|  |
| --- |
| SUPPLEMENTARY TABLE 2.STEPWISE logistic regression (SLENTRY=0.10. SLSTAY=0.10) Dependent variable: genetic\_dx |
| Independent variables: Age of onset, Seizure type, Epileptiform Abnormality type, Background, Number of seizure medications, Presence of developmental delay |

The LOGISTIC Procedure

| **Model Information** |
| --- |
| **Data Set** | WORK.EPILEPSY2 |
| **Response Variable** | genetic\_dx |
| **Number of Response Levels** | 2 |
| **Model** | binary logit |
| **Optimization Technique** | Fisher's scoring |

|  |  |
| --- | --- |
| **Number of Observations Read** | 105 |
| **Number of Observations Used** | 62 |

| **Response Profile** |
| --- |
| **OrderedValue** | **genetic\_dx** | **TotalFrequency** |
| **1** | 1 | 23 |
| **2** | 0 | 39 |

|  |
| --- |
| **Probability modeled is genetic\_dx=1.** |

|  |  |
| --- | --- |
| Note: | 43 observations were deleted due to missing values for the response or explanatory variables. |

|  |
| --- |
| **Stepwise Selection Procedure** |

|  |
| --- |
| Class Level Information |
| Class | **Value** | **Design Variables** |
| age\_of\_onset | **1-5** | 1 | 0 |
|   | **>5** | 0 | 1 |
|   | **\_<1** | -1 | -1 |
| seiz\_\_type | **Focal .** | 1 |   |
|   | **Generalized** | -1 |   |
| \_epilept\_\_abnorm\_ | **Focal or Multifocal** | 1 | 0 |
|   | **Generalized Spike or Hypsarrhythmia** | 0 | 1 |
|   | **\_None\_ .** | -1 | -1 |
| \_background\_ | **Slow focal** | 1 | 0 |
|   | **Slow generalized** | 0 | 1 |
|   | **\_None .** | -1 | -1 |
| \_num\_\_meds\_ | **0 or 1 .** | 1 |   |
|   | **2 or more** | -1 |   |
| dev\_\_delay | **Yes** | 1 |   |
|   | **\_No** | -1 |   |

|  |
| --- |
| **Step 0. Intercept entered:** |

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

|  |  |  |
| --- | --- | --- |
| **-2 Log L** | = | 81.774 |

| **Analysis of Maximum Likelihood Estimates** |
| --- |
| **Parameter** | **DF** | **Estimate** | **StandardError** | **WaldChi-Square** | **Pr > ChiSq** |
| **Intercept** | 1 | -0.5281 | 0.2629 | 4.0344 | 0.0446 |

| **Residual Chi-Square Test** |
| --- |
| **Chi-Square** | **DF** | **Pr > ChiSq** |
| 8.9076 | 9 | 0.4458 |

|  |
| --- |
| Analysis of Effects Eligible for Entry |
| Effect | **DF** | **ScoreChi-Square** | **Pr > ChiSq** |
| age\_of\_onset | 2 | 3.0598 | 0.2166 |
| seiz\_\_type | 1 | 0.0136 | 0.9073 |
| \_epilept\_\_abnorm\_ | 2 | 0.2406 | 0.8866 |
| \_background\_ | 2 | 2.9472 | 0.2291 |
| \_num\_\_meds\_ | 1 | 0.0136 | 0.9073 |
| dev\_\_delay | 1 | 4.2111 | 0.0402 |

|  |
| --- |
| **Step 1. Effect dev\_\_delay entered:** |

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

|  |
| --- |
| Model Fit Statistics |
| Criterion | **Intercept Only** | **Intercept andCovariates** |
| AIC | 83.774 | 81.688 |
| SC | 85.901 | 85.942 |
| -2 Log L | 81.774 | 77.688 |

|  |  |  |  |
| --- | --- | --- | --- |
| R-Square | 0.0638 | Max-rescaled R-Square | 0.0871 |

|  |
| --- |
| Testing Global Null Hypothesis: BETA=0 |
| Test | **Chi-Square** | **DF** | **Pr > ChiSq** |
| Likelihood Ratio | 4.0865 | 1 | 0.0432 |
| Score | 4.2111 | 1 | 0.0402 |
| Wald | 3.9399 | 1 | 0.0472 |

|  |
| --- |
| Type 3 Analysis of Effects |
| Effect | **DF** | **WaldChi-Square** | **Pr > ChiSq** |
| dev\_\_delay | 1 | 3.9399 | 0.0472 |

