ภาคผนวก ฉ

ผลการประมาณค่าแบบจำลอง โดยใช้โปรแกรม SAS 9

แบบจำลองที่ 1 มีความสุข 3 ค่า แบบ 66 คำถามเป็นตัวแปรตาม

Key code
```
-------------------------------------------------------------------------
data happy;
      set thesis.happiness;
run;
-------------------------------------------------------------------------
proc logistic data = happy descending;
      model TH663  =  V_1 V_2 V_3 V_4 V_5 V_6 V_7 V_9 V_10 V_11 V_12
      REEX ININ SAVE STUD CONS KIND MALE AGE EDU FAM0014 FAM1599
      rice agrinor nonagri MASPINC INCSAMEDEC COMLESS;
 run;
```

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	524.395	488.261
SC	531.664	597.305
-2 Log L	520.395	428.261

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept 3	1	-5.3109	1.5666	11.4929	0.0007
Intercept 2	1	-3.0965	1.5423	4.0307	0.0447
V_1	1	2.0922	0.6413	10.6425	0.0011
V_2	1	1.6015	0.5720	7.8391	0.0051
V_3	1	4.5834	1.2124	14.2923	0.0002
V_4	1	2.1729	0.6223	12.1932	0.0005
V_5	1	1.6299	0.6630	6.0445	0.0139
V_6	1	0.2600	0.5496	0.2238	0.6362
V_7	1	1.1114	0.6007	3.4232	0.0643
V_9	1	1.4986	0.6672	5.0456	0.0247
V_10	1	0.9241	0.5648	2.6769	0.1018
V_11	1	1.5539	0.6689	5.3973	0.0202
V_12	1	1.9327	0.6910	7.8242	0.0052
REEX	1	0.0126	0.0570	0.0487	0.8253
ININ	1	0.0924	0.0691	1.7863	0.1814
SAVE	1	0.0447	0.0553	0.6534	0.4189
STUD	1	0.1623	0.0543	8.9471	0.0028
CONS	1	-0.0334	0.0386	0.7497	0.3866
KIND	1	0.1033	0.0400	6.6900	0.0097
MALE	1	0.1366	0.2812	0.2361	0.6271
AGE	1	-0.00491	0.0142	0.1194	0.7297
EDU	1	-0.1126	0.0677	2.7647	0.0964
FAM0014	1	-0.00466	0.0999	0.0022	0.9628
FAM1599	1	0.1453	0.0987	2.1681	0.1409
RICE	1	-4.56E-6	5.089E-6	0.8031	0.3702
AGRINOR	1	2.861E-6	1.724E-6	2.7540	0.0970
NONAGRI	1	-1.33E-6	1.165E-6	1.2985	0.2545
MASPINC	1	-1.82E-6	1.745E-6	1.0854	0.2975
INCSAMEDEC	1	-0.5655	0.2976	3.6103	0.0574
COMLESS	1	-0.2219	0.2895	0.5873	0.4435

Association of Predicted Probabilities and Observed Responses

Percent Concordant	77.9	Somers' D	0.559
Percent Discordant	21.9	Gamma	0.560
Percent Tied	0.2	Tau-a	0.314
Pairs	21943	c	0.780

แบบจำลองที่ 2 มีความสุข 11 ค่า แบบ 66 คำถามเป็นตัวแปรตาม

Key code

```
proc logistic data = happy descending;
     model TH6611  =  V_1 V_2 V_3 V_4 V_5 V_6 V_7 V_9 V_10 V_11 V_12
     REEX ININ SAVE STUD CONS KIND MALE AGE EDU FAM0014 FAM1599
     rice agrinor nonagri MASPINC INCSAMEDEC COMLESS;
 run;
```

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	888.555	842.360
SC	910.364	965.942
-2 Log L	876.555	774.360

