```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

## Multilayer Perceptron

**Notes**

| | | |
|---|---|---|
| Output Created | | 10-DEC-2020 15:56:44 |
| Comments | | |
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |

| | |
|---|---|
| Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | not applicable |
| Syntax | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |

| | | |
|---|---|---|
| Resources | Processor Time | 00:00:00.50 |
| | Elapsed Time | 00:00:00.52 |

**Case Processing Summary**

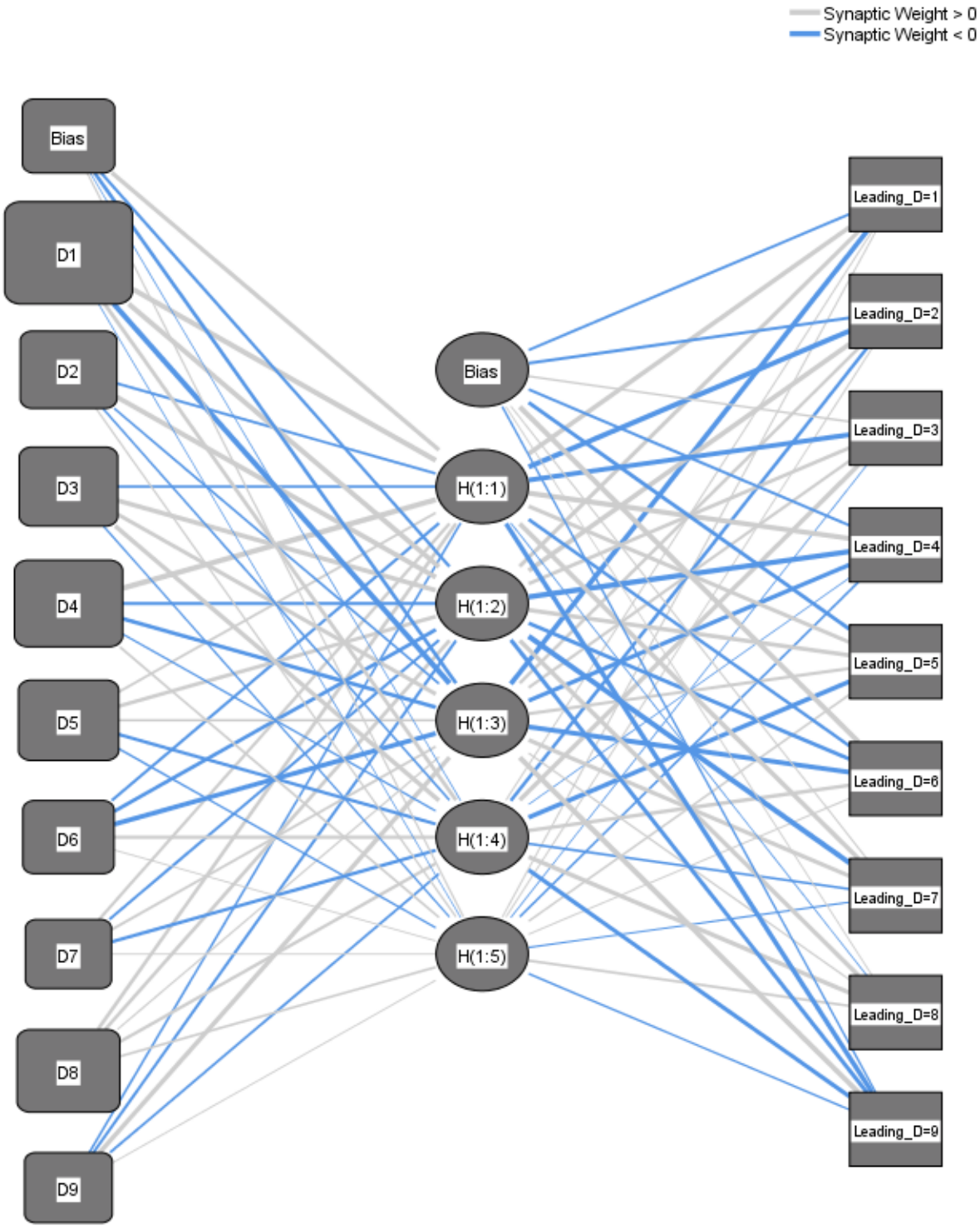
| | | N | Percent |
|---|---|---|---|
| Sample | Training | 75 | 72.1% |
| | Testing | 29 | 27.9% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

**Network Information**

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 5 |
| | Activation Function | | Hyperbolic tangent |

| | | | |
|---|---|---|---|
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

**Model Summary**

| | | |
|---|---|---|
| Training | Cross Entropy Error | 33.846 |
| | Percent Incorrect Predictions | 17.3% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.05 |
| Testing | Cross Entropy Error | 15.447 |
| | Percent Incorrect Predictions | 13.8% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

| | | Predicted | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Hidden Layer 1 | | | | | Output Layer | | | | | | | | |
| Predictor | | H(1:1) | H(1:2) | H(1:3) | H(1:4) | H(1:5) | [Leading_D=1] | [Leading_D=2] | [Leading_D=3] | [Leading_D=4] | [Leading_D=5] | [Leading_D=6] | [Leading_D=7] | [Leading_D=8] | [Leading_D=9] |
| Input Layer | (Bias) | 1.411 | -.736 | -1.015 | -.022 | .212 | | | | | | | | | |
| | D1 | 2.634 | 2.444 | -3.299 | 1.038 | .000 | | | | | | | | | |
| | D2 | -.533 | 2.404 | -.378 | -.333 | .232 | | | | | | | | | |
| | D3 | -.605 | 1.818 | 1.173 | 1.618 | -.265 | | | | | | | | | |
| | D4 | 3.402 | -.804 | -1.151 | -.270 | .395 | | | | | | | | | |
| | D5 | .437 | 1.116 | .474 | -.839 | -.273 | | | | | | | | | |
| | D6 | -.699 | -1.108 | -2.067 | .940 | .088 | | | | | | | | | |
| | D7 | .700 | -.626 | .485 | -.884 | .068 | | | | | | | | | |
| | D8 | .941 | 1.002 | .203 | .837 | .409 | | | | | | | | | |
| | D9 | -.371 | -.673 | 1.723 | -.445 | .105 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | | -.575 | -.735 | .305 | -.654 | -1.124 | 2.538 | .171 | .082 | -.274 |
| | H(1:1) | | | | | | 1.730 | -2.612 | -2.198 | 2.504 | 1.266 | -.880 | 1.943 | -.065 | -1.969 |
| | H(1:2) | | | | | | 1.267 | 2.115 | 1.032 | -2.740 | 1.389 | -1.128 | -3.259 | 1.537 | -1.305 |
| | H(1:3) | | | | | | -2.468 | .812 | .684 | -1.457 | .786 | -2.157 | 1.360 | .221 | 2.640 |
| | H(1:4) | | | | | | .150 | -.891 | 1.682 | -.024 | -1.759 | 1.035 | -.413 | 1.619 | -1.403 |
| | H(1:5) | | | | | | .177 | .106 | -.030 | -.370 | .307 | .148 | -.202 | .496 | -.286 |

**Classification**

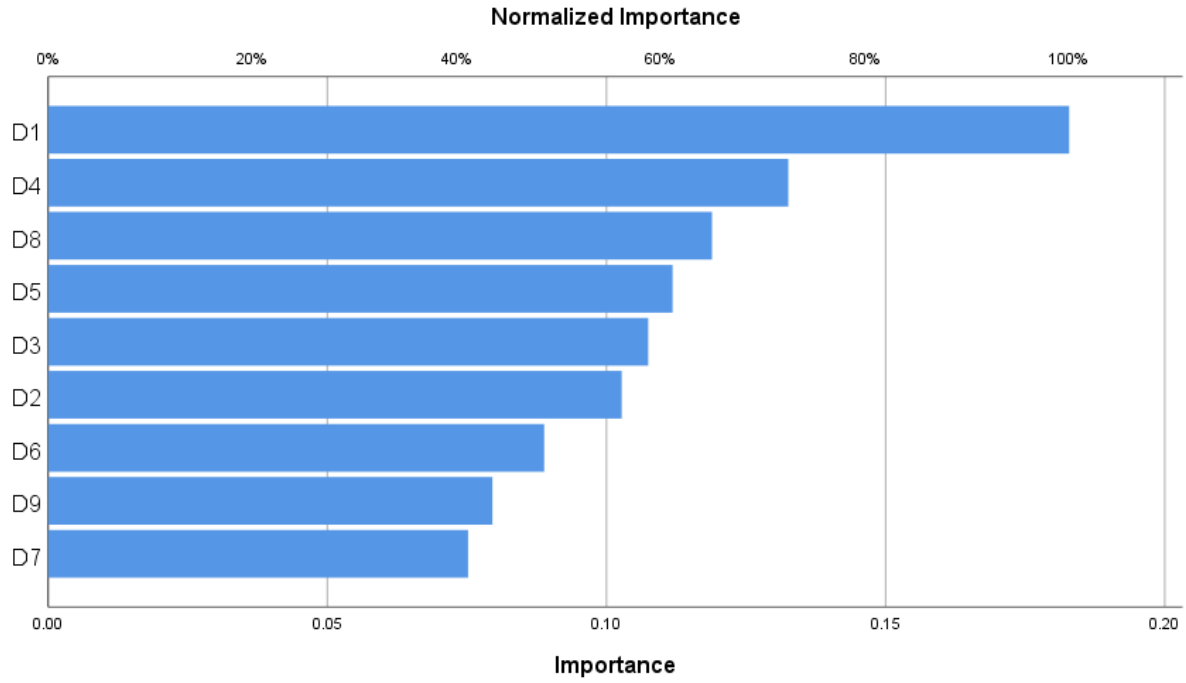
| | | Predicted | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample | Observed | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
| Training | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 83.3% |
| | 3 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 4 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 83.3% |
| | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 4 | 0 | 2 | 1 | 0 | 14 | 0 | 0 | 1 | 63.6% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 0 | 0 | 90.0% |
| | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 50.0% |
| | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 88.9% |
| | Overall Percent | 22.7% | 8.0% | 12.0% | 8.0% | 2.7% | 21.3% | 12.0% | 1.3% | 12.0% | 82.7% |
| Testing | 1 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 75.0% |
| | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 66.7% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 100.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 33.3% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 100.0% |
| | Overall Percent | 31.0% | 3.4% | 10.3% | 3.4% | 6.9% | 10.3% | 13.8% | 3.4% | 17.2% | 86.2% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .183 | 100.0% |
| SANITATION AND HYGIENE | .103 | 56.2% |
| ISOLATION OF INFECTED | .107 | 58.8% |
| TOTAL ISOLATION | .133 | 72.5% |
| HEALTH CARE | .112 | 61.2% |
| VIRUS DISSEMINATION | .089 | 48.6% |
| LIFESTYLE CHANGES | .075 | 41.1% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .119 | 65.0% |
| BUREAUCRATIC RESPONSE | .080 | 43.5% |




```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

## Multilayer Perceptron

**Notes**

| | |
|---|---|
| Output Created | 10-DEC-2020 15:56:52 |
| Comments | |

| | | |
|---|---|---|
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |
| | Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | not applicable |

| | | |
|---|---|---|
| Syntax | | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |
| Resources | Processor Time | 00:00:00.52 |
| | Elapsed Time | 00:00:00.54 |

