

Create two new variables **loggulf** and **logglt** for the logged variables

*Diabetes.sav [DataSet1] - SPSS Data Editor

File Edit View Data Transform Analyze Graphs Utilities Window Help

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
1	id	Numeric	11	0	Patient ID	None	None	8	Right	Scale
2	relwt	Numeric	11	2	Relative Weight	None	None	8	Right	Scale
3	glufast	Numeric	11	0	Fasting Plasma Glucose	None	None	8	Right	Scale
4	glutest	Numeric	11	0	Test Plasma Glucose	None	None	8	Right	Scale
5	instest	Numeric	11	0	Plasma Insulin during Test	None	None	8	Right	Scale
6	sspg	Numeric	11	0	Steady State Plasma Glucose	None	None	8	Right	Scale
7	group	Numeric	11	0	Clinical Group	(1, Overt Diabe	None	14	Right	Ordinal
8	loggulf	Numeric	8	2	Log(GluFast)	None	None	8	Right	Scale
9	logglt	Numeric	8	2	Log(GluTest)	None	None	8	Right	Scale
10										
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Data View Variable View

SPSS Processor is ready

In *Target Variable* insert **loggluf**, and in *Numeric Expression* type **Ln(glufast)**, and click OK

The screenshot shows the SPSS Data Editor interface with the 'Compute Variable' dialog box open. The dialog box has the following settings:

- Target Variable:** loggluf
- Numeric Expression:** Ln(glufast)
- Function group:** All
- Functions and Special Variables:** Ln

The dialog box also includes a description of the LN function: "LN(numexpr). Numeric. Returns the base-e logarithm of numexpr, which must be numeric and greater than 0."

The background data grid shows the following columns: loggluf, logglut, and 18 'var' columns. The rows are numbered 1 through 56. The data values are as follows:

Row	loggluf	logglut	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
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15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24	.24	.97	90	327	192	124	Normal											
25	.25	.72	92	386	279	74	Normal											
26	.26	1.11	74	365	228	235	Normal											
27	.27	1.20	98	365	145	158	Normal											
28	.28	1.13	100	352	172	140	Normal											
29	.29	1.00	86	325	179	145	Normal											
30	.30	.78	98	321	222	99	Normal											
31	.31	1.00	70	360	134	90	Normal											
32	.32	1.00	99	336	143	105	Normal											
33	.33	.71	75	352	169	32	Normal											
34	.34	.76	90	353	263	165	Normal											
35	.35	.89	85	373	174	78	Normal											
36	.36	.88	99	376	134	80	Normal											
37	.37	1.17	100	367	182	54	Normal											
38	.38	.85	78	335	241	175	Normal											
39	.39	.97	106	396	128	80	Normal											
40	.40	1.00	98	277	222	186	Normal											
41	.41	1.00	102	378	165	117	Normal											
42	.42	.89	90	360	282	160	Normal											
43	.43	.98	94	291	94	71	Normal											
44	.44	.78	80	269	121	29	Normal											
45	.45	.74	93	318	73	42	Normal											
46	.46	.91	86	328	106	56	Normal											
47	.47	.95	85	334	118	122	Normal											
48	.48	.95	96	356	112	73	Normal											
49	.49	1.03	88	291	157	122	Normal											
50	.50	.87	87	360	292	128	Normal											
51	.51	.87	94	313	200	233	Normal											
52	.52	1.17	93	306	220	132	Normal											
53	.53	.83	86	319	144	138	Normal											
54	.54	.82	86	349	109	83	Normal											
55	.55	.86	96	332	151	109	Normal											
56																		

The log transformed variable **logg1uf** is computed.

The screenshot shows the SPSS Data Editor interface for a file named "Diabetes.sav". The main window displays a data grid with 56 rows and 28 columns. The columns are: id, relwt, glufast, glutest, instest, sspg, group, loggluf, logglut, and 19 empty columns labeled "var". The data is as follows:

