

### The LOGISTIC Procedure

Model Information	
Data Set	WORK.NEW_TEST
Response Variable	op
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	333
Number of Observations Used	312

Response Profile		
Ordered Value	op	Total Frequency
1	0	154
2	1	158

Probability modeled is op=0.

**Note:** 21 observations were deleted due to missing values for the response or explanatory variables.

### Stepwise Selection Procedure

Step 0. Intercept entered:

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

-2 Log L	=	432.473
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Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.0256	0.1132	0.0513	0.8209

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
116.9509	12	<.0001

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Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	96.2346	<.0001
as02	1	37.0856	<.0001
as03	1	8.0239	0.0046
as04	1	3.1717	0.0749
as05	1	0.1290	0.7194
as11	1	2.5118	0.1130
as12	1	0.0729	0.7871
as13	1	0.4655	0.4951
as14	1	1.6330	0.2013
as15	1	0.3590	0.5490
as21	1	0.2884	0.5912
as22	1	0.9457	0.3308
as23	1	0.1912	0.6619
as24	1	0.5105	0.4749
as25	1	0.1106	0.7395

#### Step 1. Effect as01 entered:

Model Convergence Status
Quasi-complete separation of data points detected.

**Warning:** The maximum likelihood estimate may not exist.

**Warning:** The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	434.473	310.952
SC	438.216	318.438
-2 Log L	432.473	306.952

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	125.5210	1	<.0001
Score	96.2346	1	<.0001
Wald	0.0047	1	0.9454

### The LOGISTIC Procedure

**Warning:** The validity of the model fit is questionable.

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	0.6181	0.1362	20.6056	<.0001
as01	1	-15.8213	231.1	0.0047	0.9454

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as01	<0.001	<0.001	>999.999

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	47.5	Somers' D	0.475
Percent Discordant	0.0	Gamma	1.000
Percent Tied	52.5	Tau-a	0.238
Pairs	24332	c	0.737

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
25.5760	11	0.0075

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as01	1	0.0047	0.9454

**Step 2. Effect as01 is removed:**

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

-2 Log L	=	432.473
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Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.0256	0.1132	0.0513	0.8209

### The LOGISTIC Procedure

**Warning:** The validity of the model fit is questionable.

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
116.9509	12	<.0001

**Note:** Model building terminates because the last effect entered is removed by the Wald statistic criterion.

Summary of Stepwise Selection							
Step	Effect		DF	Number In	Score Chi-Square	Wald Chi-Square	Pr > ChiSq
	Entered	Removed					
1	as01		1	1	96.2346		<.0001
2		as01	1	0		0.0047	0.9454

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Model Information	
Data Set	WORK.NEW_TEST
Response Variable	Et
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	333
Number of Observations Used	309

Response Profile		
Ordered Value	Et	Total Frequency
1	0	21
2	1	288

Probability modeled is Et=0.

**Note:** 24 observations were deleted due to missing values for the response or explanatory variables.

### Stepwise Selection Procedure

Step 0. Intercept entered:

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

-2 Log L	=	153.470
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Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-2.6184	0.2260	134.1955	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
111.7042	12	<.0001

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Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	7.2216	0.0072
as02	1	7.2216	0.0072
as03	1	3.8406	0.0500
as04	1	6.1993	0.0128
as05	1	29.7298	<.0001
as11	1	7.2216	0.0072
as12	1	70.2975	<.0001
as13	1	6.8449	0.0089
as14	1	4.1437	0.0418
as15	1	3.2545	0.0712
as21	1	0.9295	0.3350
as22	1	0.3792	0.5380
as23	1	0.6977	0.4035
as24	1	0.5170	0.4721
as25	1	0.2593	0.6106

#### Step 1. Effect as12 entered:

Model Convergence Status
Quasi-complete separation of data points detected.

**Warning:** The maximum likelihood estimate may not exist.

**Warning:** The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	155.470	92.943
SC	159.203	100.410
-2 Log L	153.470	88.943

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	64.5267	1	<.0001
Score	70.2975	1	<.0001
Wald	0.0075	1	0.9308

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**Warning:** The validity of the model fit is questionable.

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-15.7304	170.3	0.0085	0.9264
as12	1	14.7859	170.3	0.0075	0.9308

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as12	>999.999	<0.001	>999.999

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	81.3	Somers' D	0.813
Percent Discordant	0.0	Gamma	1.000
Percent Tied	18.8	Tau-a	0.103
Pairs	6048	c	0.906

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
48.8095	11	<.0001

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as12	1	0.0075	0.9308

**Note:** No effects for the model in Step 1 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	7.2917	0.0069
as02	1	7.2917	0.0069
as03	1	7.2917	0.0069
as04	1	9.5238	0.0020
as05	1	25.1488	<.0001
as11	1	0.0000	0.9953
as13	1	0.0000	0.9953

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**Warning:** The validity of the model fit is questionable.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as14	1	0.0000	0.9953
as15	1	0.0000	0.9953
as21	1	1.3393	0.2472
as22	1	0.5953	0.4404
as23	1	1.3393	0.2472
as24	1	0.5953	0.4404
as25	1	0.5953	0.4404

### Step 2. Effect as05 entered:

Model Convergence Status
Quasi-complete separation of data points detected.