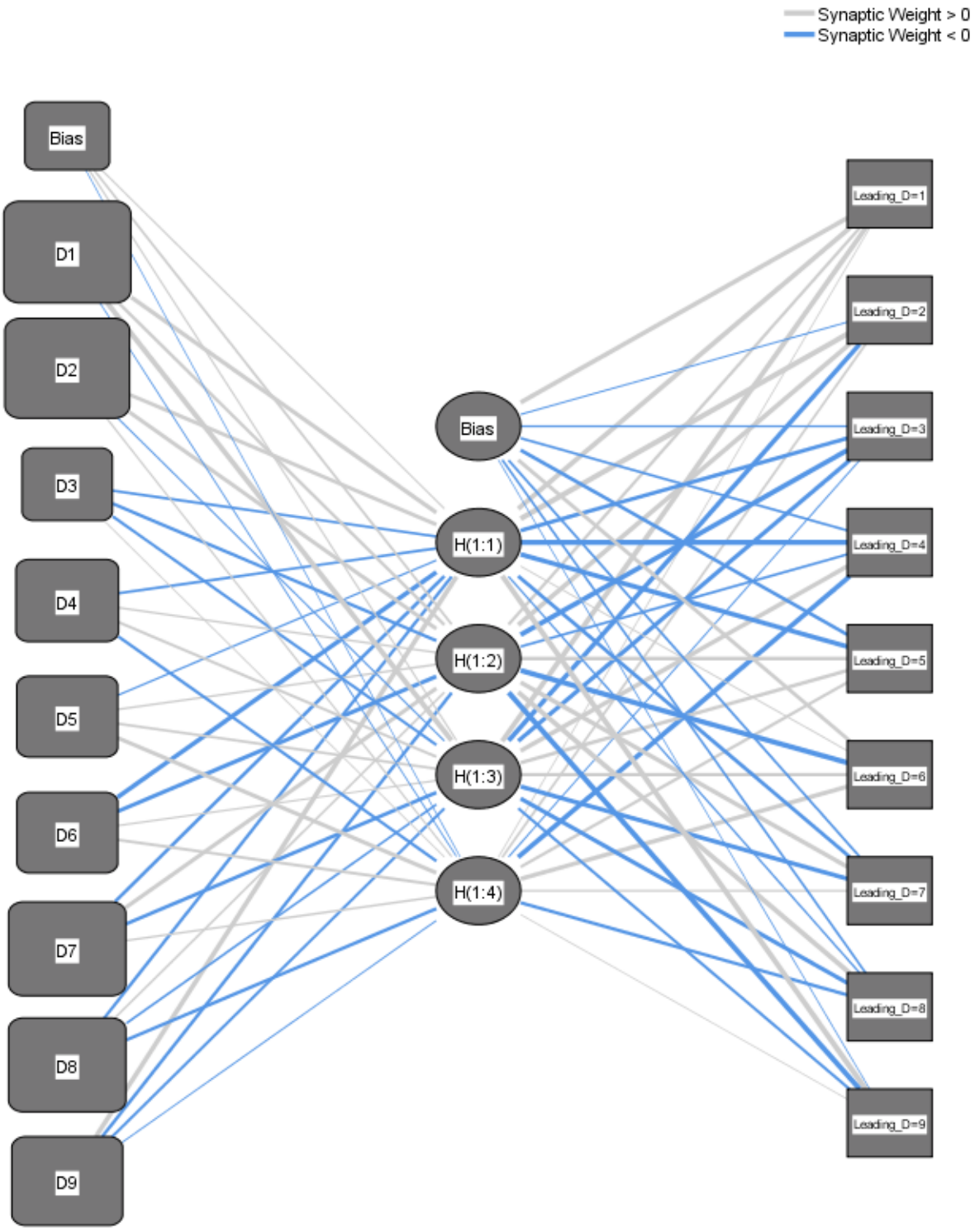
## Case Processing Summary

| | | N | Percent |
|---|---|---|---|
| Sample | Training | 59 | 56.7% |
| | Testing | 45 | 43.3% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

## Network Information

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 4 |
| | Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

## Model Summary

| | | |
|---|---|---|
| Training | Cross Entropy Error | 11.982 |
| | Percent Incorrect Predictions | 8.5% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.08 |
| Testing | Cross Entropy Error | 59.852 |
| | Percent Incorrect Predictions | 22.2% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

| | | Predicted | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Hidden Layer 1 | | | | Output Layer | | | | | | | | |
| Predictor | | H(1:1) | H(1:2) | H(1:3) | H(1:4) | [Leading_D =1] | [Leading_D =2] | [Leading_D =3] | [Leading_D =4] | [Leading_D =5] | [Leading_D =6] | [Leading_D =7] | [Leading_D =8] | [Leading_D =9] |
| Input Layer | (Bias) | .562 | .878 | .573 | -.018 | | | | | | | | | |
| | D1 | 2.153 | 1.245 | 3.258 | -.350 | | | | | | | | | |
| | D2 | 1.771 | 1.810 | -.512 | .599 | | | | | | | | | |
| | D3 | -.943 | -1.339 | -1.103 | .293 | | | | | | | | | |
| | D4 | -1.006 | .653 | 1.040 | -1.185 | | | | | | | | | |
| | D5 | -.620 | .668 | .938 | 1.961 | | | | | | | | | |
| | D6 | -2.356 | -2.005 | .590 | 1.114 | | | | | | | | | |
| | D7 | -1.501 | 1.907 | -1.766 | .716 | | | | | | | | | |
| | D8 | -1.255 | .792 | -.803 | -1.448 | | | | | | | | | |
| | D9 | 2.508 | -1.377 | -1.049 | -.403 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | 2.393 | -.429 | -.798 | -.898 | -1.611 | 1.769 | -.870 | -.828 | -.031 |
| | H(1:1) | | | | | 2.622 | 4.027 | -1.845 | -3.634 | -2.539 | .370 | -1.769 | -.628 | 4.497 |
| | H(1:2) | | | | | 1.163 | 2.475 | -3.038 | -.929 | 1.785 | -3.377 | 2.255 | 2.694 | -3.730 |
| | H(1:3) | | | | | 3.137 | -2.450 | -2.178 | 2.343 | 1.743 | 1.523 | -2.264 | -2.032 | -1.057 |
| | H(1:4) | | | | | .263 | .865 | -.411 | -2.696 | 1.226 | 2.192 | .642 | -1.395 | .069 |

## Classification

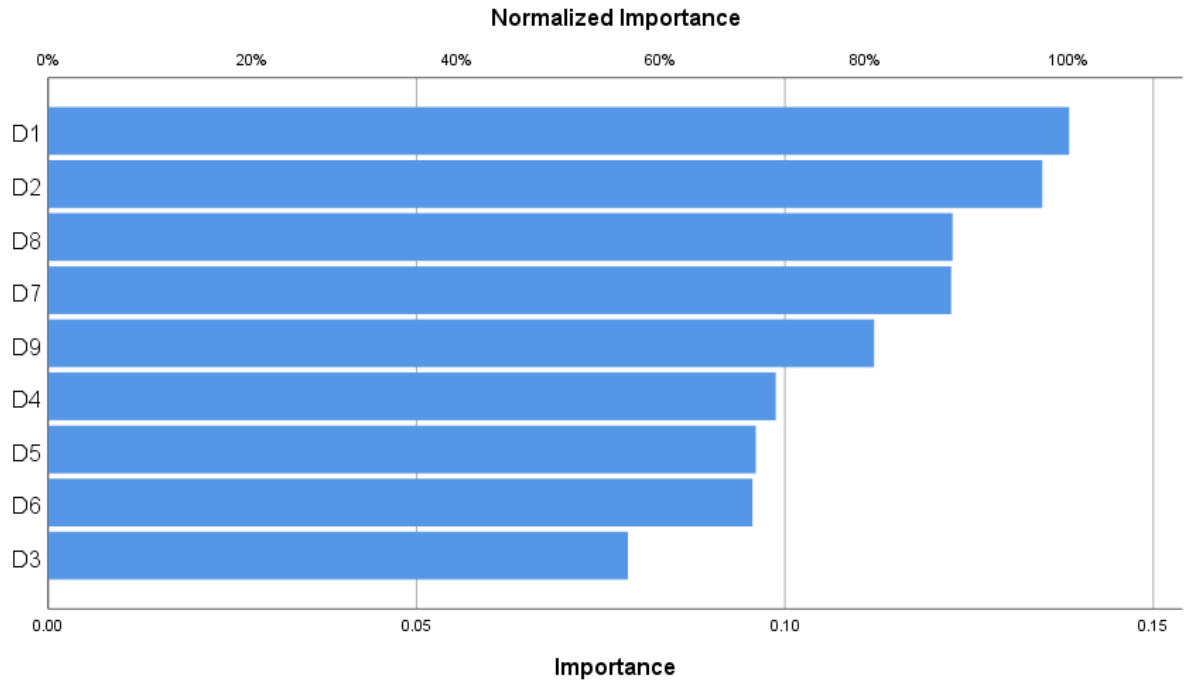
| Sample | Observed | Predicted 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Training | 1 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 5 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 2 | 0 | 2 | 0 | 0 | 4 | 0 | 0 | 0 | 50.0% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 83.3% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 100.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 100.0% |
| | Overall Percent | 30.5% | 6.8% | 11.9% | 6.8% | 5.1% | 6.8% | 8.5% | 6.8% | 16.9% | 91.5% |
| Testing | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 60.0% |
| | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 80.0% |
| | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 1 | 0 | 1 | 1 | 0 | 11 | 2 | 0 | 1 | 64.7% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 100.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 100.0% |
| | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 50.0% |
| | Overall Percent | 8.9% | 13.3% | 11.1% | 11.1% | 2.2% | 24.4% | 20.0% | 4.4% | 4.4% | 77.8% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .139 | 100.0% |
| SANITATION AND HYGIENE | .135 | 97.4% |
| ISOLATION OF INFECTED | .079 | 56.8% |
| TOTAL ISOLATION | .099 | 71.3% |
| HEALTH CARE | .096 | 69.3% |