	id	relwt	glufast	glutest	instest	sspg	group	logg1uf	logglut	var																	
1	1	.81	80	356	124	55	Normal	4.38	.																		
2	2	.95	97	289	117	76	Normal	4.57	.																		
3	3	.94	105	319	143	105	Normal	4.65	.																		
4	4	1.04	90	356	199	108	Normal	4.50	.																		
5	5	1.00	90	323	240	143	Normal	4.50	.																		
6	6	.76	86	381	157	165	Normal	4.45	.																		
7	7	.91	100	350	221	119	Normal	4.61	.																		
8	8	1.10	85	301	186	105	Normal	4.44	.																		
9	9	.99	97	379	142	98	Normal	4.57	.																		
10	10	.78	97	296	131	94	Normal	4.57	.																		
11	11	.90	91	353	221	53	Normal	4.51	.																		
12	12	.73	87	306	178	66	Normal	4.47	.																		
13	13	.96	78	290	136	142	Normal	4.36	.																		
14	14	.84	90	371	200	93	Normal	4.50	.																		
15	15	.74	86	312	208	68	Normal	4.45	.																		
16	16	.98	80	393	202	102	Normal	4.38	.																		
17	17	1.10	90	364	152	76	Normal	4.50	.																		
18	18	.85	99	359	185	37	Normal	4.60	.																		
19	19	.83	85	296	116	60	Normal	4.44	.																		
20	20	.93	90	345	123	50	Normal	4.50	.																		
21	21	.95	90	378	136	47	Normal	4.50	.																		
22	22	.74	88	304	134	50	Normal	4.48	.																		
23	23	.95	95	347	184	91	Normal	4.55	.																		
24	24	.97	90	327	192	124	Normal	4.50	.																		
25	25	.72	92	386	279	74	Normal	4.52	.																		
26	26	1.11	74	365	228	235	Normal	4.30	.																		
27	27	1.20	98	365	145	158	Normal	4.58	.																		
28	28	1.13	100	352	172	140	Normal	4.61	.																		
29	29	1.00	86	325	179	145	Normal	4.45	.																		
30	30	.78	98	321	222	99	Normal	4.58	.																		
31	31	1.00	70	360	134	90	Normal	4.25	.																		
32	32	1.00	99	336	143	105	Normal	4.60	.																		
33	33	.71	75	352	169	32	Normal	4.32	.																		
34	34	.76	90	353	263	165	Normal	4.50	.																		
35	35	.89	85	373	174	78	Normal	4.44	.																		
36	36	.88	99	376	134	80	Normal	4.60	.																		
37	37	1.17	100	367	182	54	Normal	4.61	.																		
38	38	.85	78	335	241	175	Normal	4.36	.																		
39	39	.97	106	396	128	80	Normal	4.66	.																		
40	40	1.00	98	277	222	186	Normal	4.58	.																		
41	41	1.00	102	378	165	117	Normal	4.62	.																		
42	42	.89	90	360	282	160	Normal	4.50	.																		
43	43	.98	94	291	94	71	Normal	4.54	.																		
44	44	.78	80	269	121	29	Normal	4.38	.																		
45	45	.74	93	318	73	42	Normal	4.53	.																		
46	46	.91	86	328	106	56	Normal	4.45	.																		
47	47	.95	85	334	118	122	Normal	4.44	.																		
48	48	.95	96	356	112	73	Normal	4.56	.																		
49	49	1.03	88	291	157	122	Normal	4.48	.																		
50	50	.87	87	360	292	128	Normal	4.47	.																		
51	51	.87	94	313	200	233	Normal	4.54	.																		
52	52	1.17	93	306	220	132	Normal	4.53	.																		
53	53	.83	86	319	144	138	Normal	4.45	.																		
54	54	.82	86	349	109	83	Normal	4.45	.																		
55	55	.86	96	332	151	109	Normal	4.56	.																		

The same procedure computes the log transformed variable **loggltut**; we log transform the glutest variable using the *Compute* pulldown

The screenshot shows the SPSS Data Editor window for a file named "Diabetes.sav". The interface includes a menu bar (File, Edit, View, Data, Transform, Analyze, Graphs, Utilities, Window, Help) and a toolbar with various icons. The main data grid contains 56 rows and 20 columns. The first 10 columns are labeled: id, rehwt, glufast, glutest, instest, sspg, group, loggluf, and loggltut. The remaining 10 columns are labeled "var". The data rows show individual patient records with values for each variable. The 'group' column contains the word "Normal" for all entries. The 'loggltut' column contains the log-transformed values of the 'glutest' variable.