**Warning:** The maximum likelihood estimate may not exist.

**Warning:** The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	155.470	71.737
SC	159.203	82.937
-2 Log L	153.470	65.737

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	87.7325	2	<.0001
Score	94.1038	2	<.0001
Wald	17.7986	2	0.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-17.4617	201.0	0.0075	0.9308
as05	1	3.1209	0.7399	17.7937	<.0001
as12	1	15.7271	201.0	0.0061	0.9376



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**Warning:** The validity of the model fit is questionable.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as05	22.667	5.316	96.639
as12	>999.999	<0.001	>999.999

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	91.4	Somers' D	0.909
Percent Discordant	0.4	Gamma	0.990
Percent Tied	8.2	Tau-a	0.116
Pairs	6048	c	0.955

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
37.1378	11	0.0001

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as05	1	17.7937	<.0001
as12	1	0.0061	0.9376

### Step 3. Effect as12 is removed:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	155.470	136.282
SC	159.203	143.748
-2 Log L	153.470	132.282

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**Warning:** The validity of the model fit is questionable.

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	21.1882	1	<.0001
Score	29.7298	1	<.0001
Wald	22.0564	1	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-3.3322	0.3392	96.4863	<.0001
as05	1	2.2336	0.4756	22.0564	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as05	9.333	3.675	23.706

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	50.0	Somers' D	0.446
Percent Discordant	5.4	Gamma	0.806
Percent Tied	44.6	Tau-a	0.057
Pairs	6048	c	0.723

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
97.8404	11	<.0001

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as05	1	22.0564	<.0001

**Note:** No effects for the model in Step 3 are removed.

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**Warning:** The validity of the model fit is questionable.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	3.7586	0.0525
as02	1	3.7586	0.0525
as03	1	1.9420	0.1635
as04	1	27.5406	<.0001
as11	1	9.7524	0.0018
as12	1	66.3780	<.0001
as13	1	7.9650	0.0048
as14	1	4.0285	0.0447
as15	1	1.6375	0.2007
as21	1	0.5046	0.4775
as22	1	0.3717	0.5421
as23	1	0.4159	0.5190
as24	1	0.4422	0.5061
as25	1	0.0285	0.8660

**Note:** Model building terminates because the next effect to be added recycles previous steps.

Summary of Stepwise Selection							
Step	Effect		DF	Number In	Score Chi-Square	Wald Chi-Square	Pr > ChiSq
	Entered	Removed					
1	as12		1	1	70.2975		<.0001
2	as05		1	2	25.1488		<.0001
3		as12	1	1		0.0061	0.9376

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Model Information	
Data Set	WORK.NEW_TEST
Response Variable	Con
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	333
Number of Observations Used	309

Response Profile		
Ordered Value	Con	Total Frequency
1	0	297
2	1	12

Probability modeled is Con=0.

**Note:** 24 observations were deleted due to missing values for the response or explanatory variables.

### Stepwise Selection Procedure

Step 0. Intercept entered:

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

-2 Log L	=	101.490
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Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	3.2088	0.2944	118.7603	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
64.3701	12	<.0001

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Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	4.0016	0.0455
as02	1	4.0016	0.0455
as03	1	1.3834	0.2395
as04	1	3.3909	0.0656
as05	1	30.9992	<.0001
as11	1	0.0202	0.8871
as12	1	17.4792	<.0001
as13	1	3.7929	0.0515
as14	1	2.4679	0.1162
as15	1	1.8034	0.1793
as21	1	3.1973	0.0738
as22	1	3.0084	0.0828
as23	1	0.0985	0.7536
as24	1	0.1636	0.6859
as25	1	8.2626	0.0040

#### Step 1. Effect as05 entered:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	103.490	84.223
SC	107.224	91.690
-2 Log L	101.490	80.223

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	21.2673	1	<.0001
Score	30.9992	1	<.0001
Wald	17.8383	1	<.0001

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Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	4.4427	0.5807	58.5230	<.0001
as05	1	-2.9022	0.6872	17.8383	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as05	0.055	0.014	0.211

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	64.4	Somers' D	0.609
Percent Discordant	3.5	Gamma	0.896
Percent Tied	32.1	Tau-a	0.046
Pairs	3564	c	0.804

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
46.1524	11	<.0001

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as05	1	17.8383	<.0001

**Note:** No effects for the model in Step 1 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	1.2440	0.2647
as02	1	1.2440	0.2647
as03	1	15.6101	<.0001
as04	1	1.0434	0.3070
as11	1	0.0469	0.8286
as12	1	15.4654	<.0001
as13	1	4.2549	0.0391
as14	1	2.9112	0.0880

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Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as15	1	0.5405	0.4622
as21	1	4.0733	0.0436
as22	1	3.0747	0.0795
as23	1	0.0355	0.8506
as24	1	0.0464	0.8294
as25	1	15.2514	<.0001

### Step 2. Effect as03 entered:

Model Convergence Status
Quasi-complete separation of data points detected.