| | | |
|---|---|---|
| VIRUS DISSEMINATION | .096 | 69.0% |
| LIFESTYLE CHANGES | .123 | 88.4% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .123 | 88.6% |
| BUREAUCRATIC RESPONSE | .112 | 80.9% |




```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

## Multilayer Perceptron

## Notes

| | | |
|---|---|---|
| Output Created | | 10-DEC-2020 15:56:59 |
| Comments | | |
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |
| | Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | not applicable |

| | | |
|---|---|---|
| Syntax | | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |
| Resources | Processor Time | 00:00:00.59 |
| | Elapsed Time | 00:00:00.58 |

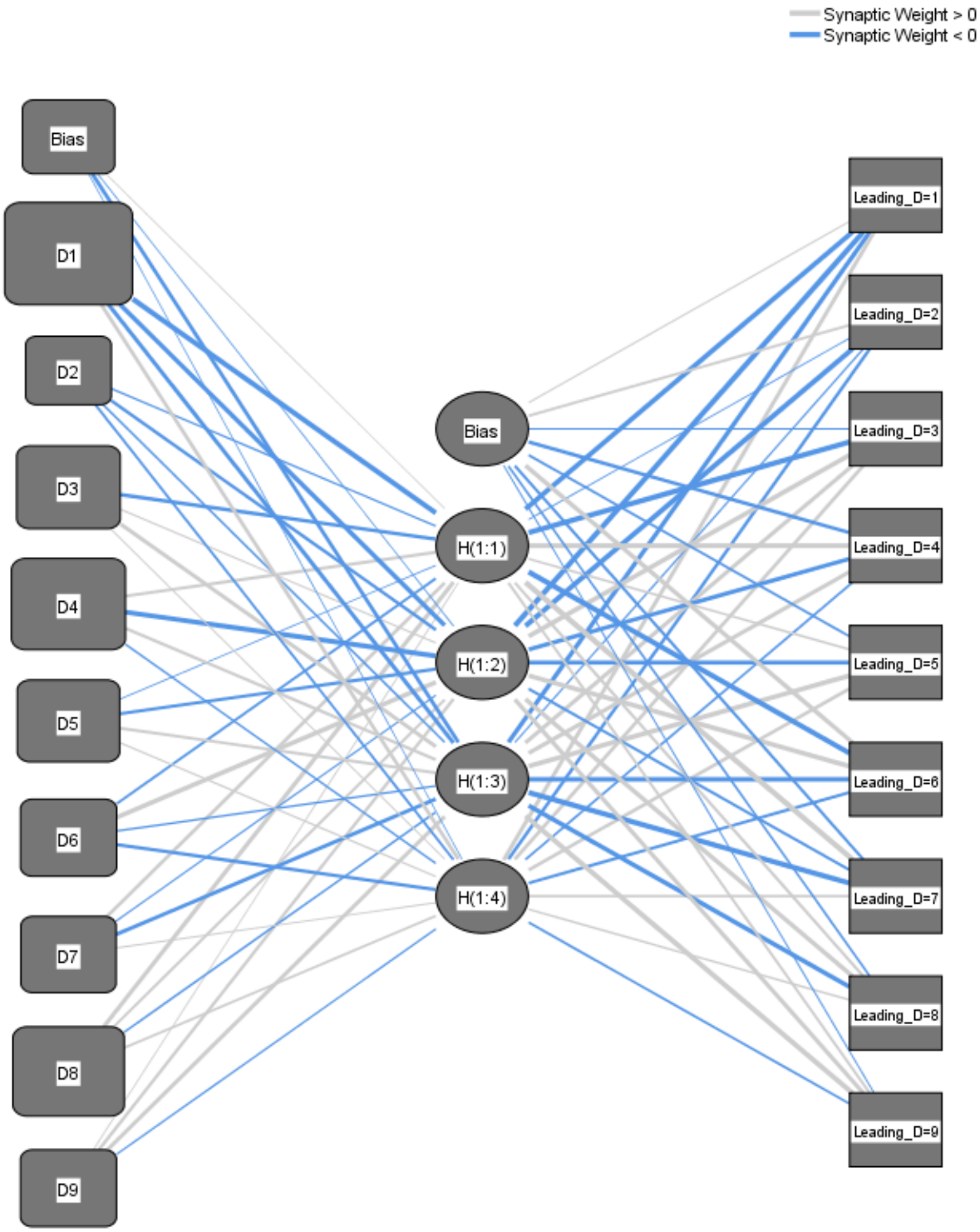
## Case Processing Summary

| | | N | Percent |
|---|---|---|---|
| Sample | Training | 78 | 75.0% |
| | Testing | 26 | 25.0% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

## Network Information

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 4 |
| | Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

## Model Summary

| | | |
|---|---|---|
| Training | Cross Entropy Error | 32.859 |
| | Percent Incorrect Predictions | 15.4% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.09 |
| Testing | Cross Entropy Error | 23.847 |
| | Percent Incorrect Predictions | 15.4% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

| | | Predicted | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Hidden Layer 1 | | | | Output Layer | | | | | | | | |
| Predictor | | H(1:1) | H(1:2) | H(1:3) | H(1:4) | [Leading_D =1] | [Leading_D =2] | [Leading_D =3] | [Leading_D =4] | [Leading_D =5] | [Leading_D =6] | [Leading_D =7] | [Leading_D =8] | [Leading_D =9] |
| Input Layer | (Bias) | .027 | -.087 | -1.041 | -.059 | | | | | | | | | |
| | D1 | -2.132 | -1.481 | -1.265 | 1.029 | | | | | | | | | |
| | D2 | -.447 | -.890 | -.560 | -.692 | | | | | | | | | |
| | D3 | -1.038 | .290 | 1.172 | .206 | | | | | | | | | |
| | D4 | .886 | -1.868 | .842 | -.456 | | | | | | | | | |
| | D5 | -.148 | -.900 | .819 | .371 | | | | | | | | | |
| | D6 | -.705 | 1.495 | -.469 | -.940 | | | | | | | | | |
| | D7 | .941 | -.354 | -1.159 | .244 | | | | | | | | | |
| | D8 | 1.351 | .753 | -.530 | .679 | | | | | | | | | |
| | D9 | .176 | .855 | 1.224 | -.394 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | .263 | .739 | -.212 | -1.010 | -.608 | 1.379 | -.774 | -.564 | -.233 |
| | H(1:1) | | | | | -1.853 | -.196 | -2.328 | 1.847 | .588 | -2.167 | 2.365 | .794 | .737 |
| | H(1:2) | | | | | -2.190 | -1.937 | 1.753 | -1.369 | -1.378 | 1.818 | -.765 | 1.400 | 1.343 |
| | H(1:3) | | | | | -1.418 | -.364 | 1.232 | 1.292 | 1.824 | -1.759 | -2.161 | -1.628 | 1.915 |
| | H(1:4) | | | | | 1.209 | -.894 | .991 | -.599 | .936 | -.824 | .723 | .507 | -.602 |

## Classification

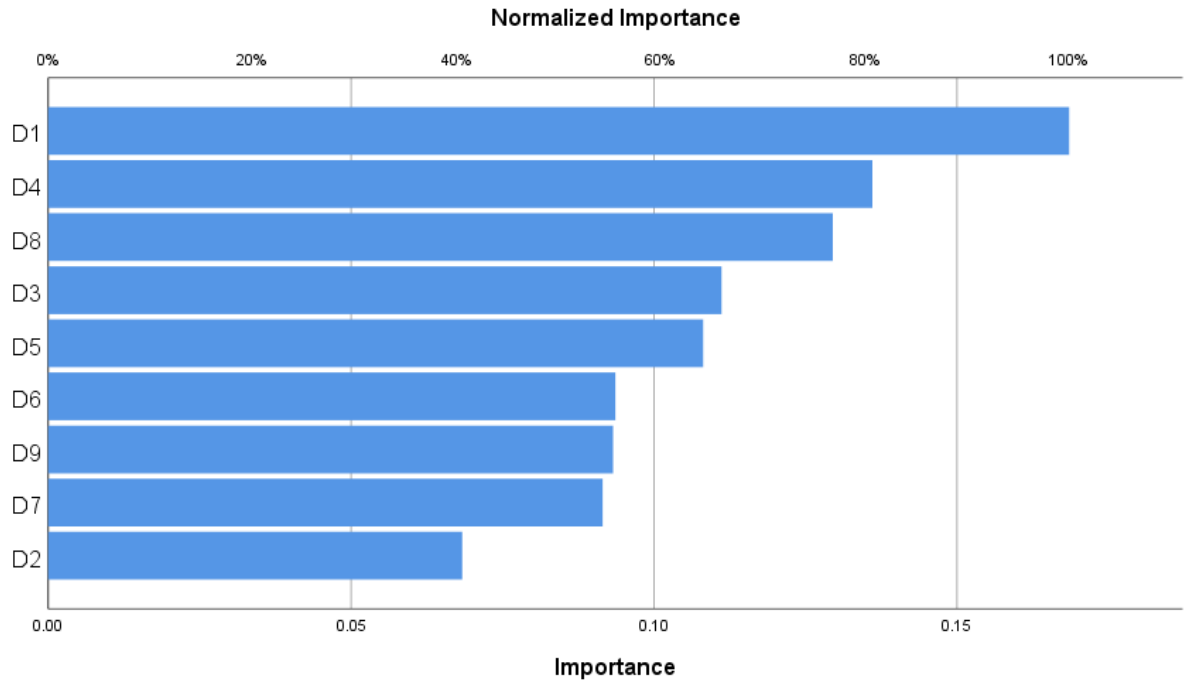
| Sample | Observed | Predicted 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Training | 1 | 13 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 92.9% |
| | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 50.0% |
| | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 5 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 3 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 1 | 81.0% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | 1 | 0 | 83.3% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 66.7% |
| | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 87.5% |
| | Overall Percent | 20.5% | 9.0% | 3.8% | 5.1% | 5.1% | 28.2% | 14.1% | 3.8% | 10.3% | 84.6% |
| Testing | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 50.0% |
| | 4 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 66.7% |
| | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% |
| | 6 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 75.0% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 100.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 100.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 100.0% |
| | Overall Percent | 30.8% | 3.8% | 7.7% | 11.5% | 0.0% | 19.2% | 3.8% | 7.7% | 15.4% | 84.6% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .169 | 100.0% |
| SANITATION AND HYGIENE | .068 | 40.6% |
| ISOLATION OF INFECTED | .111 | 66.0% |
| TOTAL ISOLATION | .136 | 80.7% |
| HEALTH CARE | .108 | 64.2% |

| | | |
|---|---|---|
| VIRUS DISSEMINATION | .094 | 55.6% |
| LIFESTYLE CHANGES | .092 | 54.3% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .129 | 76.8% |
| BUREAUCRATIC RESPONSE | .093 | 55.3% |




```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

## Multilayer Perceptron

## Notes

| | | |
|---|---|---|
| Output Created | | 10-DEC-2020 15:57:07 |
| Comments | | |
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |
| | Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | not applicable |

| | | |
|---|---|---|
| Syntax | | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |
| Resources | Processor Time | 00:00:00.61 |
| | Elapsed Time | 00:00:00.56 |