	id	rehwt	glufast	glutest	instest	sspg	group	loggluf	loggltut	var	var	var	var	var	var	var	var	var	var
1	1	.81	80	356	124	55	Normal	4.38	5.87										
2	2	.95	97	289	117	76	Normal	4.57	5.67										
3	3	.94	105	319	143	105	Normal	4.65	5.77										
4	4	1.04	90	356	199	108	Normal	4.50	5.87										
5	5	1.00	90	323	240	143	Normal	4.50	5.78										
6	6	.76	86	381	157	165	Normal	4.45	5.94										
7	7	.91	100	350	221	119	Normal	4.61	5.86										
8	8	1.10	85	301	186	105	Normal	4.44	5.71										
9	9	.99	97	379	142	98	Normal	4.57	5.94										
10	10	.78	97	296	131	94	Normal	4.57	5.69										
11	11	.90	91	353	221	53	Normal	4.51	5.87										
12	12	.73	87	306	178	66	Normal	4.47	5.72										
13	13	.96	78	290	136	142	Normal	4.36	5.67										
14	14	.84	90	371	200	93	Normal	4.50	5.92										
15	15	.74	86	312	208	68	Normal	4.45	5.74										
16	16	.98	80	393	202	102	Normal	4.38	5.97										
17	17	1.10	90	364	152	76	Normal	4.50	5.90										
18	18	.85	99	359	185	37	Normal	4.60	5.88										
19	19	.83	85	296	116	60	Normal	4.44	5.69										
20	20	.93	90	345	123	50	Normal	4.50	5.84										
21	21	.95	90	378	136	47	Normal	4.50	5.93										
22	22	.74	88	304	134	50	Normal	4.48	5.72										
23	23	.95	95	347	184	91	Normal	4.55	5.85										
24	24	.97	90	327	192	124	Normal	4.50	5.79										
25	25	.72	92	386	279	74	Normal	4.52	5.96										
26	26	1.11	74	365	228	235	Normal	4.30	5.90										
27	27	1.20	98	365	145	158	Normal	4.58	5.90										
28	28	1.13	100	352	172	140	Normal	4.61	5.86										
29	29	1.00	86	325	179	145	Normal	4.45	5.78										
30	30	.78	98	321	222	99	Normal	4.58	5.77										
31	31	1.00	70	360	134	90	Normal	4.25	5.89										
32	32	1.00	99	336	143	105	Normal	4.60	5.82										
33	33	.71	75	352	169	32	Normal	4.32	5.86										
34	34	.76	90	353	263	165	Normal	4.50	5.87										
35	35	.89	85	373	174	78	Normal	4.44	5.92										
36	36	.88	99	376	134	80	Normal	4.60	5.93										
37	37	1.17	100	367	182	54	Normal	4.61	5.91										
38	38	.85	78	335	241	175	Normal	4.36	5.81										
39	39	.97	106	396	128	80	Normal	4.66	5.98										
40	40	1.00	98	277	222	186	Normal	4.58	5.62										
41	41	1.00	102	378	165	117	Normal	4.62	5.93										
42	42	.89	90	360	282	160	Normal	4.50	5.89										
43	43	.98	94	291	94	71	Normal	4.54	5.67										
44	44	.78	80	269	121	29	Normal	4.38	5.59										
45	45	.74	93	318	73	42	Normal	4.53	5.76										
46	46	.91	86	328	106	56	Normal	4.45	5.79										
47	47	.95	85	334	118	122	Normal	4.44	5.81										
48	48	.95	96	356	112	73	Normal	4.56	5.87										
49	49	1.03	88	291	157	122	Normal	4.48	5.67										
50	50	.87	87	360	292	128	Normal	4.47	5.89										
51	51	.87	94	313	200	233	Normal	4.54	5.75										
52	52	1.17	93	306	220	132	Normal	4.53	5.72										
53	53	.83	86	319	144	138	Normal	4.45	5.77										
54	54	.82	86	349	109	83	Normal	4.45	5.86										
55	55	.86	96	332	151	109	Normal	4.56	5.81										

We now perform the linear regression using the *General Linear Model* pulldown. ⁸

The screenshot shows the SPSS Data Editor interface for a file named 'Diabetes.sav'. The 'Analyze' menu is open, and the 'General Linear Model' option is selected, which has opened a sub-menu with 'Univariate...' highlighted. The main data view is a table with the following columns: 'id', 'relwt', 'gl', 'group', 'loggluf', and 'logglut'. The data rows are numbered 1 through 55. The 'group' column contains the word 'Normal' for every row. The 'loggluf' and 'logglut' columns contain numerical values ranging from approximately 4.25 to 4.65. The status bar at the bottom indicates 'SPSS Processor is ready'.