| **Analysis of Maximum Likelihood Estimates** |
| --- |
| **Parameter** |  | **DF** | **Estimate** | **StandardError** | **WaldChi-Square** | **Pr > ChiSq** |
| **Intercept** |  | 1 | -0.1743 | 0.3244 | 0.2886 | 0.5911 |
| **dev\_\_delay** | **Yes** | 1 | -0.6440 | 0.3244 | 3.9399 | 0.0472 |

|  |
| --- |
| Odds Ratio Estimates |
| Effect | **Point Estimate** | **95% WaldConfidence Limits** |
| dev\_\_delay Yes vs \_No | 0.276 | 0.077 | 0.984 |

|  |
| --- |
| Association of Predicted Probabilities andObserved Responses |
| Percent Concordant | 30.3 | **Somers' D** | 0.220 |
| Percent Discordant | 8.4 | **Gamma** | 0.568 |
| Percent Tied | 61.3 | **Tau-a** | 0.104 |
| Pairs | 897 | **c** | 0.610 |

| **Residual Chi-Square Test** |
| --- |
| **Chi-Square** | **DF** | **Pr > ChiSq** |
| 5.0085 | 8 | 0.7567 |

| **Analysis of Effects Eligible for Removal** |
| --- |
| **Effect** | **DF** | **WaldChi-Square** | **Pr > ChiSq** |
| **dev\_\_delay** | 1 | 3.9399 | 0.0472 |

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

|  |
| --- |
| Analysis of Effects Eligible for Entry |
| Effect | **DF** | **ScoreChi-Square** | **Pr > ChiSq** |
| age\_of\_onset | 2 | 2.8738 | 0.2377 |
| seiz\_\_type | 1 | 0.0271 | 0.8692 |
| \_epilept\_\_abnorm\_ | 2 | 0.7408 | 0.6904 |
| \_background\_ | 2 | 2.7312 | 0.2552 |
| \_num\_\_meds\_ | 1 | 0.0371 | 0.8473 |

|  |  |
| --- | --- |
| Note: | No (additional) effects met the 0.1 significance level for entry into the model. |

| **Summary of Stepwise Selection** |
| --- |
| **Step** | **Effect** | **DF** | **NumberIn** | **ScoreChi-Square** | **WaldChi-Square** | **Pr > ChiSq** |
| **Entered** | **Removed** |
| **1** | **dev\_\_delay** |  | 1 | 1 | 4.2111 |   | 0.0402 |

|  |
| --- |
| STEPWISE logistic regression (SLENTRY=0.20. SLSTAY=0.20) Dependent variable: genetic\_dx |
| Independent variables: Age of onset, Seizure type, Epileptiform Abnormality type, Background, Number of seizure medications, Presence of developmental delay |

The LOGISTIC Procedure

|  |
| --- |
| Model Information |
| Data Set | WORK.EPILEPSY2 |
| Response Variable | genetic\_dx |
| Number of Response Levels | 2 |
| Model | binary logit |
| Optimization Technique | Fisher's scoring |

|  |  |
| --- | --- |
| **Number of Observations Read** | 105 |
| **Number of Observations Used** | 62 |

| **Response Profile** |
| --- |
| **OrderedValue** | **genetic\_dx** | **TotalFrequency** |
| **1** | 1 | 23 |
| **2** | 0 | 39 |

|  |
| --- |
| **Probability modeled is genetic\_dx=1.** |

|  |  |
| --- | --- |
| Note: | 43 observations were deleted due to missing values for the response or explanatory variables. |

|  |
| --- |
| **Stepwise Selection Procedure** |

|  |
| --- |
| Class Level Information |
| Class | **Value** | **Design Variables** |
| age\_of\_onset | **1-5** | 1 | 0 |
|   | **>5** | 0 | 1 |
|   | **\_<1** | -1 | -1 |
| seiz\_\_type | **Focal .** | 1 |   |
|   | **Generalized** | -1 |   |
| \_epilept\_\_abnorm\_ | **Focal or Multifocal** | 1 | 0 |
|   | **Generalized Spike or Hypsarrhythmia** | 0 | 1 |
|   | **\_None\_ .** | -1 | -1 |
| \_background\_ | **Slow focal** | 1 | 0 |
|   | **Slow generalized** | 0 | 1 |
|   | **\_None .** | -1 | -1 |
| \_num\_\_meds\_ | **0 or 1 .** | 1 |   |
|   | **2 or more** | -1 |   |
| dev\_\_delay | **Yes** | 1 |   |
|   | **\_No** | -1 |   |

