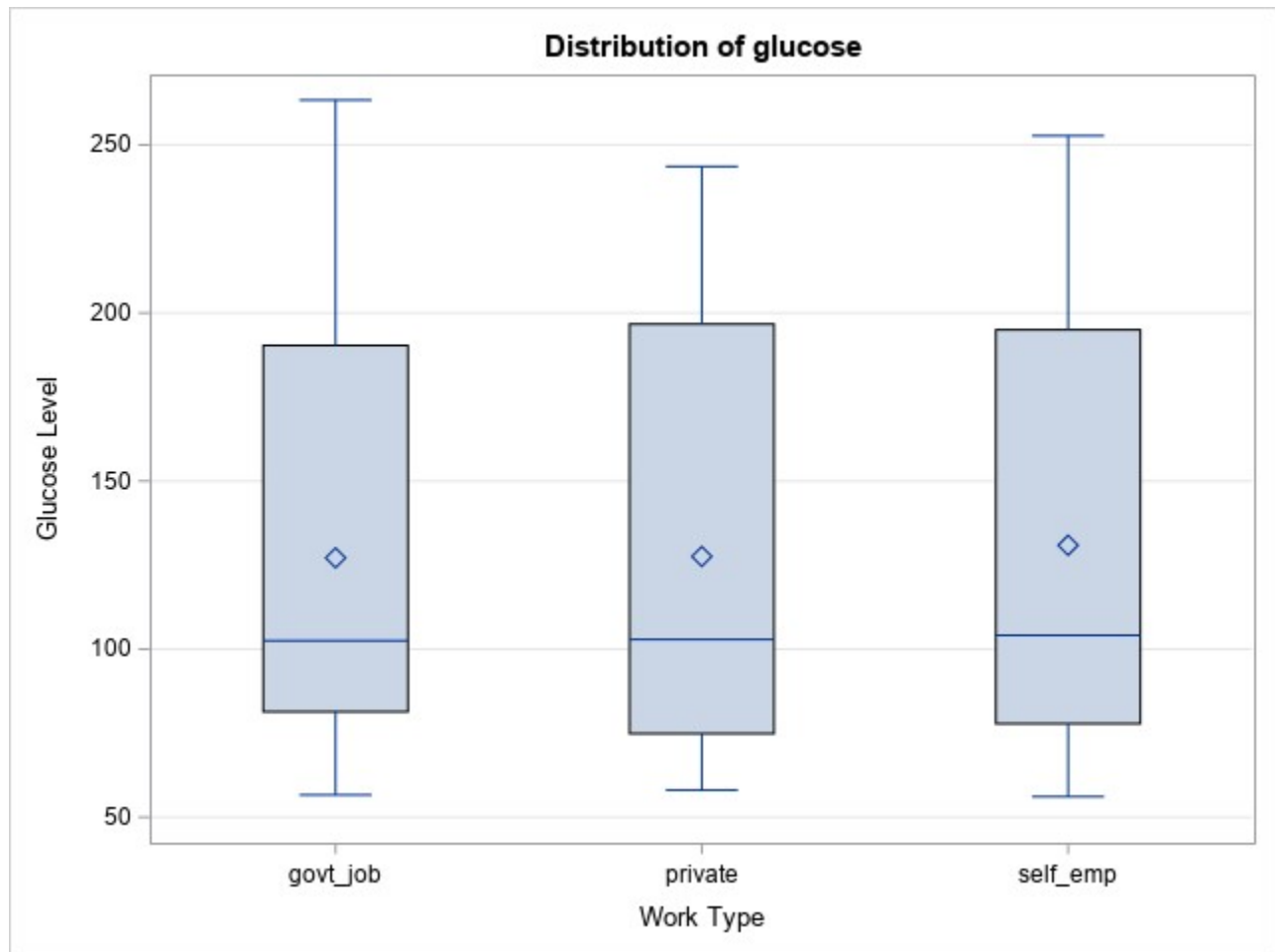
Ryan-Einot-Gabriel-Welsch Multiple Range Test for glucose

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	184
Error Mean Square	3658.402

Number of Means	2	3
Critical Range	21.262019	25.46385



SAS program for RBD design with block - work type**The GLM Procedure**

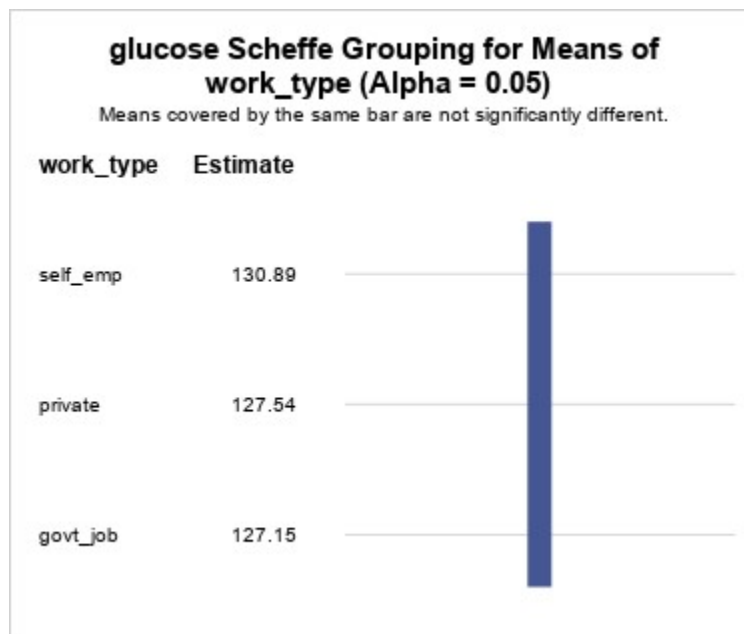
SAS program for RBD design with block - work type