	id	relwt	gl	group	loggluf	logglut			
1	1	.81		Normal	4.38	5.87			
2	2	.95		Normal	4.57	5.67			
3	3	.94		Normal	4.65	5.77			
4	4	1.04		Normal	4.50	5.87			
5	5	1.00		Normal	4.50	5.78			
6	6	.76		Normal	4.45	5.94			
7	7	.91		Normal	4.61	5.86			
8	8	1.10		Normal	4.44	5.71			
9	9	.99	97	379	142	98	Normal	4.57	5.94
10	10	.78	97	296	131	94	Normal	4.57	5.69
11	11	.90	91	353	221	53	Normal	4.51	5.87
12	12	.73	87	306	178	66	Normal	4.47	5.72
13	13	.96	78	290	136	142	Normal	4.36	5.67
14	14	.84	90	371	200	93	Normal	4.50	5.92
15	15	.74	86	312	208	68	Normal	4.45	5.74
16	16	.98	80	393	202	102	Normal	4.38	5.97
17	17	1.10	90	364	152	76	Normal	4.50	5.90
18	18	.85	99	359	185	37	Normal	4.60	5.88
19	19	.83	85	296	116	60	Normal	4.44	5.69
20	20	.93	90	345	123	50	Normal	4.50	5.84
21	21	.95	90	378	136	47	Normal	4.50	5.93
22	22	.74	88	304	134	50	Normal	4.48	5.72
23	23	.95	95	347	184	91	Normal	4.55	5.85
24	24	.97	90	327	192	124	Normal	4.50	5.79
25	25	.72	92	386	279	74	Normal	4.52	5.96
26	26	1.11	74	365	228	235	Normal	4.30	5.90
27	27	1.20	98	365	145	158	Normal	4.58	5.90
28	28	1.13	100	352	172	140	Normal	4.61	5.86
29	29	1.00	86	325	179	145	Normal	4.45	5.78
30	30	.78	98	321	222	99	Normal	4.58	5.77
31	31	1.00	70	360	134	90	Normal	4.25	5.89
32	32	1.00	99	336	143	105	Normal	4.60	5.82
33	33	.71	75	352	169	32	Normal	4.32	5.86
34	34	.76	90	353	263	165	Normal	4.50	5.87
35	35	.89	85	373	174	78	Normal	4.44	5.92
36	36	.88	99	376	134	80	Normal	4.60	5.93
37	37	1.17	100	367	182	54	Normal	4.61	5.91
38	38	.85	78	335	241	175	Normal	4.36	5.81
39	39	.97	106	396	128	80	Normal	4.66	5.98
40	40	1.00	98	277	222	186	Normal	4.58	5.62
41	41	1.00	102	378	165	117	Normal	4.62	5.93
42	42	.89	90	360	282	160	Normal	4.50	5.89
43	43	.98	94	291	94	71	Normal	4.54	5.67
44	44	.78	80	269	121	29	Normal	4.38	5.59
45	45	.74	93	318	73	42	Normal	4.53	5.76
46	46	.91	86	328	106	56	Normal	4.45	5.79
47	47	.95	85	334	118	122	Normal	4.44	5.81
48	48	.95	96	356	112	73	Normal	4.56	5.87
49	49	1.03	88	291	157	122	Normal	4.48	5.67
50	50	.87	87	360	292	128	Normal	4.47	5.89
51	51	.87	94	313	200	233	Normal	4.54	5.75
52	52	1.17	93	306	220	132	Normal	4.53	5.72
53	53	.83	86	319	144	138	Normal	4.45	5.77
54	54	.82	86	349	109	83	Normal	4.45	5.86
55	55	.86	96	332	151	109	Normal	4.56	5.81

To specify the model, click the *Model* button to get the *Model Dialog*.

We wish to specify a *Custom* main effects plus interaction model.

The image shows the SPSS Data Editor window for a file named 'Diabetes.sav'. The data table has columns for 'group', 'loggluf', 'logglut', and several 'var' columns. A 'Univariate: Model' dialog box is open, showing the 'Specify Model' section with 'Custom' selected. The 'Factors & Covariates' list contains 'group(F)' and 'loggluf(C)'. The 'Build Term(s)' dropdown is set to 'Main effects'. The 'Sum of squares' is set to 'Type III', and the 'Include intercept in model' checkbox is checked. The dialog box also has 'Continue', 'Cancel', and 'Help' buttons.