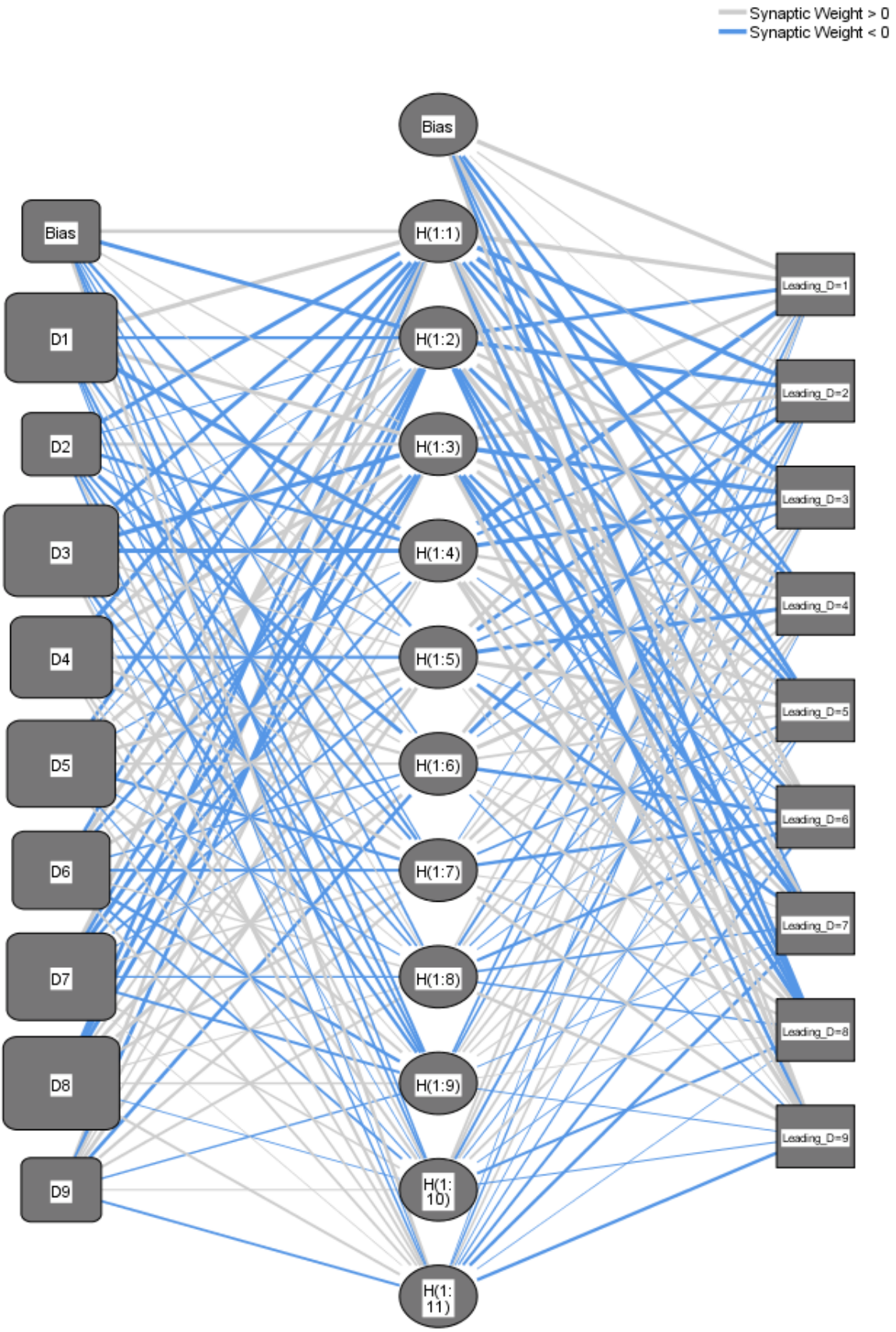
## Case Processing Summary

| | | N | Percent |
|---|---|---|---|
| Sample | Training | 72 | 69.2% |
| | Testing | 32 | 30.8% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

## Network Information

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 11 |
| | Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

## Model Summary

| | | |
|---|---|---|
| Training | Cross Entropy Error | 14.650 |
| | Percent Incorrect Predictions | 8.3% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.09 |
| Testing | Cross Entropy Error | 16.078 |
| | Percent Incorrect Predictions | 15.6% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

| Predictor | | Predicted: Hidden Layer 1 H(1:1) | H(1:2) | H(1:3) | H(1:4) | H(1:5) | H(1:6) | H(1:7) | H(1:8) | H(1:9) | H(1:10) | H(1:11) | Predicted: Output Layer [Leading D= 1] | [Leading D= 2] | [Leading D= 3] | [Leading D= 4] | [Leading D= 5] | [Leading D= 6] | [Leading D= 7] | [Leading D= 8] | [Leading D= 9] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Input Layer | (Bias) | .667 | -1.167 | .159 | .026 | -.432 | -.206 | -.137 | -.251 | -.371 | -.207 | .492 | | | | | | | | | |
| | D1 | 1.551 | -.429 | 1.175 | -1.726 | .137 | .069 | -.424 | .069 | -.342 | -.258 | -.085 | | | | | | | | | |
| | D2 | -1.198 | -.073 | .424 | -.536 | -.121 | -1.012 | -.367 | -.218 | -.395 | .239 | -.201 | | | | | | | | | |
| | D3 | -1.195 | -.036 | -1.954 | -1.350 | .171 | .128 | .163 | -.237 | -.433 | -.026 | .442 | | | | | | | | | |
| | D4 | -1.709 | 1.145 | 1.219 | .017 | -.393 | .377 | .651 | .069 | .073 | .371 | .258 | | | | | | | | | |
| | D5 | -.964 | -.131 | .931 | -.140 | .885 | .279 | -.450 | -.119 | .364 | -.121 | .212 | | | | | | | | | |
| | D6 | -.737 | 2.654 | -.636 | .002 | .707 | -.189 | -.374 | .185 | -.451 | -.279 | .262 | | | | | | | | | |
| | D7 | 1.975 | -.716 | -1.496 | -.445 | -.290 | -.094 | .215 | -.145 | -.349 | .206 | .007 | | | | | | | | | |
| | D8 | -.716 | -1.449 | -1.275 | .310 | .789 | .742 | .427 | .096 | .189 | -.046 | .314 | | | | | | | | | |
| | D9 | .627 | -.908 | .416 | .189 | .783 | -.654 | .398 | .329 | -.180 | .072 | -.301 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | | | | | | | | 1.610 | .130 | .003 | -.652 | -1.370 | 2.571 | -.313 | -1.054 | .585 |
| | H(1:1) | | | | | | | | | | | | 2.230 | -2.041 | -2.381 | -.836 | -1.088 | .335 | 3.270 | -1.337 | 2.053 |
| | H(1:2) | | | | | | | | | | | | -1.075 | -1.927 | .543 | 2.188 | -1.070 | 3.907 | -.960 | -1.423 | -.598 |
| | H(1:3) | | | | | | | | | | | | 1.113 | .861 | -2.882 | 2.803 | 1.142 | -.570 | -3.142 | -2.162 | 1.657 |
| | H(1:4) | | | | | | | | | | | | -3.289 | -.376 | -1.359 | .431 | .813 | -.087 | .451 | 1.301 | 1.545 |
| | H(1:5) | | | | | | | | | | | | .869 | -.980 | -.256 | -1.252 | 1.210 | -.036 | -.746 | 1.077 | .036 |
| | H(1:6) | | | | | | | | | | | | .672 | -1.268 | -.115 | 1.150 | .292 | -.672 | .078 | .464 | -.131 |
| | H(1:7) | | | | | | | | | | | | -.051 | .170 | .572 | .264 | -.239 | -.564 | .063 | .340 | .544 |
| | H(1:8) | | | | | | | | | | | | .192 | -.362 | .221 | -.120 | -.047 | -.427 | -.222 | -.192 | .465 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H(1:9) | | | | | | | | | | | | | -.219 | -.214 | .137 | .255 | .163 | .112 | -.034 | .011 | -.060 |
| H(1:10) | | | | | | | | | | | | | .299 | .316 | -.332 | .298 | -.073 | .258 | -.045 | -.349 | -.076 |
| H(1:11) | | | | | | | | | | | | | -.025 | -.168 | .202 | -.029 | -.133 | -.347 | -.467 | -.006 | -.473 |

## Classification

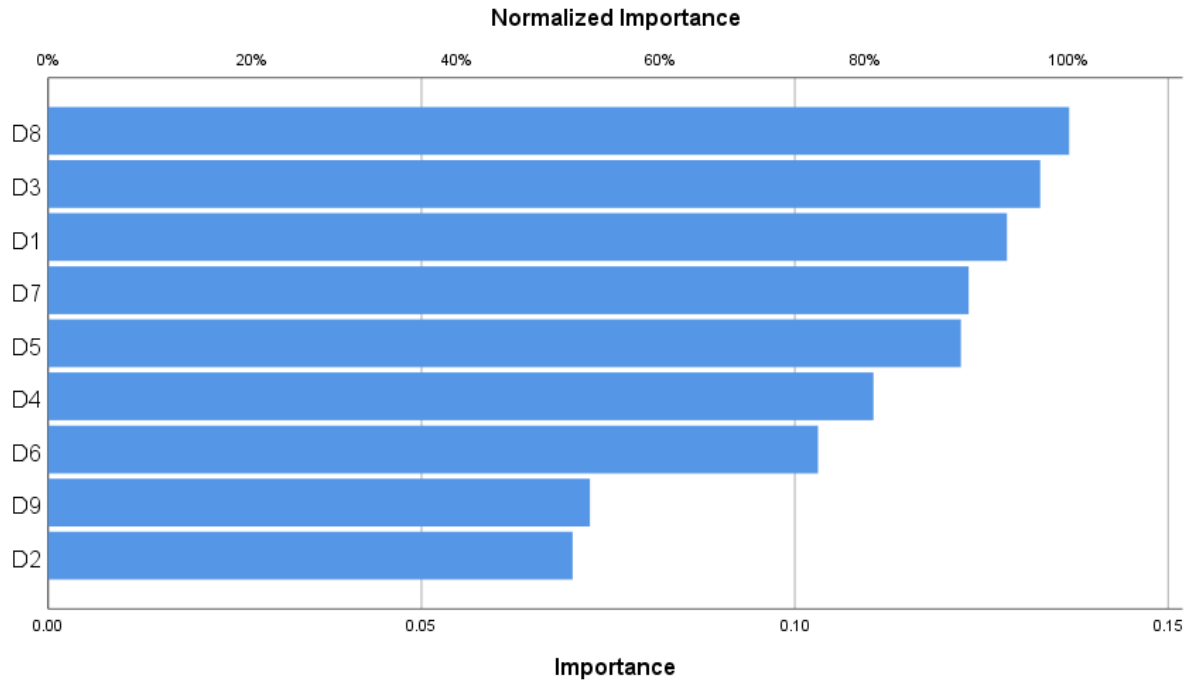
| | | Predicted | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample | Observed | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
| Training | 1 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 4 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 85.7% |
| | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 1 | 0 | 1 | 0 | 0 | 15 | 0 | 0 | 1 | 83.3% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 0 | 0 | 90.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 100.0% |
| | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 83.3% |
| | Overall Percent | 19.4% | 11.1% | 11.1% | 8.3% | 1.4% | 23.6% | 12.5% | 4.2% | 8.3% | 91.7% |
| Testing | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% |
| | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% |
| | 5 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 66.7% |
| | 6 | 1 | 0 | 2 | 0 | 0 | 4 | 0 | 0 | 0 | 57.1% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 100.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 50.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 100.0% |
| | Overall Percent | 31.3% | 0.0% | 15.6% | 0.0% | 6.3% | 12.5% | 12.5% | 3.1% | 18.8% | 84.4% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .128 | 93.9% |

