The GLIMMIX Procedure

Model Information	
Data Set	WORK.ATS5K
Response Variable	Trt_Step
Response Distribution	Multinomial (ordered)
Link Function	Cumulative Logit
Variance Function	Default
Variance Matrix Blocked By	pat_id
Estimation Technique	Maximum Likelihood
Likelihood Approximation	Laplace
Degrees of Freedom Method	Containment

Class Level Information		
Class	**Levels**	**Values**
pat_id	5000	not printed
region	4	1 2 3 4
Trt_Step	6	5 4 3 2 1 0
gender	3	1 2 0
Insurance	6	2 3 4 5 6 1

Number of Observations Read	128560
Number of Observations Used	128560

Response Profile		
Ordered Value	**Trt_Step**	**Total Frequency**
1	5	1917
2	4	14952
3	3	14940
4	2	17079
5	1	21518
6	0	58154
The GLIMMIX procedure is modeling the probabilities of levels of Trt_Step having lower Ordered Values in the Response Profile table.		

The GLIMMIX Procedure

Dimensions	
G-side Cov. Parameters	2
Columns in X	26
Columns in Z per Subject	2
Subjects (Blocks in V)	5000
Max Obs per Subject	259

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	25
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Not Profiled
Starting From	GLM estimates

Iteration History

Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	374126.62051	.	27923722
1	0	20	374046.70611	79.91440230	763980.7
2	0	3	373885.15329	161.55282308	137622.7
3	0	4	373309.38891	575.76437296	384640.4
4	0	4	373302.7917	6.59720836	461184.3
5	0	6	373235.01489	67.77681829	1107673
6	0	2	373223.81174	11.20314875	8020068
7	0	2	373205.12161	18.69013070	507042.5
8	0	2	373175.32666	29.79494779	5971425
9	0	2	373141.25284	34.07382298	818489.8
10	0	3	373135.34439	5.90845055	232294.4
11	0	2	373130.72824	4.61614715	448099.8
12	0	4	373106.17652	24.55171987	1254240
13	0	4	372800.673	305.50351411	1477098
14	0	5	372778.32351	22.34949509	2011034
15	0	3	372776.09526	2.22824601	529001
16	0	3	372775.67175	0.42351683	716407.4
17	0	4	372769.72446	5.94728891	189569.9
18	0	2	372761.48045	8.24400856	564971
19	0	2	372747.46227	14.01817956	1184894

The GLIMMIX Procedure

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
20	**0**	4	372715.61862	31.84365314	4472616
21	**0**	3	372696.50308	19.11553340	1028068
22	**0**	3	372695.64637	0.85671204	118454.7
23	**0**	3	372695.46558	0.18078767	199726.7
24	**0**	6	372680.07597	15.38961353	3169435
25	**0**	3	372674.06977	6.00620338	152678.9
26	**0**	2	372671.90076	2.16901065	240983.7
27	**0**	3	372670.57279	1.32796931	42262.28
28	**0**	3	372670.48708	0.08570506	141791.2
29	**0**	6	372660.17558	10.31149986	1103524
30	**0**	2	372650.83964	9.33594100	411782.6
31	**0**	3	372648.65952	2.18011664	27964.73
32	**0**	6	372583.88691	64.77261020	722331.3
33	**0**	3	372582.9177	0.96921464	53008.4
34	**0**	3	372582.832	0.08569999	60633.58
35	**0**	6	372577.20458	5.62741991	453912
36	**0**	3	372575.05151	2.15306733	365208.1
37	**0**	4	372569.82511	5.22640537	31392.98
38	**0**	3	372567.0761	2.74900383	96493.5
39	**0**	4	372541.96098	25.11511857	105189.6
40	**0**	3	372540.16494	1.79604134	52535.39
41	**0**	3	372540.14038	0.02456464	24729.18
42	**0**	3	372540.1289	0.01147808	25796.7
43	**0**	6	372539.47264	0.65625862	507831.4
44	**0**	2	372538.71147	0.76117522	48971.58
45	**0**	2	372537.72761	0.98385135	243632.9
46	**0**	6	372514.02767	23.69993963	681718.2
47	**0**	3	372512.97624	1.05143743	36940.32
48	**0**	3	372512.93499	0.04125050	13658.86
49	**0**	3	372512.91919	0.01579849	19144.92
50	**0**	3	372512.91753	0.00165464	14138.77

Convergence criterion (GCONV=1E-8) satisfied.