We select the factor and covariate as main effects.

The image shows the SPSS Data Editor interface with a Univariate dialog box open. The dialog box is titled "Univariate: Model" and is set to "Custom". Under "Factors & Covariates:", "group(F)" and "loggluf(C)" are listed. The "Model" list contains "group" and "loggluf". The "Sum of squares" is set to "Type III" and "Include intercept in model" is checked. The background shows a data grid with columns for "group", "loggluf", "logglut", and several "var" columns. The status bar at the bottom indicates "SPSS Processor is ready".

Select *Interaction* from the *Build Terms* pulldown.

Diabetes.sav [DataSet1] - SPSS Data Editor

File Edit View Data Transform Analyze Graphs Utilities Window Help

7:

	group	loggluf	logglut	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	
1	Normal	4.38	5.87																		
2		4.57	5.67																		
3		4.65	5.77																		
4		4.50	5.87																		
5		4.50	5.78																		
6		4.45	5.94																		
7		4.61	5.86																		
8		4.44	5.71																		
9		4.57	5.94																		
10		4.57	5.69																		
11		4.51	5.87																		
12		4.47	5.72																		
13		4.36	5.67																		
14		4.50	5.92																		
15		4.45	5.74																		
16		4.38	5.97																		
17		4.50	5.90																		
18		4.60	5.88																		
19		4.44	5.69																		
20	20	.93	90	345	123	50	Normal	4.50	5.84												
21	21	.95	90	378	136	47	Normal	4.50	5.93												
22	22	.74	88	304	134	50	Normal	4.48	5.72												
23	23	.95	95	347	184	91	Normal	4.55	5.85												
24	24	.97	90	327	192	124	Normal	4.50	5.79												
25	25	.72	92	386	279	74	Normal	4.52	5.96												
26	26	1.11	74	365	228	235	Normal	4.30	5.90												
27	27	1.20	98	365	145	158	Normal	4.58	5.90												
28	28	1.13	100	352	172	140	Normal	4.61	5.86												
29	29	1.00	86	325	179	145	Normal	4.45	5.78												
30	30	.78	98	321	222	99	Normal	4.58	5.77												
31	31	1.00	70	360	134	90	Normal	4.25	5.89												
32	32	1.00	99	336	143	105	Normal	4.60	5.82												
33	33	.71	75	352	169	32	Normal	4.32	5.86												
34	34	.76	90	353	263	165	Normal	4.50	5.87												
35	35	.89	85	373	174	78	Normal	4.44	5.92												
36	36	.88	99	376	134	80	Normal	4.60	5.93												
37	37	1.17	100	367	182	54	Normal	4.61	5.91												
38	38	.85	78	335	241	175	Normal	4.36	5.81												
39	39	.97	106	396	128	80	Normal	4.66	5.98												
40	40	1.00	98	277	222	186	Normal	4.58	5.62												
41	41	1.00	102	378	165	117	Normal	4.62	5.93												
42	42	.89	90	360	282	160	Normal	4.50	5.89												
43	43	.98	94	291	94	71	Normal	4.54	5.67												
44	44	.78	80	269	121	29	Normal	4.38	5.59												
45	45	.74	93	318	73	42	Normal	4.53	5.76												
46	46	.91	86	328	106	56	Normal	4.45	5.79												
47	47	.95	85	334	118	122	Normal	4.44	5.81												
48	48	.95	96	356	112	73	Normal	4.56	5.87												
49	49	1.03	88	291	157	122	Normal	4.48	5.67												
50	50	.87	87	360	292	128	Normal	4.47	5.89												
51	51	.87	94	313	200	233	Normal	4.54	5.75												
52	52	1.17	93	306	220	132	Normal	4.53	5.72												
53	53	.83	86	319	144	138	Normal	4.45	5.77												
54	54	.82	86	349	109	83	Normal	4.45	5.86												
55	55	.86	96	332	151	109	Normal	4.56	5.81												

Univariate: Model

Specify Model

Full factorial Custom

Factors & Covariates:

group(F)
loggluf(C)

Build Term(s)

Main effects
Interaction
Main effects
All 2-way
All 3-way
All 4-way
All 5-way

Model

group
loggluf

Sum of squares: Type III Include intercept in model

Continue Cancel Help

Data View Variable View

SPSS Processor is ready

Highlight the two variables, and click the *Build Terms* arrow.