| | | |
|---|---|---|
| SANITATION AND HYGIENE | .070 | 51.4% |
| ISOLATION OF INFECTED | .133 | 97.2% |
| TOTAL ISOLATION | .111 | 80.8% |
| HEALTH CARE | .122 | 89.4% |
| VIRUS DISSEMINATION | .103 | 75.4% |
| LIFESTYLE CHANGES | .123 | 90.2% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .137 | 100.0% |
| BUREAUCRATIC RESPONSE | .073 | 53.1% |




```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

# Multilayer Perceptron

**Notes**

| | | |
|---|---|---|
| Output Created | | 10-DEC-2020 15:57:17 |
| Comments | | |
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |
| | Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | not applicable |

| | | |
|---|---|---|
| Syntax | | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |
| Resources | Processor Time | 00:00:00.53 |
| | Elapsed Time | 00:00:00.54 |

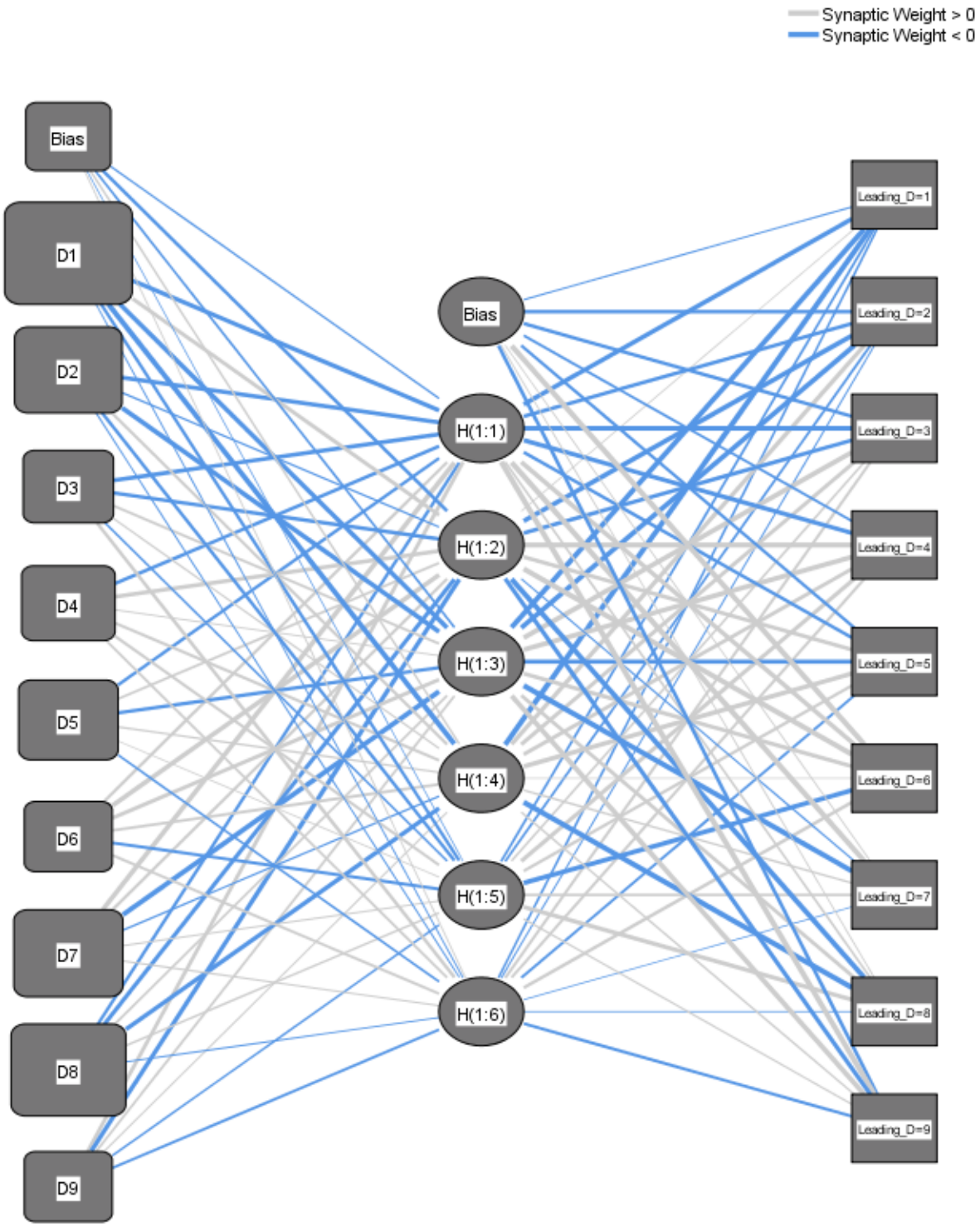
## Case Processing Summary

| | | N | Percent |
|---|---|---|---|
| Sample | Training | 73 | 70.2% |
| | Testing | 31 | 29.8% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

## Network Information

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 6 |
| | Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

## Model Summary

| | | |
|---|---|---|
| Training | Cross Entropy Error | 8.221 |
| | Percent Incorrect Predictions | 5.5% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.05 |
| Testing | Cross Entropy Error | 40.837 |
| | Percent Incorrect Predictions | 32.3% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

| | | Predicted | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Hidden Layer 1 | | | | | | Output Layer | | | | | | |
| Predictor | | H(1:1) | H(1:2) | H(1:3) | H(1:4) | H(1:5) | H(1:6) | [Leading_D=1] | [Leading_D=2] | [Leading_D=3] | [Leading_D=4] | [Leading_D=5] | [Leading_D=6] | [Leading_D=7] | [Leading_D=8] | [Leading_D=9] |
| Input Layer | (Bias) | -.312 | -.906 | -.402 | .361 | -.007 | .112 | | | | | | | | | |
| | D1 | -1.559 | 1.144 | -1.763 | -2.420 | -.811 | -.127 | | | | | | | | | |
| | D2 | -1.363 | -.307 | -1.970 | .614 | -.815 | -.136 | | | | | | | | | |
| | D3 | -1.250 | -1.063 | .535 | .251 | -.381 | .878 | | | | | | | | | |
| | D4 | -.907 | 1.191 | .124 | .622 | .590 | .507 | | | | | | | | | |
| | D5 | -.788 | .497 | -.934 | .310 | .054 | -.401 | | | | | | | | | |
| | D6 | .679 | 1.682 | 1.146 | .612 | -.721 | .554 | | | | | | | | | |
| | D7 | 2.027 | .670 | -2.229 | -.299 | .143 | .212 | | | | | | | | | |
| | D8 | -.793 | -1.216 | .428 | -1.535 | .374 | -.134 | | | | | | | | | |
| | D9 | 1.123 | -1.579 | .475 | .188 | -.363 | -.551 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | | | -.195 | -1.003 | -.971 | -.528 | -.700 | 3.116 | .065 | .090 | -1.022 |
| | H(1:1) | | | | | | | -1.651 | -1.061 | -2.246 | -1.564 | -.881 | 1.632 | 3.451 | .394 | 3.777 |
| | H(1:2) | | | | | | | .038 | -2.045 | -1.166 | 2.274 | 1.163 | 2.838 | -.232 | -2.415 | -1.420 |
| | H(1:3) | | | | | | | -2.656 | -2.136 | 2.075 | 2.054 | -1.304 | 1.176 | -3.004 | 1.041 | 2.122 |
| | H(1:4) | | | | | | | -3.344 | 1.407 | 1.154 | 1.111 | 1.708 | .036 | .339 | -3.381 | .317 |
| | H(1:5) | | | | | | | -.455 | -.432 | .393 | 1.201 | .684 | -2.008 | .540 | 1.369 | .246 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H(1:6) | | | | | | | -.401 | -.164 | .557 | .582 | -.546 | .872 | -.020 | -.113 | -.675 |

**Classification**

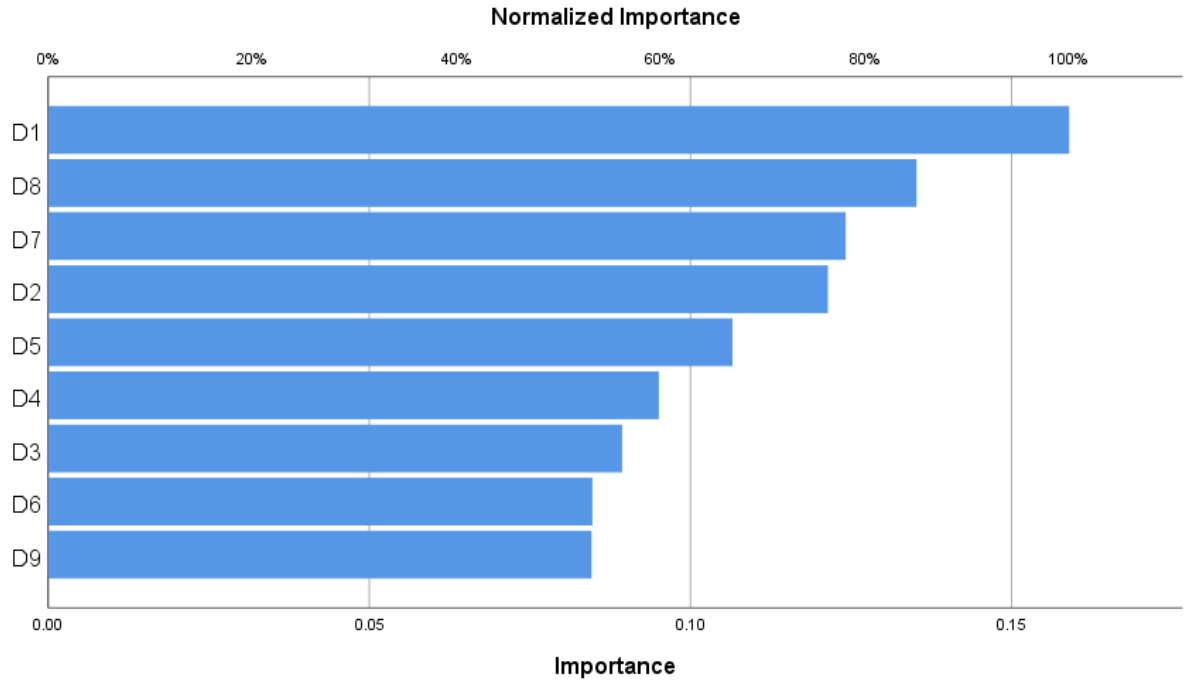
| Sample | Observed | Predicted 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Training | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 2 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 89.5% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 0 | 0 | 92.3% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 75.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 100.0% |
| | Overall Percent | 21.9% | 6.8% | 6.8% | 4.1% | 1.4% | 24.7% | 17.8% | 4.1% | 12.3% | 94.5% |
| Testing | 1 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 85.7% |
| | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 1 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 60.0% |
| | 4 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 50.0% |
| | 5 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 1 | 50.0% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% |
| | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% |
| | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 66.7% |
| | Overall Percent | 22.6% | 12.9% | 16.1% | 6.5% | 9.7% | 22.6% | 0.0% | 0.0% | 9.7% | 67.7% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .159 | 100.0% |
| SANITATION AND HYGIENE | .121 | 76.4% |
| ISOLATION OF INFECTED | .089 | 56.2% |

| | | |
|---|---|---|
| TOTAL ISOLATION | .095 | 59.8% |
| HEALTH CARE | .107 | 67.0% |
| VIRUS DISSEMINATION | .085 | 53.3% |
| LIFESTYLE CHANGES | .124 | 78.1% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .135 | 85.1% |
| BUREAUCRATIC RESPONSE | .085 | 53.2% |