The GLIMMIX Procedure

Fit Statistics	
-2 Log Likelihood	372512.9
AIC (smaller is better)	372562.9
AICC (smaller is better)	372562.9
BIC (smaller is better)	372725.8
CAIC (smaller is better)	372750.8
HQIC (smaller is better)	372620.0

Fit Statistics for Conditional Distribution	
-2 log L(Trt_Step | r. effects)	362510.1

Covariance Parameter Estimates			
Cov Parm	Subject	Estimate	Standard Error
Intercept	pat_id	0.3448	0.01448
year	pat_id	0.02349	0.002028

Solutions for Fixed Effects												
Effect	Trt_Step	region	gender	Insurance	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
Intercept	5				-5.4157	0.7626	4989	-7.10	<.0001	0.05	-6.9107	-3.9206
Intercept	4				-3.0109	0.7623	4989	-3.95	<.0001	0.05	-4.5054	-1.5165
Intercept	3				-2.1660	0.7623	4989	-2.84	0.0045	0.05	-3.6604	-0.6716
Intercept	2				-1.4682	0.7623	4989	-1.93	0.0541	0.05	-2.9626	0.02617
Intercept	1				-0.7172	0.7623	4989	-0.94	0.3468	0.05	-2.2116	0.7772
year					2.1630	0.06181	4999	35.00	<.0001	0.05	2.0418	2.2842
year*year					-2.6860	0.06636	119E3	-40.48	<.0001	0.05	-2.8161	-2.5560
year*year*year					1.4021	0.02742	119E3	51.13	<.0001	0.05	1.3484	1.4559
year*year*year*year					-0.3600	0.004772	119E3	-75.43	<.0001	0.05	-0.3693	-0.3506
yea*yea*yea*yea*year					0.04428	0.000292	119E3	151.52	<.0001	0.05	0.04371	0.04485
ye*ye*ye*yea*yea*yea					-0.00209	0	119E3	-Infty	<.0001	.	.	.
age					0.003025	0.000677	119E3	4.47	<.0001	0.05	0.001698	0.004351
gender			1		0.2075	0.7619	119E3	0.27	0.7853	0.05	-1.2858	1.7008
gender			2		0.1728	0.7617	119E3	0.23	0.8205	0.05	-1.3200	1.6657
gender			0		0	.	.	.	.	.	.	.
region		1			-0.04333	0.03208	119E3	-1.35	0.1767	0.05	-0.1062	0.01954
region		2			0.03376	0.03054	119E3	1.11	0.2691	0.05	-0.02611	0.09362
region		3			0.005645	0.04144	119E3	0.14	0.8917	0.05	-0.07558	0.08687

The GLIMMIX Procedure

Solutions for Fixed Effects

Effect	Trt_Step	region	gender	Insurance	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
region		4			0	.	.	.	.	.	.	.
CCI					0.04105	0.02007	119E3	2.05	0.0408	0.05	0.001721	0.08038
Insurance				2	0.09191	0.1712	119E3	0.54	0.5913	0.05	-0.2436	0.4274
Insurance				3	-0.1402	0.05726	119E3	-2.45	0.0144	0.05	-0.2524	-0.02796
Insurance				4	0.005312	0.1505	119E3	0.04	0.9718	0.05	-0.2896	0.3003
Insurance				5	-0.01381	0.03649	119E3	-0.38	0.7052	0.05	-0.08533	0.05772
Insurance				6	0.04194	0.1708	119E3	0.25	0.8060	0.05	-0.2928	0.3766
Insurance				1	0	.	.	.	.	.	.	.