Diabetes.sav [DataSet1] - SPSS Data Editor

File Edit View Data Transform Analyze Graphs Utilities Window Help

7:

	group	loggluf	logglut	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	Normal	4.38	5.87																	
2		4.57	5.67																	
3		4.65	5.77																	
4		4.50	5.87																	
5		4.50	5.78																	
6		4.45	5.94																	
7		4.61	5.86																	
8		4.44	5.71																	
9		4.57	5.94																	
10		4.57	5.69																	
11		4.51	5.87																	
12		4.47	5.72																	
13		4.36	5.67																	
14		4.50	5.92																	
15		4.45	5.74																	
16		4.38	5.97																	
17		4.50	5.90																	
18		4.60	5.88																	
19		4.44	5.69																	
20	20	.93	90	345	123	50	Normal	4.50	5.84											
21	21	.95	90	378	136	47	Normal	4.50	5.93											
22	22	.74	88	304	134	50	Normal	4.48	5.72											
23	23	.95	95	347	184	91	Normal	4.55	5.85											
24	24	.97	90	327	192	124	Normal	4.50	5.79											
25	25	.72	92	386	279	74	Normal	4.52	5.96											
26	26	1.11	74	365	228	235	Normal	4.30	5.90											
27	27	1.20	98	365	145	158	Normal	4.58	5.90											
28	28	1.13	100	352	172	140	Normal	4.61	5.86											
29	29	1.00	86	325	179	145	Normal	4.45	5.78											
30	30	.78	98	321	222	99	Normal	4.58	5.77											
31	31	1.00	70	360	134	90	Normal	4.25	5.89											
32	32	1.00	99	336	143	105	Normal	4.60	5.82											
33	33	.71	75	352	169	32	Normal	4.32	5.86											
34	34	.76	90	353	263	165	Normal	4.50	5.87											
35	35	.89	85	373	174	78	Normal	4.44	5.92											
36	36	.88	99	376	134	80	Normal	4.60	5.93											
37	37	1.17	100	367	182	54	Normal	4.61	5.91											
38	38	.85	78	335	241	175	Normal	4.36	5.81											
39	39	.97	106	396	128	80	Normal	4.66	5.98											
40	40	1.00	98	277	222	186	Normal	4.58	5.62											
41	41	1.00	102	378	165	117	Normal	4.62	5.93											
42	42	.89	90	360	282	160	Normal	4.50	5.89											
43	43	.98	94	291	94	71	Normal	4.54	5.67											
44	44	.78	80	269	121	29	Normal	4.38	5.59											
45	45	.74	93	318	73	42	Normal	4.53	5.76											
46	46	.91	86	328	106	56	Normal	4.45	5.79											
47	47	.95	85	334	118	122	Normal	4.44	5.81											
48	48	.95	96	356	112	73	Normal	4.56	5.87											
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53	53	.83	86	319	144	138	Normal	4.45	5.77											
54	54	.82	86	349	109	83	Normal	4.45	5.86											
55	55	.86	96	332	151	109	Normal	4.56	5.81											

Univariate: Model

Specify Model

Full factorial Custom

Factors & Covariates:

group(F)
loggluf(C)

Model

group
loggluf

Build Term(s)

Interaction

Sum of squares: Type III Include intercept in model

Continue Cancel Help

Data View Variable View

SPSS Processor is ready

The *Custom* model has been built. Click *Continue*.

Diabetes.sav [DataSet1] - SPSS Data Editor

File Edit View Data Transform Analyze Graphs Utilities Window Help

7:

	group	loggluf	logglut	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
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Univariate: Model

Specify Model

Full factorial Custom

Factors & Covariates:

group(F)
loggluf(C)

Build Term(s)

Interaction

Model

group
loggluf
group*loggluf

Sum of squares: Type III Include intercept in model

Continue Cancel Help

Data View Variable View

SPSS Processor is ready

The model is now built. On the *General Linear Model* dialog, click *Options*.