|  |
| --- |
| **Step 0. Intercept entered:** |

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

|  |  |  |
| --- | --- | --- |
| **-2 Log L** | = | 81.774 |

| **Analysis of Maximum Likelihood Estimates** |
| --- |
| **Parameter** | **DF** | **Estimate** | **StandardError** | **WaldChi-Square** | **Pr > ChiSq** |
| **Intercept** | 1 | -0.5281 | 0.2629 | 4.0344 | 0.0446 |

| **Residual Chi-Square Test** |
| --- |
| **Chi-Square** | **DF** | **Pr > ChiSq** |
| 8.9076 | 9 | 0.4458 |

|  |
| --- |
| Analysis of Effects Eligible for Entry |
| Effect | **DF** | **ScoreChi-Square** | **Pr > ChiSq** |
| age\_of\_onset | 2 | 3.0598 | 0.2166 |
| seiz\_\_type | 1 | 0.0136 | 0.9073 |
| \_epilept\_\_abnorm\_ | 2 | 0.2406 | 0.8866 |
| \_background\_ | 2 | 2.9472 | 0.2291 |
| \_num\_\_meds\_ | 1 | 0.0136 | 0.9073 |
| dev\_\_delay | 1 | 4.2111 | 0.0402 |

|  |
| --- |
| **Step 1. Effect dev\_\_delay entered:** |

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

| **Model Fit Statistics** |
| --- |
| **Criterion** | **Intercept Only** | **Intercept andCovariates** |
| **AIC** | 83.774 | 81.688 |
| **SC** | 85.901 | 85.942 |
| **-2 Log L** | 81.774 | 77.688 |

|  |  |  |  |
| --- | --- | --- | --- |
| **R-Square** | 0.0638 | **Max-rescaled R-Square** | 0.0871 |

|  |
| --- |
| Testing Global Null Hypothesis: BETA=0 |
| Test | **Chi-Square** | **DF** | **Pr > ChiSq** |
| Likelihood Ratio | 4.0865 | 1 | 0.0432 |
| Score | 4.2111 | 1 | 0.0402 |
| Wald | 3.9399 | 1 | 0.0472 |

| **Type 3 Analysis of Effects** |
| --- |
| **Effect** | **DF** | **WaldChi-Square** | **Pr > ChiSq** |
| **dev\_\_delay** | 1 | 3.9399 | 0.0472 |

|  |
| --- |
| Analysis of Maximum Likelihood Estimates |
| Parameter |  | **DF** | **Estimate** | **StandardError** | **WaldChi-Square** | **Pr > ChiSq** |
| Intercept |  | 1 | -0.1743 | 0.3244 | 0.2886 | 0.5911 |
| dev\_\_delay | **Yes** | 1 | -0.6440 | 0.3244 | 3.9399 | 0.0472 |

|  |
| --- |
| Odds Ratio Estimates |
| Effect | **Point Estimate** | **95% WaldConfidence Limits** |
| dev\_\_delay Yes vs \_No | 0.276 | 0.077 | 0.984 |

|  |
| --- |
| Association of Predicted Probabilities andObserved Responses |
| Percent Concordant | 30.3 | **Somers' D** | 0.220 |
| Percent Discordant | 8.4 | **Gamma** | 0.568 |
| Percent Tied | 61.3 | **Tau-a** | 0.104 |
| Pairs | 897 | **c** | 0.610 |

| **Residual Chi-Square Test** |
| --- |
| **Chi-Square** | **DF** | **Pr > ChiSq** |
| 5.0085 | 8 | 0.7567 |

| **Analysis of Effects Eligible for Removal** |
| --- |
| **Effect** | **DF** | **WaldChi-Square** | **Pr > ChiSq** |
| **dev\_\_delay** | 1 | 3.9399 | 0.0472 |

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

|  |
| --- |
| Analysis of Effects Eligible for Entry |
| Effect | **DF** | **ScoreChi-Square** | **Pr > ChiSq** |
| age\_of\_onset | 2 | 2.8738 | 0.2377 |
| seiz\_\_type | 1 | 0.0271 | 0.8692 |
| \_epilept\_\_abnorm\_ | 2 | 0.7408 | 0.6904 |
| \_background\_ | 2 | 2.7312 | 0.2552 |
| \_num\_\_meds\_ | 1 | 0.0371 | 0.8473 |

|  |  |
| --- | --- |
| Note: | No (additional) effects met the 0.2 significance level for entry into the model. |

| **Summary of Stepwise Selection** |
| --- |
| **Step** | **Effect** | **DF** | **NumberIn** | **ScoreChi-Square** | **WaldChi-Square** | **Pr > ChiSq** |
| **Entered** | **Removed** |
| **1** | **dev\_\_delay** |  | 1 | 1 | 4.2111 |   | 0.0402 |