```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

## Multilayer Perceptron

## Notes

| | | |
|---|---|---|
| Output Created | | 10-DEC-2020 15:57:25 |
| Comments | | |
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |
| | Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | not applicable |

| | | |
|---|---|---|
| Syntax | | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |
| Resources | Processor Time | 00:00:00.52 |
| | Elapsed Time | 00:00:00.58 |

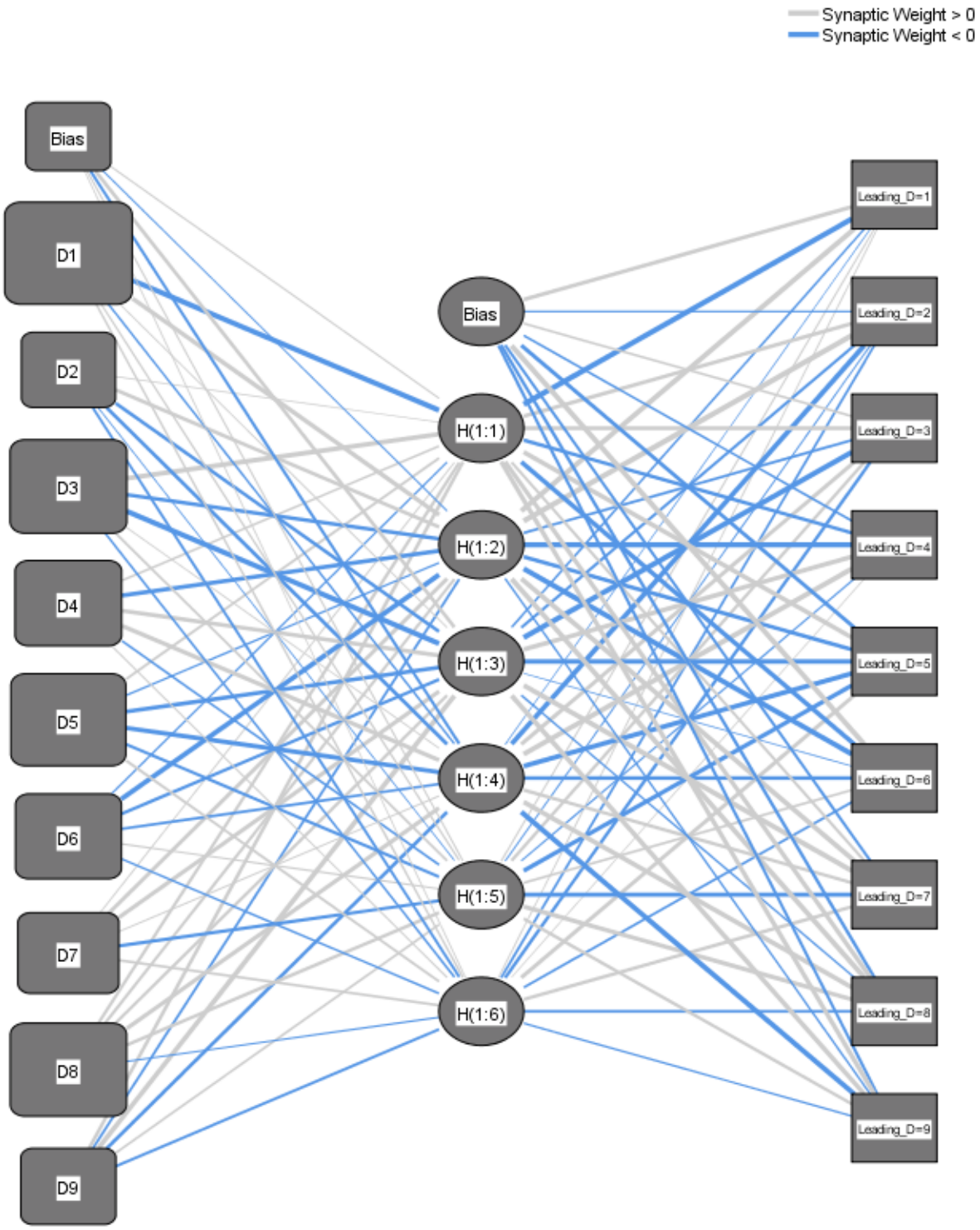
## Case Processing Summary

| | | N | Percent |
|---|---|---|---|
| Sample | Training | 76 | 73.1% |
| | Testing | 28 | 26.9% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

## Network Information

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 6 |
| | Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

## Model Summary

| | | |
|---|---|---|
| Training | Cross Entropy Error | 14.282 |
| | Percent Incorrect Predictions | 9.2% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.08 |
| Testing | Cross Entropy Error | 8.563 |
| | Percent Incorrect Predictions | 17.9% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

| Predictor | | Predicted: Hidden Layer 1 H(1:1) | H(1:2) | H(1:3) | H(1:4) | H(1:5) | H(1:6) | Predicted: Output Layer [Leading_D=1] | [Leading_D=2] | [Leading_D=3] | [Leading_D=4] | [Leading_D=5] | [Leading_D=6] | [Leading_D=7] | [Leading_D=8] | [Leading_D=9] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Input Layer | (Bias) | .247 | -.199 | 1.155 | -.821 | .222 | .113 | | | | | | | | | |
| | D1 | -3.836 | 1.626 | .144 | -.458 | .316 | .439 | | | | | | | | | |
| | D2 | .081 | 1.203 | -1.139 | -1.227 | -.119 | -.718 | | | | | | | | | |
| | D3 | 2.075 | -1.262 | -3.514 | .134 | .601 | -.546 | | | | | | | | | |
| | D4 | .536 | -1.507 | 1.427 | 1.527 | -.547 | .206 | | | | | | | | | |
| | D5 | .624 | -.387 | -1.407 | -1.779 | -.843 | .648 | | | | | | | | | |
| | D6 | -.328 | -2.599 | -.953 | -.749 | .260 | -.499 | | | | | | | | | |
| | D7 | .149 | 1.292 | 1.414 | .191 | -1.012 | .687 | | | | | | | | | |
| | D8 | .885 | .816 | .848 | 1.443 | 1.018 | -.302 | | | | | | | | | |
| | D9 | 1.150 | -.616 | 2.205 | -1.185 | .582 | -.756 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | | | 1.394 | -.312 | .597 | -.582 | -1.277 | 3.481 | -.799 | -1.001 | -.830 |
| | H(1:1) | | | | | | | -5.796 | 1.262 | 1.485 | -1.192 | 1.841 | -1.971 | .781 | 1.686 | 1.725 |
| | H(1:2) | | | | | | | 3.040 | 4.013 | -.690 | -4.012 | -1.402 | -3.676 | 2.391 | 2.667 | -.424 |
| | H(1:3) | | | | | | | -.526 | -.811 | -3.864 | 1.974 | -1.916 | -.096 | 2.709 | -.399 | 2.169 |
| | H(1:4) | | | | | | | -.028 | -2.478 | 1.358 | 2.887 | -2.191 | -1.229 | 1.089 | 2.108 | -3.384 |
| | H(1:5) | | | | | | | .207 | -.196 | .890 | -.295 | -1.591 | .607 | -1.468 | 1.601 | .943 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H(1:6) | | | | | | | .145 | -.605 | -.969 | .060 | 1.317 | -.598 | 1.134 | -.826 | -.350 |

## Classification

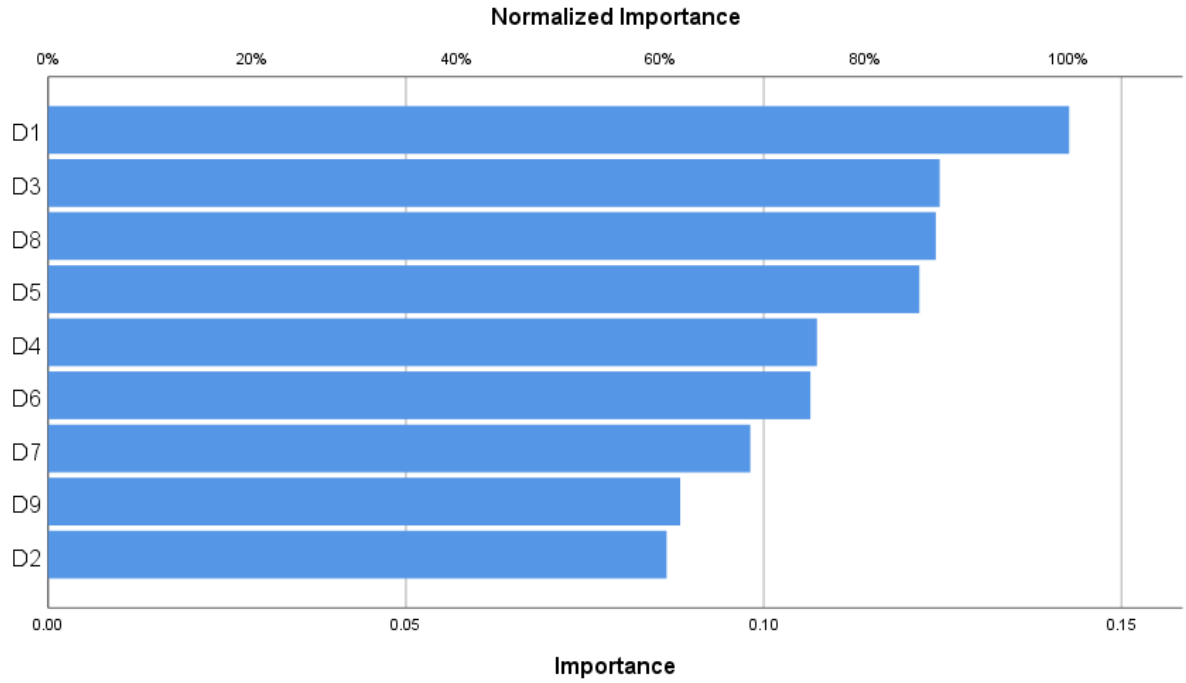
| Sample | Observed | Predicted 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Training | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 80.0% |
| | 3 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 4 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 5 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 1 | 0 | 1 | 1 | 0 | 15 | 0 | 0 | 1 | 78.9% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 1 | 0 | 77.8% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 100.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 100.0% |
| | Overall Percent | 19.7% | 5.3% | 10.5% | 10.5% | 3.9% | 21.1% | 9.2% | 5.3% | 14.5% | 90.8% |
| Testing | 1 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 85.7% |
| | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 50.0% |
| | 3 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 66.7% |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% |
| | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 1 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 66.7% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 100.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 100.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 100.0% |
| | Overall Percent | 25.0% | 3.6% | 10.7% | 0.0% | 7.1% | 17.9% | 14.3% | 7.1% | 14.3% | 82.1% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .143 | 100.0% |
| SANITATION AND HYGIENE | .086 | 60.6% |
| ISOLATION OF INFECTED | .125 | 87.3% |