**Warning:** The maximum likelihood estimate may not exist.

**Warning:** The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	103.490	75.147
SC	107.224	86.347
-2 Log L	101.490	69.147

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	32.3435	2	<.0001
Score	35.8054	2	<.0001
Wald	2.1279	2	0.3451

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	16.6813	285.1	0.0034	0.9533
as03	1	-14.1163	285.1	0.0025	0.9605
as05	1	-15.1408	285.1	0.0028	0.9577

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**Warning:** The validity of the model fit is questionable.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as03	<0.001	<0.001	>999.999
as05	<0.001	<0.001	>999.999

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	82.6	Somers' D	0.790
Percent Discordant	3.5	Gamma	0.918
Percent Tied	13.9	Tau-a	0.059
Pairs	3564	c	0.895

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
29.8736	10	0.0009

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as03	1	0.0025	0.9605
as05	1	0.0028	0.9577

### Step 3. Effect as03 is removed:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	103.490	84.223
SC	107.224	91.690
-2 Log L	101.490	80.223



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**Warning:** The validity of the model fit is questionable.

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	21.2673	1	<.0001
Score	30.9992	1	<.0001
Wald	17.8383	1	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	4.4427	0.5807	58.5230	<.0001
as05	1	-2.9022	0.6872	17.8383	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as05	0.055	0.014	0.211

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	64.4	Somers' D	0.609
Percent Discordant	3.5	Gamma	0.896
Percent Tied	32.1	Tau-a	0.046
Pairs	3564	c	0.804

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
46.1524	11	<.0001

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as05	1	17.8383	<.0001

**Note:** No effects for the model in Step 3 are removed.

**Note:** Model building terminates because the last effect entered is removed by the Wald statistic criterion.

### The LOGISTIC Procedure

**Warning:** The validity of the model fit is questionable.

Summary of Stepwise Selection							
Step	Effect		DF	Number In	Score Chi-Square	Wald Chi-Square	Pr > ChiSq
	Entered	Removed					
1	as05		1	1	30.9992		<.0001
2	as03		1	2	15.6101		<.0001
3		as03	1	1		0.0025	0.9605

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Model Information	
Data Set	WORK.NEW_TEST
Response Variable	Ag
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	333
Number of Observations Used	312

Response Profile		
Ordered Value	Ag	Total Frequency
1	0	288
2	1	24

Probability modeled is Ag=0.

**Note:** 21 observations were deleted due to missing values for the response or explanatory variables.

### Stepwise Selection Procedure

**Step 0. Intercept entered:**

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

-2 Log L	=	169.222
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Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	2.4849	0.2125	136.7947	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
42.1614	12	<.0001

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Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	1.8957	0.1686
as02	1	0.0132	0.9087
as03	1	2.3566	0.1248
as04	1	1.1674	0.2799
as05	1	1.4239	0.2328
as11	1	0.0132	0.9087
as12	1	2.5803	0.1082
as13	1	7.8000	0.0052
as14	1	5.0805	0.0242
as15	1	14.8571	0.0001
as21	1	0.9547	0.3285
as22	1	0.5571	0.4554
as23	1	1.1674	0.2799
as24	1	1.1674	0.2799
as25	1	6.4396	0.0112

#### Step 1. Effect as15 entered:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	171.222	162.339
SC	174.965	169.825
-2 Log L	169.222	158.339

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	10.8833	1	0.0010
Score	14.8571	1	0.0001
Wald	12.5249	1	0.0004

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Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	2.8449	0.2656	114.7322	<.0001
as15	1	-1.6409	0.4637	12.5249	0.0004

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as15	0.194	0.078	0.481

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	33.6	Somers' D	0.271
Percent Discordant	6.5	Gamma	0.675
Percent Tied	59.9	Tau-a	0.039
Pairs	6912	c	0.635

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
34.2702	11	0.0003

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as15	1	12.5249	0.0004

**Note:** No effects for the model in Step 1 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	3.4709	0.0625
as02	1	0.1413	0.7070
as03	1	6.3761	0.0116
as04	1	1.3663	0.2424
as05	1	4.7485	0.0293
as11	1	1.2501	0.2635
as12	1	8.4282	0.0037
as13	1	5.6855	0.0171

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Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as14	1	3.6463	0.0562
as21	1	0.7091	0.3997
as22	1	0.8624	0.3531
as23	1	1.3663	0.2424
as24	1	1.3663	0.2424
as25	1	5.5944	0.0180

### Step 2. Effect as12 entered:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	171.222	156.949
SC	174.965	168.178
-2 Log L	169.222	150.949

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	18.2731	2	0.0001
Score	21.0206	2	<.0001
Wald	16.4638	2	0.0003

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	3.4657	0.4146	69.8841	<.0001
as12	1	-1.4733	0.5460	7.2806	0.0070
as15	1	-2.2618	0.5624	16.1722	<.0001

### The LOGISTIC Procedure

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as12	0.229	0.079	0.668
as15	0.104	0.035	0.314

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	58.6	Somers' D	0.464
Percent Discordant	12.2	Gamma	0.654
Percent Tied	29.2	Tau-a	0.066
Pairs	6912	c	0.732

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
29.8104	10	0.0009

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as12	1	7.2806	0.0070
as15	1	16.1722	<.0001

**Note:** No effects for the model in Step 2 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	3.3460	0.0674
as02	1	0.0995	0.7524
as03	1	5.3743	0.0204
as04	1	1.3323	0.2484
as05	1	4.5325	0.0333
as11	1	10.1475	0.0014
as13	1	3.5357	0.0601
as14	1	2.1467	0.1429
as21	1	0.6762	0.4109
as22	1	0.8640	0.3526
as23	1	1.3323	0.2484

### The LOGISTIC Procedure

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as24	1	1.3323	0.2484
as25	1	5.1448	0.0233

### Step 3. Effect as11 entered:

Model Convergence Status
Quasi-complete separation of data points detected.