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept 10	1	-9.7805	1.4263	47.0195	<.0001
Intercept 9	1	-7.0701	1.3538	27.2714	<.0001
Intercept 8	1	-5.2577	1.3230	15.7925	<.0001
Intercept 7	1	-3.8174	1.3091	8.5038	0.0035
Intercept 6	1	-1.6244	1.3226	1.5085	0.2194
Intercept 5	1	0.7734	1.5975	0.2344	0.6283
V_1	1	1.5112	0.5446	7.7008	0.0055
V_2	1	1.2464	0.4906	6.4560	0.0111
V_3	1	2.0437	0.6589	9.6198	0.0019
V_4	1	1.8239	0.5308	11.8091	0.0006
V_5	1	1.4089	0.5655	6.2066	0.0127
V_6	1	0.1508	0.5018	0.0903	0.7638
V_7	1	0.1997	0.5448	0.1344	0.7140
V_9	1	0.6715	0.5788	1.3456	0.2460
V_10	1	0.8202	0.5124	2.5621	0.1095
V_11	1	0.9401	0.5756	2.6679	0.1024
V_12	1	1.1710	0.5962	3.8569	0.0495
REEX	1	-0.0251	0.0464	0.2917	0.5891
ININ	1	-0.00193	0.0557	0.0012	0.9724
SAVE	1	0.0658	0.0467	1.9884	0.1585
STUD	1	0.1350	0.0460	8.6315	0.0033
CONS	1	0.0139	0.0323	0.1855	0.6666
KIND	1	0.1235	0.0337	13.4442	0.0002
MALE	1	0.3360	0.2386	1.9827	0.1591
AGE	1	-0.00518	0.0125	0.1707	0.6795
EDU	1	-0.0710	0.0581	1.4963	0.2212
FAM0014	1	0.00148	0.0890	0.0003	0.9868
FAM1599	1	0.1881	0.0809	5.4008	0.0201
RICE	1	-1.01E-6	4.304E-6	0.0549	0.8148
AGRINOR	1	1.006E-6	1.194E-6	0.7094	0.3996
NONAGRI	1	-8.82E-7	9.724E-7	0.8231	0.3643
MASPINC	1	-1.27E-6	1.272E-6	0.9969	0.3181
INCSAMEDEC	1	-0.0699	0.2506	0.0778	0.7803
COMLESS	1	-0.5143	0.2483	4.2919	0.0383

Association of Predicted Probabilities and Observed Responses

Percent Concordant	73.7	Somers' D	0.479
Percent Discordant	25.8	Gamma	0.482
Percent Tied	0.5	Tau-a	0.369
Pairs	30057	c	0.740

แบบจำลองที่ 3 มีความสุข 3 ค่า แบบ 1 คำถามเป็นตัวแปรตาม

Key code

```
----------------------------------------------------------------------
proc logistic data = happy descending;
     model GSS  =  V_1 V_2 V_3 V_4 V_5 V_6 V_7 V_9 V_10 V_11 V_12
     REEX ININ SAVE STUD CONS KIND MALE AGE EDU FAM0014 FAM1599
     rice agrinor nonagri MASPINC INCSAMEDEC COMLESS;
 run;
```

```
                         Model Fit Statistics
                                              Intercept
                      Intercept                  and
             Criterion      Only          Covariates

             AIC          493.026            493.093
             SC           500.295            602.137
             -2 Log L     489.026            433.093
```

```
               Analysis of Maximum Likelihood Estimates
```

| | | | Wald | | |
Parameter	DF	Standard Estimate	Error	Chi-Square	Pr > ChiSq
Intercept 3	1	-4.4151	1.5213	8.4231	0.0037
Intercept 2	1	-0.6502	1.4929	0.1897	0.6632
V_1	1	0.5395	0.6285	0.7368	0.3907
V_2	1	0.3136	0.5669	0.3060	0.5801
V_3	1	0.8556	0.7470	1.3119	0.2520
V_4	1	1.1654	0.6017	3.7509	0.0528
V_5	1	0.7286	0.6452	1.2753	0.2588
V_6	1	0.4036	0.5883	0.4708	0.4926
V_7	1	0.00513	0.6394	0.0001	0.9936
V_9	1	0.2556	0.6731	0.1442	0.7041
V_10	1	-0.2741	0.6049	0.2054	0.6504
V_11	1	-0.9067	0.6732	1.8142	0.1780
V_12	1	-0.2184	0.6973	0.0980	0.7542
REEX	1	-0.0280	0.0534	0.2742	0.6005
ININ	1	0.0138	0.0643	0.0460	0.8301
SAVE	1	-0.0584	0.0539	1.1746	0.2785
STUD	1	0.0956	0.0531	3.2383	0.0719
CONS	1	0.0329	0.0374	0.7712	0.3799
KIND	1	0.0560	0.0385	2.1202	0.1454
MALE	1	-0.4380	0.2782	2.4779	0.1155
AGE	1	0.0126	0.0145	0.7520	0.3858
EDU	1	-0.1020	0.0673	2.2991	0.1295
FAM0014	1	0.0738	0.1009	0.5348	0.4646
FAM1599	1	0.1920	0.0932	4.2435	0.0394
RICE	1	-5.17E-7	4.973E-6	0.0108	0.9172
AGRINOR	1	3.565E-6	1.434E-6	6.1823	0.0129
NONAGRI	1	-4.37E-7	1.131E-6	0.1491	0.6994
MASPINC	1	-1.01E-6	1.455E-6	0.4803	0.4883
INCSAMEDEC	1	0.1490	0.2876	0.2684	0.6044
COMLESS	1	-0.4027	0.2881	1.9543	0.1621

```
          Association of Predicted Probabilities and Observed Responses

               Percent Concordant    73.8    Somers' D   0.481
               Percent Discordant    25.7    Gamma       0.483
               Percent Tied           0.5    Tau-a       0.249
               Pairs                20209    c           0.740
```