| | | |
|---|---|---|
| TOTAL ISOLATION | .107 | 75.3% |
| HEALTH CARE | .122 | 85.3% |
| VIRUS DISSEMINATION | .107 | 74.7% |
| LIFESTYLE CHANGES | .098 | 68.8% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .124 | 86.9% |
| BUREAUCRATIC RESPONSE | .088 | 61.9% |




```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

## Multilayer Perceptron

## Notes

| | | |
|---|---|---|
| Output Created | | 10-DEC-2020 15:57:33 |
| Comments | | |
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |
| | Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | not applicable |

| | | |
|---|---|---|
| Syntax | | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |
| Resources | Processor Time | 00:00:00.58 |
| | Elapsed Time | 00:00:00.55 |

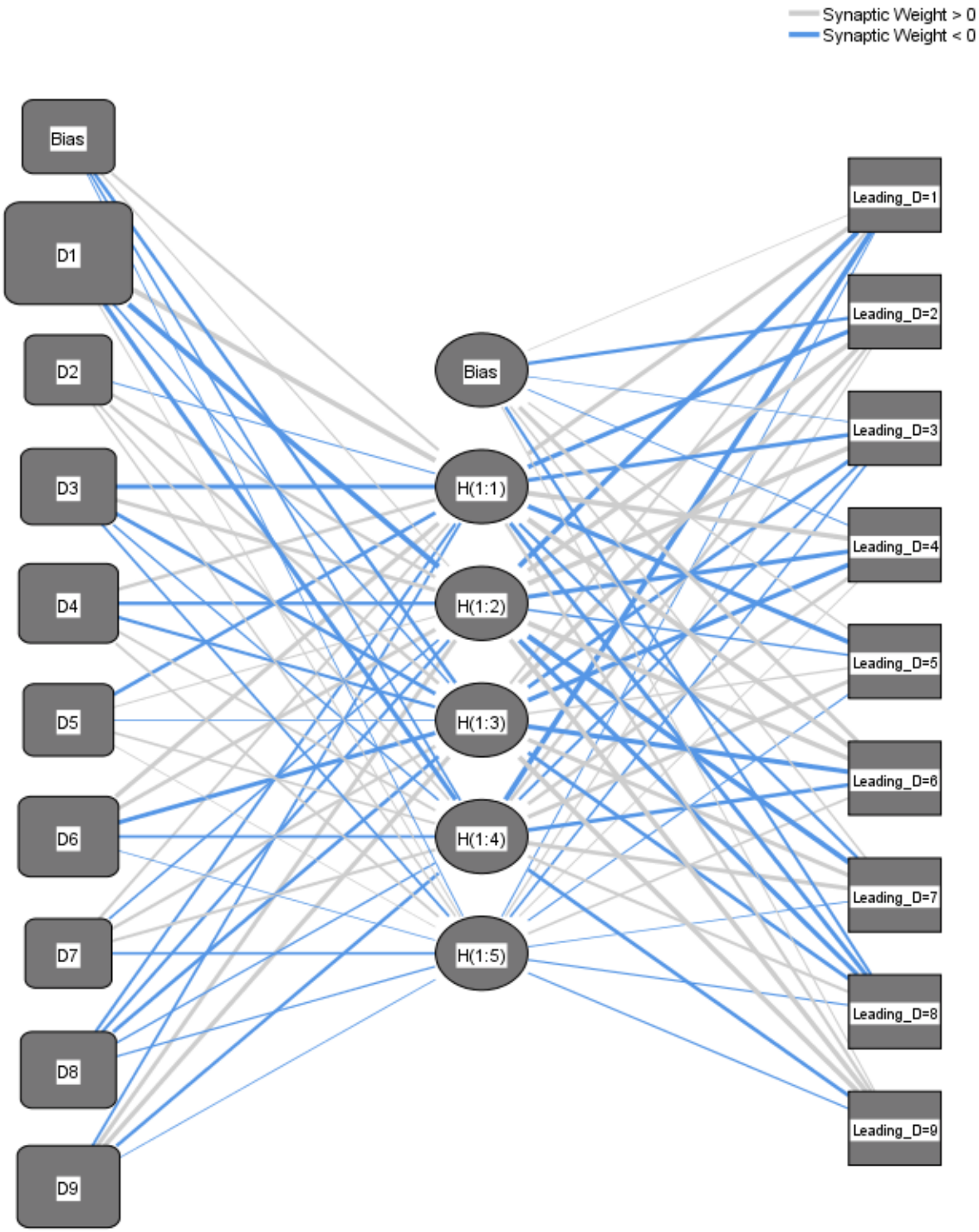
## Case Processing Summary

| | | N | Percent |
|---|---|---|---|
| Sample | Training | 75 | 72.1% |
| | Testing | 29 | 27.9% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

## Network Information

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 5 |
| | Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

## Model Summary

| | | |
|---|---|---|
| Training | Cross Entropy Error | 29.681 |
| | Percent Incorrect Predictions | 12.0% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.07 |
| Testing | Cross Entropy Error | 34.438 |
| | Percent Incorrect Predictions | 27.6% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

| | | Predicted | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Hidden Layer 1 | | | | | Output Layer | | | | | | | | |
| Predictor | | H(1:1) | H(1:2) | H(1:3) | H(1:4) | H(1:5) | [Leading_D=1] | [Leading_D=2] | [Leading_D=3] | [Leading_D=4] | [Leading_D=5] | [Leading_D=6] | [Leading_D=7] | [Leading_D=8] | [Leading_D=9] |
| Input Layer | (Bias) | .701 | .189 | -1.090 | -.468 | -.095 | | | | | | | | | |
| | D1 | 3.136 | -3.471 | -.364 | -1.826 | .124 | | | | | | | | | |
| | D2 | -.124 | .954 | .983 | .449 | .346 | | | | | | | | | |
| | D3 | -1.733 | 1.398 | -1.349 | -.325 | -.480 | | | | | | | | | |
| | D4 | 1.067 | -1.135 | -.781 | .514 | .487 | | | | | | | | | |
| | D5 | -1.162 | .153 | -.085 | .469 | .037 | | | | | | | | | |
| | D6 | 1.628 | 1.269 | -1.662 | -.518 | -.066 | | | | | | | | | |
| | D7 | .672 | -.443 | .896 | .701 | -.491 | | | | | | | | | |
| | D8 | -.700 | -.747 | -1.161 | -.316 | -.297 | | | | | | | | | |
| | D9 | -.553 | 1.418 | 1.775 | -1.004 | -.093 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | | .011 | -1.116 | -.002 | -.101 | .320 | 1.454 | .334 | -.745 | .162 |
| | H(1:1) | | | | | | 1.616 | -1.826 | -1.422 | 2.228 | -2.057 | 2.473 | -.762 | -1.435 | .861 |
| | H(1:2) | | | | | | -2.229 | 2.014 | 2.173 | -1.792 | -.372 | 2.063 | -2.728 | -1.861 | 2.113 |
| | H(1:3) | | | | | | .558 | 2.008 | -1.304 | -1.841 | .317 | -2.085 | 1.614 | -1.232 | 2.207 |
| | H(1:4) | | | | | | -3.138 | .914 | -.684 | 1.143 | 1.367 | -1.365 | 1.547 | .740 | -1.180 |
| | H(1:5) | | | | | | -.145 | .285 | -.380 | .119 | -.170 | .450 | -.067 | -.201 | -.299 |

## Classification

| Sample | Observed | Predicted |
|---|---|---|

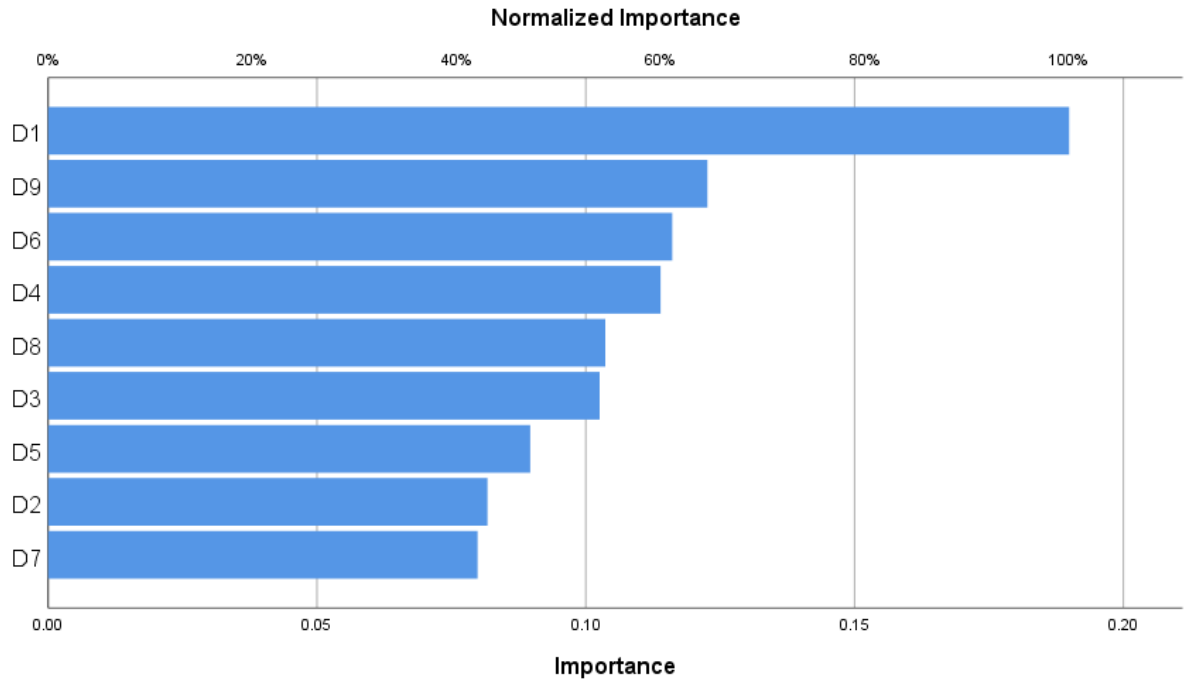
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Training | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 88.9% |
| | 4 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 75.0% |
| | 5 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 1 | 0 | 3 | 0 | 0 | 14 | 0 | 0 | 1 | 73.7% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 0 | 90.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 100.0% |
| | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 83.3% |
| | Overall Percent | 21.3% | 9.3% | 14.7% | 4.0% | 5.3% | 18.7% | 12.0% | 5.3% | 9.3% | 88.0% |
| Testing | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% |
| | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 4 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 66.7% |
| | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% |
| | 6 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 50.0% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 66.7% |
| | 8 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 100.0% |
| | Overall Percent | 37.9% | 0.0% | 10.3% | 6.9% | 0.0% | 17.2% | 6.9% | 0.0% | 20.7% | 72.4% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .190 | 100.0% |
| SANITATION AND HYGIENE | .082 | 43.0% |
| ISOLATION OF INFECTED | .103 | 54.0% |
| TOTAL ISOLATION | .114 | 60.0% |
| HEALTH CARE | .090 | 47.2% |
| VIRUS DISSEMINATION | .116 | 61.1% |
| LIFESTYLE CHANGES | .080 | 42.1% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .104 | 54.6% |

| | | |
|---|---|---|
| BUREAUCRATIC RESPONSE | .123 | 64.6% |