**Warning:** The maximum likelihood estimate may not exist.

**Warning:** The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	171.222	146.990
SC	174.965	161.962
-2 Log L	169.222	138.990

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	30.2321	3	<.0001
Score	25.2200	3	<.0001
Wald	4.9904	3	0.1725

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	15.6123	221.4	0.0050	0.9438
as11	1	-13.1700	221.4	0.0035	0.9526
as12	1	-13.6199	221.4	0.0038	0.9510
as15	1	-14.4084	221.4	0.0042	0.9481



### The LOGISTIC Procedure

**Warning:** The validity of the model fit is questionable.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as11	<0.001	<0.001	>999.999
as12	<0.001	<0.001	>999.999
as15	<0.001	<0.001	>999.999

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	69.3	Somers' D	0.570
Percent Discordant	12.2	Gamma	0.700
Percent Tied	18.5	Tau-a	0.081
Pairs	6912	c	0.785

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
18.8131	10	0.0427

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as11	1	0.0035	0.9526
as12	1	0.0038	0.9510
as15	1	0.0042	0.9481

#### Step 4. Effect as11 is removed:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	171.222	156.949
SC	174.965	168.178
-2 Log L	169.222	150.949

### The LOGISTIC Procedure

**Warning:** The validity of the model fit is questionable.

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	18.2731	2	0.0001
Score	21.0206	2	<.0001
Wald	16.4638	2	0.0003

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	3.4657	0.4146	69.8841	<.0001
as12	1	-1.4733	0.5460	7.2806	0.0070
as15	1	-2.2618	0.5624	16.1722	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as12	0.229	0.079	0.668
as15	0.104	0.035	0.314

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	58.6	Somers' D	0.464
Percent Discordant	12.2	Gamma	0.654
Percent Tied	29.2	Tau-a	0.066
Pairs	6912	c	0.732

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
29.8104	10	0.0009

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as12	1	7.2806	0.0070
as15	1	16.1722	<.0001

**Note:** No effects for the model in Step 4 are removed.

**Note:** Model building terminates because the last effect entered is removed by the Wald statistic criterion.

### The LOGISTIC Procedure

**Warning:** The validity of the model fit is questionable.

Summary of Stepwise Selection							
Step	Effect		DF	Number In	Score Chi-Square	Wald Chi-Square	Pr > ChiSq
	Entered	Removed					
1	as15		1	1	14.8571		0.0001
2	as12		1	2	8.4282		0.0037
3	as11		1	3	10.1475		0.0014
4		as11	1	2		0.0035	0.9526

Partition for the Hosmer and Lemeshow Test					
Group	Total	Ag = 0		Ag = 1	
		Observed	Expected	Observed	Expected
1	39	30	30.00	9	9.00
2	75	66	66.00	9	9.00
3	198	192	192.00	6	6.00

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
0.0000	1	1.0000

### The LOGISTIC Procedure

Model Information	
Data Set	WORK.NEW_TEST
Response Variable	Ne
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	333
Number of Observations Used	309

Response Profile		
Ordered Value	Ne	Total Frequency
1	0	90
2	1	219

Probability modeled is Ne=0.

**Note:** 24 observations were deleted due to missing values for the response or explanatory variables.

### Stepwise Selection Procedure

Step 0. Intercept entered:

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

-2 Log L	=	372.826
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Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.8893	0.1252	50.4415	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
66.8612	12	<.0001

### The LOGISTIC Procedure

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	0.3962	0.5290
as02	1	0.0609	0.8052
as03	1	0.1544	0.6944
as04	1	3.0838	0.0791
as05	1	3.8991	0.0483
as11	1	0.3962	0.5290
as12	1	0.7742	0.3789
as13	1	0.0001	0.9931
as14	1	0.0024	0.9608
as15	1	0.0584	0.8091
as21	1	22.7563	<.0001
as22	1	20.9952	<.0001
as23	1	7.2276	0.0072
as24	1	5.6445	0.0175
as25	1	18.7067	<.0001

#### Step 1. Effect as21 entered:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	347.766
SC	378.559	355.232
-2 Log L	372.826	343.766

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	29.0602	1	<.0001
Score	22.7563	1	<.0001
Wald	15.5669	1	<.0001

### The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.6030	0.1334	20.4461	<.0001
as21	1	-2.3923	0.6063	15.5669	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as21	0.091	0.028	0.300