The GLIMMIX Procedure

Odds Ratio Estimates

region	gender	Insurance	year	age	CCI	_region	_gender	_Insurance	_year	_age	_CCI	Estimate	DF
			2.851	31.521	0.3258				1.851	31.521	0.3258	0.923	4999
			1.851	32.521	0.3258				1.851	31.521	0.3258	1.003	119E3
			1.851	31.521	1.3258				1.851	31.521	0.3258	1.042	119E3
	1		1.851	31.521	0.3258		0		1.851	31.521	0.3258	1.231	119E3
	2		1.851	31.521	0.3258		0		1.851	31.521	0.3258	1.189	119E3
1			1.851	31.521	0.3258	4			1.851	31.521	0.3258	0.958	119E3
2			1.851	31.521	0.3258	4			1.851	31.521	0.3258	1.034	119E3
3			1.851	31.521	0.3258	4			1.851	31.521	0.3258	1.006	119E3
		2	1.851	31.521	0.3258			1	1.851	31.521	0.3258	1.096	119E3
		3	1.851	31.521	0.3258			1	1.851	31.521	0.3258	0.869	119E3
		4	1.851	31.521	0.3258			1	1.851	31.521	0.3258	1.005	119E3
		5	1.851	31.521	0.3258			1	1.851	31.521	0.3258	0.986	119E3
		6	1.851	31.521	0.3258			1	1.851	31.521	0.3258	1.043	119E3

Effects of continuous variables are assessed as one unit offsets from the mean.
The AT suboption modifies the reference value and the UNIT suboption modifies the offsets.

Odds Ratio Estimates

region	gender	Insurance	year	age	CCI	_region	_gender	_Insurance	_year	_age	_CCI	95% Confidence Limits	
			2.851	31.521	0.3258				1.851	31.521	0.3258	0.903	0.943
			1.851	32.521	0.3258				1.851	31.521	0.3258	1.002	1.004
			1.851	31.521	1.3258				1.851	31.521	0.3258	1.002	1.084
	1		1.851	31.521	0.3258		0		1.851	31.521	0.3258	0.276	5.479
	2		1.851	31.521	0.3258		0		1.851	31.521	0.3258	0.267	5.289
1			1.851	31.521	0.3258	4			1.851	31.521	0.3258	0.899	1.020
2			1.851	31.521	0.3258	4			1.851	31.521	0.3258	0.974	1.098
3			1.851	31.521	0.3258	4			1.851	31.521	0.3258	0.927	1.091
		2	1.851	31.521	0.3258			1	1.851	31.521	0.3258	0.784	1.533
		3	1.851	31.521	0.3258			1	1.851	31.521	0.3258	0.777	0.972
		4	1.851	31.521	0.3258			1	1.851	31.521	0.3258	0.749	1.350
		5	1.851	31.521	0.3258			1	1.851	31.521	0.3258	0.918	1.059
		6	1.851	31.521	0.3258			1	1.851	31.521	0.3258	0.746	1.457

Effects of continuous variables are assessed as one unit offsets from the mean.
The AT suboption modifies the reference value and the UNIT suboption modifies the offsets.

The GLIMMIX Procedure

Type III Tests of Fixed Effects				
Effect	**Num DF**	**Den DF**	**F Value**	**Pr > F**
year	1	4999	1224.74	<.0001
year*year	1	119E3	1638.24	<.0001
year*year*year	1	119E3	2613.98	<.0001
year*year*year*year	1	119E3	5689.63	<.0001
yea*yea*yea*yea*year	1	119E3	22958.4	<.0001
ye*ye*ye*yea*yea*yea	1	119E3	Infty	<.0001
age	1	119E3	19.97	<.0001
gender	2	119E3	1.03	0.3558
region	3	119E3	2.10	0.0975
CCI	1	119E3	4.19	0.0408
Insurance	5	119E3	1.30	0.2602