แบบจำลองที่ 4 มีความสุข 11 ค่า แบบ 1 คำถามเป็นตัวแปรตาม
Key code

```
proc logistic data = happy descending;
     model GSOEP  =  V_1 V_2 V_3 V_4 V_5 V_6 V_7 V_9 V_10 V_11 V_12
     REEX ININ SAVE STUD CONS KIND MALE AGE EDU FAM0014 FAM1599
     rice agrinor nonagri MASPINC INCSAMEDEC COMLESS;
 run;
```

                           Model Fit Statistics
                                              Intercept
                          Intercept   and
                Criterion   Only   Covariates
                AIC   1059.905   1072.441
                SC   1092.618   1206.928
                -2 Log L   1041.905   998.441

                  Analysis of Maximum Likelihood Estimates

                        Standard   Wald
Parameter	DF	Estimate	Error	Chi-Square	Pr > ChiSq
Intercept 10	1	-5.9031	1.2954	20.7664	<.0001
Intercept 9	1	-5.2774	1.2865	16.8266	<.0001
Intercept 8	1	-3.9898	1.2704	9.8641	0.0017
Intercept 7	1	-3.1081	1.2620	6.0651	0.0138
Intercept 6	1	-2.2941	1.2579	3.3259	0.0682
Intercept 5	1	-0.1274	1.2858	0.0098	0.9211
Intercept 4	1	0.7072	1.3378	0.2795	0.5970
Intercept 3	1	1.4082	1.4275	0.9732	0.3239
Intercept 1	1	2.1056	1.5924	1.7484	0.1861
V_1	1	-0.3198	0.5223	0.3748	0.5404
V_2	1	-0.0123	0.4708	0.0007	0.9792
V_3	1	0.1575	0.6262	0.0632	0.8015
V_4	1	0.9486	0.5080	3.4871	0.0618
V_5	1	-0.4031	0.5420	0.5531	0.4571
V_6	1	0.3584	0.4886	0.5382	0.4632
V_7	1	-0.0711	0.5296	0.0180	0.8932
V_9	1	0.1395	0.5615	0.0617	0.8038
V_10	1	-0.3975	0.4965	0.6410	0.4233
V_11	1	0.0623	0.5568	0.0125	0.9109
V_12	1	0.1936	0.5744	0.1136	0.7360
REEX	1	0.0249	0.0449	0.3072	0.5794
ININ	1	0.0415	0.0540	0.5904	0.4423
SAVE	1	0.00846	0.0451	0.0352	0.8512
STUD	1	0.00849	0.0440	0.0372	0.8471
CONS	1	0.0326	0.0313	1.0825	0.2981
KIND	1	0.0560	0.0321	3.0426	0.0811
MALE	1	0.0402	0.2304	0.0304	0.8616
AGE	1	0.0164	0.0122	1.7995	0.1798
EDU	1	0.0304	0.0563	0.2923	0.5887
FAM0014	1	0.0445	0.0866	0.2639	0.6074
FAM1599	1	0.0270	0.0774	0.1216	0.7274
RICE	1	5.453E-6	4.19E-6	1.6939	0.1931
AGRINOR	1	7.85E-7	1.158E-6	0.4594	0.4979
NONAGRI	1	-4.74E-7	9.458E-7	0.2507	0.6166
MASPINC	1	-1.6E-6	1.229E-6	1.6914	0.1934
INCSAMEDEC	1	-0.0782	0.2423	0.1042	0.7468
COMLESS	1	-0.5385	0.2409	4.9952	0.0254

           Association of Predicted Probabilities and Observed Responses

                Percent Concordant   64.7   Somers' D   0.302
                Percent Discordant   34.5   Gamma   0.304
                Percent Tied   0.7   Tau-a   0.251
                Pairs   32428   c   0.651