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	26.5	Somers' D	0.241
Percent Discordant	2.4	Gamma	0.833
Percent Tied	71.1	Tau-a	0.100
Pairs	19710	c	0.620

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
41.0514	11	<.0001

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as21	1	15.5669	<.0001

**Note:** No effects for the model in Step 1 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	0.3921	0.5312
as02	1	0.0801	0.7772
as03	1	0.1825	0.6692
as04	1	3.0029	0.0831
as05	1	3.6229	0.0570
as11	1	0.3921	0.5312
as12	1	0.7839	0.3760
as13	1	0.0015	0.9687

### The LOGISTIC Procedure

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as14	1	0.0509	0.8215
as15	1	0.0003	0.9866
as22	1	32.0109	<.0001
as23	1	2.0792	0.1493
as24	1	1.2125	0.2708
as25	1	9.6755	0.0019

#### Step 2. Effect as22 entered:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	310.050
SC	378.559	321.250
-2 Log L	372.826	304.050

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	68.7759	2	<.0001
Score	58.2030	2	<.0001
Wald	39.1360	2	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.1942	0.1473	1.7365	0.1876
as21	1	-2.8011	0.6096	21.1168	<.0001
as22	1	-2.7500	0.6103	20.3023	<.0001

### The LOGISTIC Procedure

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as21	0.061	0.018	0.201
as22	0.064	0.019	0.211

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	50.8	Somers' D	0.468
Percent Discordant	4.0	Gamma	0.855
Percent Tied	45.3	Tau-a	0.194
Pairs	19710	c	0.734

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
9.9012	10	0.4492

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as21	1	21.1168	<.0001
as22	1	20.3023	<.0001

**Note:** No effects for the model in Step 2 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	0.5155	0.4728
as02	1	0.0652	0.7985
as03	1	0.1788	0.6724
as04	1	3.1890	0.0741
as05	1	4.4094	0.0357
as11	1	0.5155	0.4728
as12	1	0.6495	0.4203
as13	1	0.0354	0.8507
as14	1	0.0263	0.8712
as15	1	0.0976	0.7547
as23	1	0.2042	0.6513



### The LOGISTIC Procedure

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as24	1	0.7469	0.3875
as25	1	1.8519	0.1736

### Step 3. Effect as05 entered:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	307.411
SC	378.559	322.345
-2 Log L	372.826	299.411

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	73.4144	3	<.0001
Score	61.7369	3	<.0001
Wald	42.6190	3	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.0643	0.1594	0.1628	0.6866
as05	1	-0.8625	0.4185	4.2486	0.0393
as21	1	-2.8111	0.6111	21.1639	<.0001
as22	1	-2.7865	0.6120	20.7317	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as05	0.422	0.186	0.959
as21	0.060	0.018	0.199
as22	0.062	0.019	0.205

### The LOGISTIC Procedure

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	59.2	Somers' D	0.517
Percent Discordant	7.5	Gamma	0.774
Percent Tied	33.2	Tau-a	0.214
Pairs	19710	c	0.758

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
5.4678	9	0.7918

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as05	1	4.2486	0.0393
as21	1	21.1639	<.0001
as22	1	20.7317	<.0001

**Note:** No effects for the model in Step 3 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	0.0401	0.8413
as02	1	0.6326	0.4264
as03	1	0.6558	0.4181
as04	1	1.7805	0.1821
as11	1	0.7264	0.3941
as12	1	0.4352	0.5094
as13	1	0.0217	0.8829
as14	1	0.0602	0.8062
as15	1	0.4802	0.4883
as23	1	0.1169	0.7324
as24	1	0.6250	0.4292
as25	1	1.3702	0.2418

#### Step 4. Effect as04 entered:

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

### The LOGISTIC Procedure

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	307.643
SC	378.559	326.309
-2 Log L	372.826	297.643

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	75.1831	4	<.0001
Score	63.2505	4	<.0001
Wald	43.7266	4	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.1795	0.1819	0.9745	0.3236
as04	1	0.4610	0.3468	1.7674	0.1837
as05	1	-0.7465	0.4279	3.0438	0.0810
as21	1	-2.8214	0.6122	21.2379	<.0001
as22	1	-2.7969	0.6132	20.8050	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as04	1.586	0.804	3.129
as05	0.474	0.205	1.097
as21	0.060	0.018	0.198
as22	0.061	0.018	0.203

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	66.9	Somers' D	0.547
Percent Discordant	12.2	Gamma	0.691
Percent Tied	20.8	Tau-a	0.227
Pairs	19710	c	0.774

### The LOGISTIC Procedure

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
3.7244	8	0.8811

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as04	1	1.7674	0.1837
as05	1	3.0438	0.0810
as21	1	21.2379	<.0001
as22	1	20.8050	<.0001

**Note:** No effects for the model in Step 4 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	0.5595	0.4545
as02	1	0.1105	0.7396
as03	1	0.2302	0.6313
as11	1	0.7264	0.3941
as12	1	0.3352	0.5626
as13	1	0.0210	0.8848
as14	1	0.0520	0.8195
as15	1	0.6015	0.4380
as23	1	0.1000	0.7518
as24	1	0.7201	0.3961
as25	1	1.4499	0.2286