Select *Parameter Estimates* and *Residual plot*

The screenshot shows the SPSS Data Editor interface with a data table and an open 'Univariate: Options' dialog box. The dialog box is configured with 'Parameter estimates' and 'Residual plot' selected under the 'Display' section. The data table contains columns for 'group', 'loggluf', 'logglut', and multiple 'var' columns. The 'Univariate: Options' dialog box is positioned over the data table, showing the following settings:

- Estimated Marginal Means: Factor(s) and Factor Interactions: (OVERALL) group
- Display Means for: (empty)
- Compare main effects:
- Confidence interval adjustment: LSD (none)
- Display section:
 - Descriptive statistics:
 - Estimates of effect size:
 - Observed power:
 - Parameter estimates:
 - Contrast coefficient matrix:
 - Homogeneity tests:
 - Spread vs. level plot:
 - Residual plot:
 - Lack of fit:
 - General estimable function:
- Significance level: .05
- Confidence intervals are 95%
- Buttons: Continue, Cancel, Help

The ANOVA table describes the results. It can be read in the same way as an ordinary ANOVA table. We note significant main effects and interaction.

Tests of Between-Subjects Effects

Dependent Variable: Log(GluTest)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27.187^a	5	5.437	569.463	.000
Intercept	.973	1	.973	101.906	.000
group	.104	2	.052	5.447	.005
loggluf	.675	1	.675	70.702	.000
group * loggluf	.155	2	.077	8.099	.000
Error	1.318	138	.010		
Total	5509.040	144			
Corrected Total	28.504	143			

a. R Squared = .954 (Adjusted R Squared = .952)

The high R squared value means that the model fit is quite good overall.

The parameter estimates/standard errors are also computed.

The SPSS parameterization of the model is used.

Parameter Estimates

Dependent Variable: Log(GluTest)

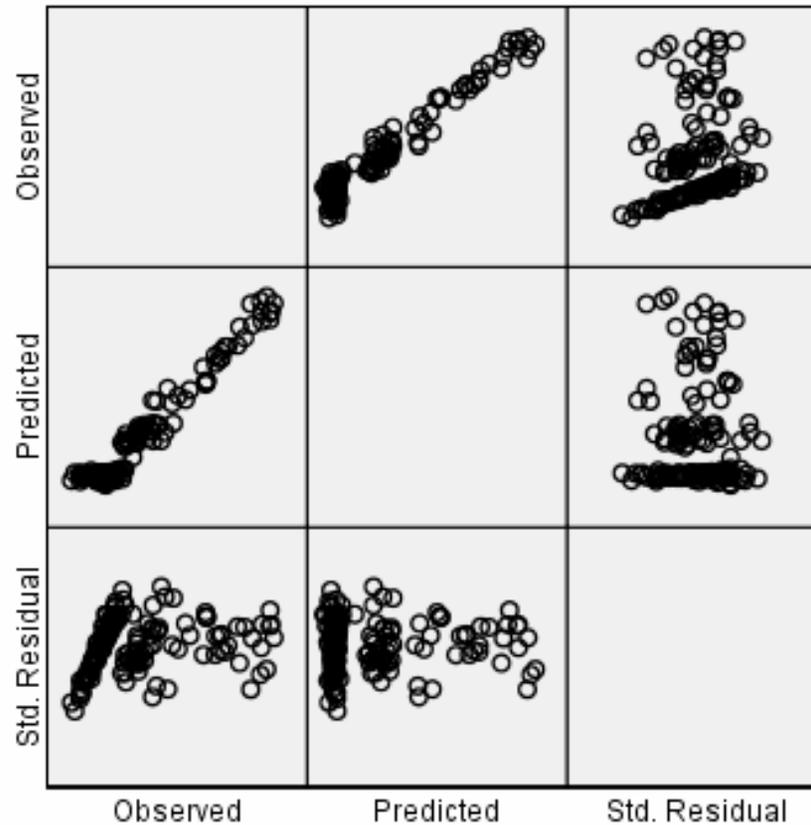
Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	4.504	.559	8.060	.000	3.399	5.608
[group=1]	-2.037	.619	-3.289	.001	-3.262	-.813
[group=2]	-1.436	.958	-1.499	.136	-3.330	.458
[group=3]	0 ^a	.	.	.	.	.
loggluf	.299	.124	2.414	.017	.054	.544
[group=1] * loggluf	.535	.134	4.001	.000	.270	.799
[group=2] * loggluf	.382	.210	1.820	.071	-.033	.797
[group=3] * loggluf	0 ^a	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

In the main effects plus interaction model, there are six parameters; we are fitting three separate straight lines to the three subgroups, and there are two parameters in each straight line.

The residual plots demonstrate no significant pattern.

Dependent Variable: Log(GluTest)



No real pattern in the residuals indicates a reasonable fit.

However, there is mild evidence that the residual variance is not constant.

Model: Intercept + group + loggluf + loggluf