The GLM Procedure

Scheffe's Test for glucose

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	184
Error Mean Square	3658.402
Critical Value of F	3.04504
Minimum Significant Difference	26.595



SAS program for RBD design with block - work type

The UNIVARIATE Procedure
Variable: glucose (Glucose Level)

Work Type=govt_job

Moments			
N	63	Sum Weights	63
Mean	127.154603	Sum Observations	8010.74
Std Deviation	60.8623736	Variance	3704.22852
Skewness	0.71813796	Kurtosis	-1.0054281
Uncorrected SS	1248264.63	Corrected SS	229662.168
Coeff Variation	47.8648606	Std Error Mean	7.66793832

Basic Statistical Measures			
Location		Variability	
Mean	127.1546	Std Deviation	60.86237
Median	102.5100	Variance	3704
Mode	.	Range	206.69000
		Interquartile Range	108.96000

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	16.58263	Pr > t 	<.0001
Sign	M	31.5	Pr >= M 	<.0001
Signed Rank	S	1008	Pr >= S 	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.856851	Pr < W	<0.0001
Kolmogorov-Smirnov	D	0.210869	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.682946	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	3.747427	Pr > A-Sq	<0.0050

Quantiles (Definition 5)	
Level	Quantile
100% Max	263.32

99%	263.32
95%	228.26
90%	220.49
75% Q3	190.32
50% Median	102.51
25% Q1	81.36
10%	66.13
5%	59.83
1%	56.63
0% Min	56.63

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
56.63	6	228.05	42
56.94	48	228.26	51
57.33	58	231.69	15
59.83	30	239.64	38
64.17	11	263.32	17

SAS program for RBD design with block - work type

The UNIVARIATE Procedure
Variable: glucose (Glucose Level)

Work Type=private

Moments			
N	63	Sum Weights	63
Mean	127.541905	Sum Observations	8035.14
Std Deviation	62.0810815	Variance	3854.06068
Skewness	0.62723202	Kurtosis	-1.2789586
Uncorrected SS	1263768.82	Corrected SS	238951.762
Coeff Variation	48.6750465	Std Error Mean	7.82148108

Basic Statistical Measures			
Location		Variability	
Mean	127.5419	Std Deviation	62.08108
Median	102.8700	Variance	3854
Mode	.	Range	185.49000
		Interquartile Range	121.81000

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	16.30662	Pr > t 	<.0001
Sign	M	31.5	Pr >= M 	<.0001
Signed Rank	S	1008	Pr >= S 	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.835548	Pr < W	<0.0001
Kolmogorov-Smirnov	D	0.230313	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.786353	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	4.331903	Pr > A-Sq	<0.0050

Quantiles (Definition 5)	
Level	Quantile
100% Max	243.58

99%	243.58
95%	228.69
90%	221.29
75% Q3	196.71
50% Median	102.87
25% Q1	74.90
10%	69.24
5%	59.35
1%	58.09
0% Min	58.09

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
58.09	98	224.10	69
58.57	73	228.69	65
59.32	104	235.63	125
59.35	119	242.52	81
60.91	103	243.58	92

SAS program for RBD design with block - work type

The UNIVARIATE Procedure
Variable: glucose (Glucose Level)

Work Type=self_emp

Moments			
N	63	Sum Weights	63
Mean	130.886508	Sum Observations	8245.85
Std Deviation	59.5326894	Variance	3544.14111
Skewness	0.48415857	Kurtosis	-1.3333202
Uncorrected SS	1299007.26	Corrected SS	219736.749
Coeff Variation	45.4842064	Std Error Mean	7.50041386

Basic Statistical Measures			
Location		Variability	
Mean	130.8865	Std Deviation	59.53269
Median	104.1200	Variance	3544
Mode	.	Range	196.61000
		Interquartile Range	117.17000

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	17.45057	Pr > t 	<.0001
Sign	M	31.5	Pr >= M 	<.0001
Signed Rank	S	1008	Pr >= S 	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.872962	Pr < W	<0.0001
Kolmogorov-Smirnov	D	0.194032	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.570531	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	3.263035	Pr > A-Sq	<0.0050

Quantiles (Definition 5)	
Level	Quantile
100% Max	252.72

99%	252.72
95%	228.70
90%	212.19
75% Q3	194.99
50% Median	104.12
25% Q1	77.82
10%	68.56
5%	66.71
1%	56.11
0% Min	56.11

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
56.11	187	215.81	159
59.62	171	228.70	130
61.94	142	233.29	129
66.71	183	239.19	162
66.72	148	252.72	131