#### Step 5. Effect as25 entered:

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

### The LOGISTIC Procedure

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	308.196
SC	378.559	330.596
-2 Log L	372.826	296.196

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	76.6296	5	<.0001
Score	65.1253	5	<.0001
Wald	45.0995	5	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.3099	0.2127	2.1231	0.1451
as04	1	0.4731	0.3481	1.8465	0.1742
as05	1	-0.7022	0.4301	2.6655	0.1025
as21	1	-2.6987	0.6208	18.8990	<.0001
as22	1	-2.6734	0.6219	18.4810	<.0001
as25	1	0.3904	0.3250	1.4435	0.2296

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as04	1.605	0.811	3.175
as05	0.495	0.213	1.151
as21	0.067	0.020	0.227
as22	0.069	0.020	0.234
as25	1.478	0.782	2.794

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	72.4	Somers' D	0.566
Percent Discordant	15.8	Gamma	0.642
Percent Tied	11.8	Tau-a	0.234
Pairs	19710	c	0.783

### The LOGISTIC Procedure

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
2.2892	7	0.9421

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as04	1	1.8465	0.1742
as05	1	2.6655	0.1025
as21	1	18.8990	<.0001
as22	1	18.4810	<.0001
as25	1	1.4435	0.2296

**Note:** No effects for the model in Step 5 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	0.5641	0.4526
as02	1	0.1114	0.7385
as03	1	0.2321	0.6300
as11	1	0.6643	0.4151
as12	1	0.4264	0.5138
as13	1	0.0293	0.8640
as14	1	0.1124	0.7374
as15	1	0.6193	0.4313
as23	1	0.0866	0.7685
as24	1	0.0866	0.7685

### Step 6. Effect as11 entered:

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

### The LOGISTIC Procedure

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	309.536
SC	378.559	335.670
-2 Log L	372.826	295.536

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	77.2894	6	<.0001
Score	65.6142	6	<.0001
Wald	45.4599	6	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.3693	0.2254	2.6855	0.1013
as04	1	0.4734	0.3485	1.8447	0.1744
as05	1	-0.7255	0.4322	2.8178	0.0932
as11	1	0.2676	0.3287	0.6625	0.4157
as21	1	-2.7069	0.6214	18.9766	<.0001
as22	1	-2.6837	0.6225	18.5869	<.0001
as25	1	0.3825	0.3254	1.3822	0.2397

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as04	1.605	0.811	3.179
as05	0.484	0.208	1.129
as11	1.307	0.686	2.489
as21	0.067	0.020	0.226
as22	0.068	0.020	0.231
as25	1.466	0.775	2.774

### The LOGISTIC Procedure

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	74.6	Somers' D	0.566
Percent Discordant	18.0	Gamma	0.611
Percent Tied	7.4	Tau-a	0.235
Pairs	19710	c	0.783

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
1.6355	6	0.9500

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as04	1	1.8447	0.1744
as05	1	2.8178	0.0932
as11	1	0.6625	0.4157
as21	1	18.9766	<.0001
as22	1	18.5869	<.0001
as25	1	1.3822	0.2397

**Note:** No effects for the model in Step 6 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as01	1	0.6249	0.4292
as02	1	0.0883	0.7663
as03	1	0.3264	0.5678
as12	1	0.1774	0.6736
as13	1	0.1966	0.6575
as14	1	0.3136	0.5755
as15	1	0.3872	0.5338
as23	1	0.0823	0.7742
as24	1	0.0823	0.7742

### Step 7. Effect as01 entered:

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



### The LOGISTIC Procedure

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	310.913
SC	378.559	340.780
-2 Log L	372.826	294.913

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	77.9126	7	<.0001
Score	66.1115	7	<.0001
Wald	45.8812	7	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.4834	0.2692	3.2255	0.0725
as01	1	0.2856	0.3616	0.6236	0.4297
as04	1	0.5850	0.3773	2.4049	0.1210
as05	1	-0.6154	0.4549	1.8298	0.1762
as11	1	0.2804	0.3296	0.7234	0.3950
as21	1	-2.7123	0.6219	19.0216	<.0001
as22	1	-2.6891	0.6230	18.6339	<.0001
as25	1	0.3834	0.3259	1.3839	0.2394

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as01	1.331	0.655	2.703
as04	1.795	0.857	3.760
as05	0.540	0.222	1.318
as11	1.324	0.694	2.525
as21	0.066	0.020	0.225
as22	0.068	0.020	0.230
as25	1.467	0.775	2.779

### The LOGISTIC Procedure

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	77.2	Somers' D	0.584
Percent Discordant	18.8	Gamma	0.608
Percent Tied	4.0	Tau-a	0.242
Pairs	19710	c	0.792

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
1.0145	5	0.9614

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as01	1	0.6236	0.4297
as04	1	2.4049	0.1210
as05	1	1.8298	0.1762
as11	1	0.7234	0.3950
as21	1	19.0216	<.0001
as22	1	18.6339	<.0001
as25	1	1.3839	0.2394

**Note:** No effects for the model in Step 7 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as02	1	0.0665	0.7966
as03	1	0.0665	0.7966
as12	1	0.1382	0.7101
as13	1	0.2459	0.6200
as14	1	0.2562	0.6128
as15	1	0.4697	0.4931
as23	1	0.0823	0.7742
as24	1	0.0823	0.7742

### Step 8. Effect as15 entered:

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

### The LOGISTIC Procedure

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	312.439
SC	378.559	346.039
-2 Log L	372.826	294.439

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	78.3865	8	<.0001
Score	66.3970	8	<.0001
Wald	46.0790	8	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.4343	0.2784	2.4334	0.1188
as01	1	0.3057	0.3636	0.7067	0.4005
as04	1	0.6085	0.3792	2.5756	0.1085
as05	1	-0.6471	0.4572	2.0036	0.1569
as11	1	0.2289	0.3383	0.4578	0.4986
as15	1	-0.2945	0.4303	0.4682	0.4938
as21	1	-2.7321	0.6231	19.2238	<.0001
as22	1	-2.7090	0.6242	18.8334	<.0001
as25	1	0.3878	0.3264	1.4115	0.2348

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as01	1.358	0.666	2.769
as04	1.838	0.874	3.864
as05	0.524	0.214	1.283
as11	1.257	0.648	2.440
as15	0.745	0.320	1.731
as21	0.065	0.019	0.221
as22	0.067	0.020	0.226
as25	1.474	0.777	2.794

### The LOGISTIC Procedure

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	78.1	Somers' D	0.589
Percent Discordant	19.2	Gamma	0.605
Percent Tied	2.6	Tau-a	0.244
Pairs	19710	c	0.795

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
0.5410	4	0.9694

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as01	1	0.7067	0.4005
as04	1	2.5756	0.1085
as05	1	2.0036	0.1569
as11	1	0.4578	0.4986
as15	1	0.4682	0.4938
as21	1	19.2238	<.0001
as22	1	18.8334	<.0001
as25	1	1.4115	0.2348

**Note:** No effects for the model in Step 8 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as02	1	0.1354	0.7129
as03	1	0.1354	0.7129
as12	1	0.3653	0.5456
as13	1	0.0851	0.7705
as14	1	0.1157	0.7338
as23	1	0.0883	0.7664
as24	1	0.0883	0.7664

### Step 9. Effect as12 entered:

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

### The LOGISTIC Procedure

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	314.072
SC	378.559	351.406
-2 Log L	372.826	294.072

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	78.7535	9	<.0001
Score	66.7070	9	<.0001
Wald	46.3506	9	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.3519	0.3094	1.2935	0.2554
as01	1	0.2967	0.3643	0.6632	0.4154
as04	1	0.5951	0.3800	2.4525	0.1173
as05	1	-0.6396	0.4575	1.9540	0.1622
as11	1	0.1446	0.3652	0.1568	0.6921
as12	1	-0.2307	0.3821	0.3648	0.5459
as15	1	-0.3750	0.4502	0.6936	0.4049
as21	1	-2.7298	0.6232	19.1879	<.0001
as22	1	-2.7045	0.6244	18.7614	<.0001
as25	1	0.4048	0.3282	1.5214	0.2174

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as01	1.345	0.659	2.747
as04	1.813	0.861	3.818
as05	0.528	0.215	1.293
as11	1.156	0.565	2.364
as12	0.794	0.375	1.679
as15	0.687	0.284	1.661
as21	0.065	0.019	0.221

### The LOGISTIC Procedure

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as22	0.067	0.020	0.227
as25	1.499	0.788	2.852

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	78.4	Somers' D	0.584
Percent Discordant	20.1	Gamma	0.592
Percent Tied	1.5	Tau-a	0.242
Pairs	19710	c	0.792

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
0.1761	3	0.9813

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as01	1	0.6632	0.4154
as04	1	2.4525	0.1173
as05	1	1.9540	0.1622
as11	1	0.1568	0.6921
as12	1	0.3648	0.5459
as15	1	0.6936	0.4049
as21	1	19.1879	<.0001
as22	1	18.7614	<.0001
as25	1	1.5214	0.2174

**Note:** No effects for the model in Step 9 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as02	1	0.0991	0.7529
as03	1	0.0991	0.7529
as13	1	0.0056	0.9401
as14	1	0.0056	0.9401

### The LOGISTIC Procedure

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as23	1	0.0759	0.7830
as24	1	0.0759	0.7830

### Step 10. Effect as02 entered:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	315.973
SC	378.559	357.040
-2 Log L	372.826	293.973

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	78.8528	10	<.0001
Score	66.7812	10	<.0001
Wald	46.4053	10	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.4494	0.4390	1.0480	0.3060
as01	1	0.3936	0.4781	0.6777	0.4104
as02	1	0.1513	0.4807	0.0990	0.7530
as04	1	0.6923	0.4908	1.9895	0.1584
as05	1	-0.5482	0.5429	1.0197	0.3126
as11	1	0.1551	0.3669	0.1787	0.6725
as12	1	-0.2200	0.3837	0.3287	0.5664
as15	1	-0.3919	0.4530	0.7483	0.3870
as21	1	-2.7320	0.6233	19.2108	<.0001
as22	1	-2.7069	0.6245	18.7865	<.0001
as25	1	0.4041	0.3282	1.5157	0.2183

### The LOGISTIC Procedure

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as01	1.482	0.581	3.784
as02	1.163	0.453	2.985
as04	1.998	0.764	5.229
as05	0.578	0.199	1.675
as11	1.168	0.569	2.397
as12	0.803	0.378	1.702
as15	0.676	0.278	1.642
as21	0.065	0.019	0.221
as22	0.067	0.020	0.227
as25	1.498	0.787	2.850

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	78.9	Somers' D	0.589
Percent Discordant	20.1	Gamma	0.594
Percent Tied	1.0	Tau-a	0.244
Pairs	19710	c	0.794

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
0.0771	2	0.9622

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as01	1	0.6777	0.4104
as02	1	0.0990	0.7530
as04	1	1.9895	0.1584
as05	1	1.0197	0.3126
as11	1	0.1787	0.6725
as12	1	0.3287	0.5664
as15	1	0.7483	0.3870
as21	1	19.2108	<.0001
as22	1	18.7865	<.0001
as25	1	1.5157	0.2183



## The LOGISTIC Procedure

**Note:** No effects for the model in Step 10 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as03	0	.	.
as13	1	0.0004	0.9839
as14	1	0.0004	0.9839
as23	1	0.0767	0.7818
as24	1	0.0767	0.7818

### Step 11. Effect as23 entered:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	374.826	317.896
SC	378.559	362.696
-2 Log L	372.826	293.896

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	78.9295	11	<.0001
Score	66.8583	11	<.0001
Wald	46.4605	11	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.5009	0.4772	1.1018	0.2939
as01	1	0.3943	0.4782	0.6800	0.4096
as02	1	0.1519	0.4808	0.0999	0.7520
as04	1	0.6967	0.4912	2.0118	0.1561
as05	1	-0.5485	0.5430	1.0203	0.3124
as11	1	0.1554	0.3670	0.1793	0.6720
as12	1	-0.2161	0.3839	0.3169	0.5735
as15	1	-0.3924	0.4531	0.7501	0.3864

### The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
as21	1	-2.6829	0.6482	17.1313	<.0001
as22	1	-2.6579	0.6493	16.7567	<.0001
as23	1	0.1011	0.3652	0.0767	0.7818
as25	1	0.4534	0.3737	1.4717	0.2251

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
as01	1.483	0.581	3.787
as02	1.164	0.454	2.987
as04	2.007	0.766	5.256
as05	0.578	0.199	1.675
as11	1.168	0.569	2.398
as12	0.806	0.380	1.710
as15	0.675	0.278	1.642
as21	0.068	0.019	0.244
as22	0.070	0.020	0.250
as23	1.106	0.541	2.263
as25	1.574	0.756	3.274

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	79.0	Somers' D	0.582
Percent Discordant	20.8	Gamma	0.584
Percent Tied	0.2	Tau-a	0.241
Pairs	19710	c	0.791

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
0.0004	1	0.9843

### The LOGISTIC Procedure

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
as01	1	0.6800	0.4096
as02	1	0.0999	0.7520
as04	1	2.0118	0.1561
as05	1	1.0203	0.3124
as11	1	0.1793	0.6720
as12	1	0.3169	0.5735
as15	1	0.7501	0.3864
as21	1	17.1313	<.0001
as22	1	16.7567	<.0001
as23	1	0.0767	0.7818
as25	1	1.4717	0.2251

**Note:** No effects for the model in Step 11 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
as03	0	.	.
as13	1	0.0004	0.9843
as14	1	0.0004	0.9843
as24	0	.	.

**Note:** No (additional) effects met the 0.93 significance level for entry into the model.

Summary of Stepwise Selection							
Step	Effect		DF	Number In	Score Chi-Square	Wald Chi-Square	Pr > ChiSq
	Entered	Removed					
1	as21		1	1	22.7563		<.0001
2	as22		1	2	32.0109		<.0001
3	as05		1	3	4.4094		0.0357
4	as04		1	4	1.7805		0.1821
5	as25		1	5	1.4499		0.2286
6	as11		1	6	0.6643		0.4151
7	as01		1	7	0.6249		0.4292
8	as15		1	8	0.4697		0.4931
9	as12		1	9	0.3653		0.5456

### The LOGISTIC Procedure

Summary of Stepwise Selection							
Step	Effect		DF	Number In	Score Chi-Square	Wald Chi-Square	Pr > ChiSq
	Entered	Removed					
10	as02		1	10	0.0991		0.7529
11	as23		1	11	0.0767		0.7818

Partition for the Hosmer and Lemeshow Test					
Group	Total	Ne = 0		Ne = 1	
		Observed	Expected	Observed	Expected
1	33	0	0.88	33	32.12
2	33	3	1.41	30	31.59
3	33	3	1.84	30	31.16
4	30	0	3.25	30	26.75
5	33	9	10.00	24	23.00
6	33	15	13.08	18	19.92
7	33	21	14.84	12	18.16
8	33	12	16.54	21	16.46
9	48	27	28.17	21	19.83

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
15.0889	7	0.0349