```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

## Multilayer Perceptron

**Notes**

| | |
|---|---|
| Output Created | 10-DEC-2020 15:57:40 |

| | | |
|---|---|---|
| Comments | | |
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |
| | Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | not applicable |

| | | |
|---|---|---|
| Syntax | | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |
| Resources | Processor Time | 00:00:00.53 |
| | Elapsed Time | 00:00:00.53 |

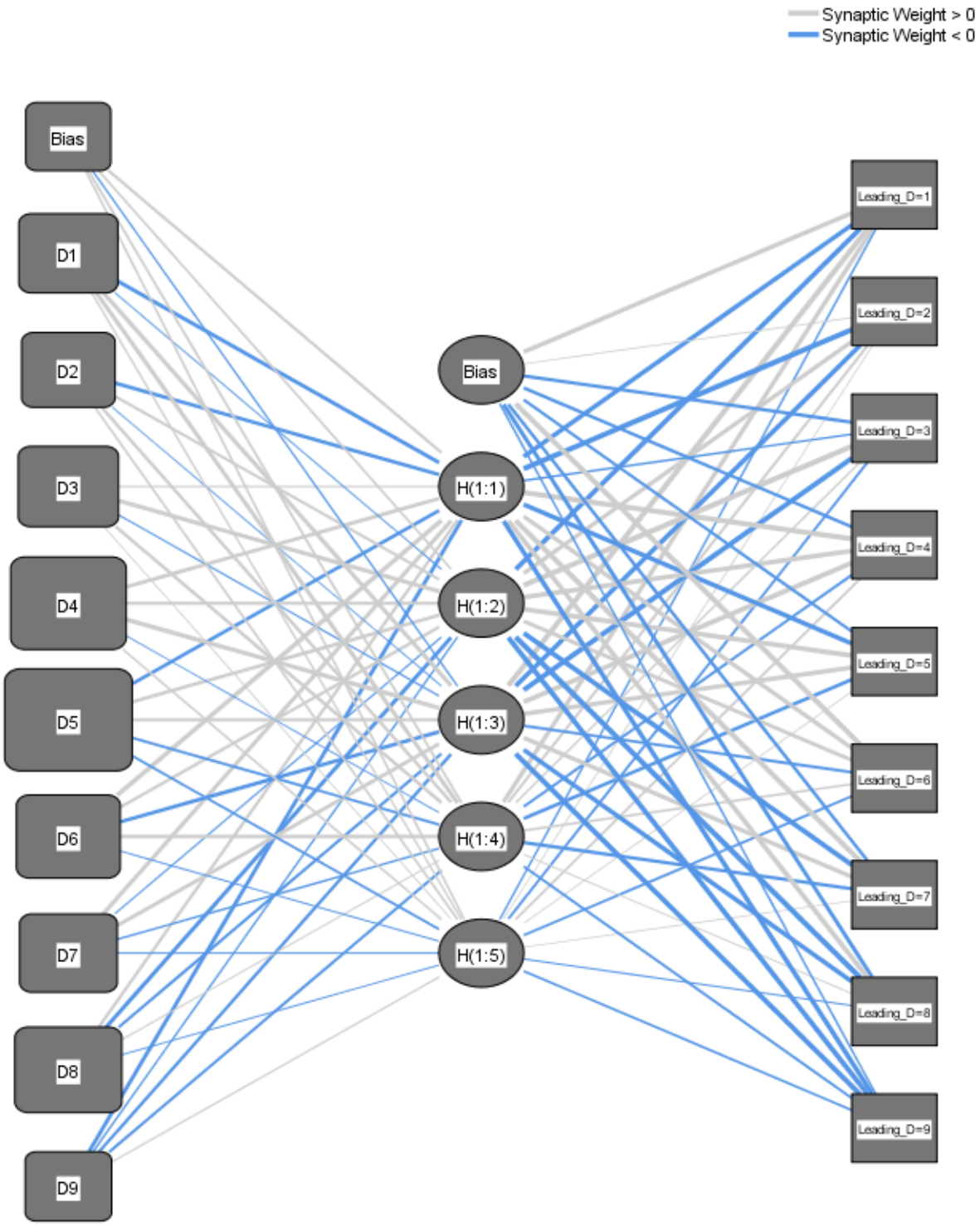
## Case Processing Summary

| | | N | Percent |
|---|---|---|---|
| Sample | Training | 75 | 72.1% |
| | Testing | 29 | 27.9% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

## Network Information

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 5 |
| | Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

## Model Summary

| | | |
|---|---|---|
| Training | Cross Entropy Error | 20.232 |
| | Percent Incorrect Predictions | 13.3% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.09 |
| Testing | Cross Entropy Error | 10.173 |
| | Percent Incorrect Predictions | 13.8% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

| | | Predicted | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Hidden Layer 1 | | | | | Output Layer | | | | | | | | |
| Predictor | | H(1:1) | H(1:2) | H(1:3) | H(1:4) | H(1:5) | [Leading_D=1] | [Leading_D=2] | [Leading_D=3] | [Leading_D=4] | [Leading_D=5] | [Leading_D=6] | [Leading_D=7] | [Leading_D=8] | [Leading_D=9] |
| Input Layer | (Bias) | .703 | .410 | -.218 | .440 | .370 | | | | | | | | | |
| | D1 | -1.514 | -.104 | 1.797 | 1.733 | .234 | | | | | | | | | |
| | D2 | -1.221 | .630 | -.055 | .919 | .420 | | | | | | | | | |
| | D3 | .200 | 1.839 | -.184 | .959 | .035 | | | | | | | | | |
| | D4 | 1.245 | .893 | 1.939 | -.056 | .366 | | | | | | | | | |
| | D5 | -1.163 | 1.181 | 1.024 | -.525 | -.445 | | | | | | | | | |
| | D6 | 2.298 | .803 | -1.260 | 1.239 | -.107 | | | | | | | | | |
| | D7 | 1.732 | -.172 | 1.295 | -.302 | -.137 | | | | | | | | | |
| | D8 | .833 | -1.529 | -.773 | .106 | -.131 | | | | | | | | | |
| | D9 | -1.473 | -.240 | -.900 | -.646 | .207 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | | 1.971 | .033 | -1.123 | -.942 | -.796 | 4.231 | -.974 | -1.559 | -.294 |
| | H(1:1) | | | | | | -2.184 | -4.668 | -.320 | 4.386 | -2.343 | 1.875 | 4.370 | 2.831 | -2.394 |
| | H(1:2) | | | | | | -2.979 | 1.831 | 6.112 | 2.651 | 3.049 | 1.425 | -3.187 | -4.910 | -3.246 |
| | H(1:3) | | | | | | 4.415 | -2.639 | -3.657 | 3.071 | 2.043 | -.698 | 1.922 | -2.337 | -3.441 |
| | H(1:4) | | | | | | 1.925 | .569 | .259 | -.547 | -1.139 | .422 | -1.136 | .087 | -.520 |
| | H(1:5) | | | | | | -.278 | .031 | -.486 | .451 | .035 | -.467 | .010 | -.140 | -.430 |

## Classification

| Sample | Observed | Predicted |
|---|---|---|

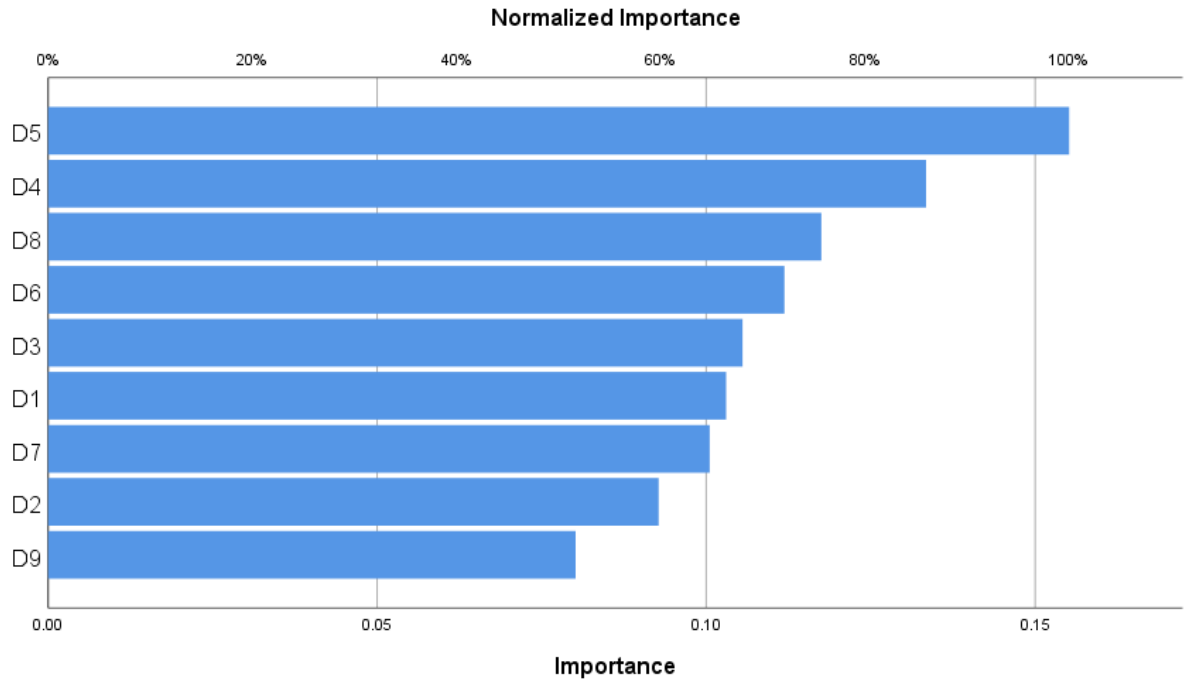
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Training | 1 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 1 | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 62.5% |
| | 4 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 5 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 2 | 0 | 0 | 1 | 0 | 17 | 0 | 0 | 1 | 81.0% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 87.5% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 75.0% |
| | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 85.7% |
| | Overall Percent | 22.7% | 8.0% | 6.7% | 8.0% | 4.0% | 26.7% | 10.7% | 4.0% | 9.3% | 86.7% |
| Testing | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 66.7% |
| | 3 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 50.0% |
| | 4 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 50.0% |
| | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 75.0% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 100.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 100.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 100.0% |
| | Overall Percent | 20.7% | 6.9% | 6.9% | 3.4% | 6.9% | 17.2% | 17.2% | 3.4% | 17.2% | 86.2% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .103 | 66.4% |
| SANITATION AND HYGIENE | .093 | 59.8% |
| ISOLATION OF INFECTED | .106 | 68.0% |
| TOTAL ISOLATION | .133 | 86.0% |
| HEALTH CARE | .155 | 100.0% |
| VIRUS DISSEMINATION | .112 | 72.1% |
| LIFESTYLE CHANGES | .101 | 64.8% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .118 | 75.7% |

| | | |
|---|---|---|
| BUREAUCRATIC RESPONSE | .080 | 51.7% |




```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

## Multilayer Perceptron

**Notes**

| | |
|---|---|
| Output Created | 10-DEC-2020 15:57:50 |

| | | |
|---|---|---|
| Comments | | |
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |
| | Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | not applicable |

| | | |
|---|---|---|
| Syntax | | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |
| Resources | Processor Time | 00:00:00.56 |
| | Elapsed Time | 00:00:00.49 |

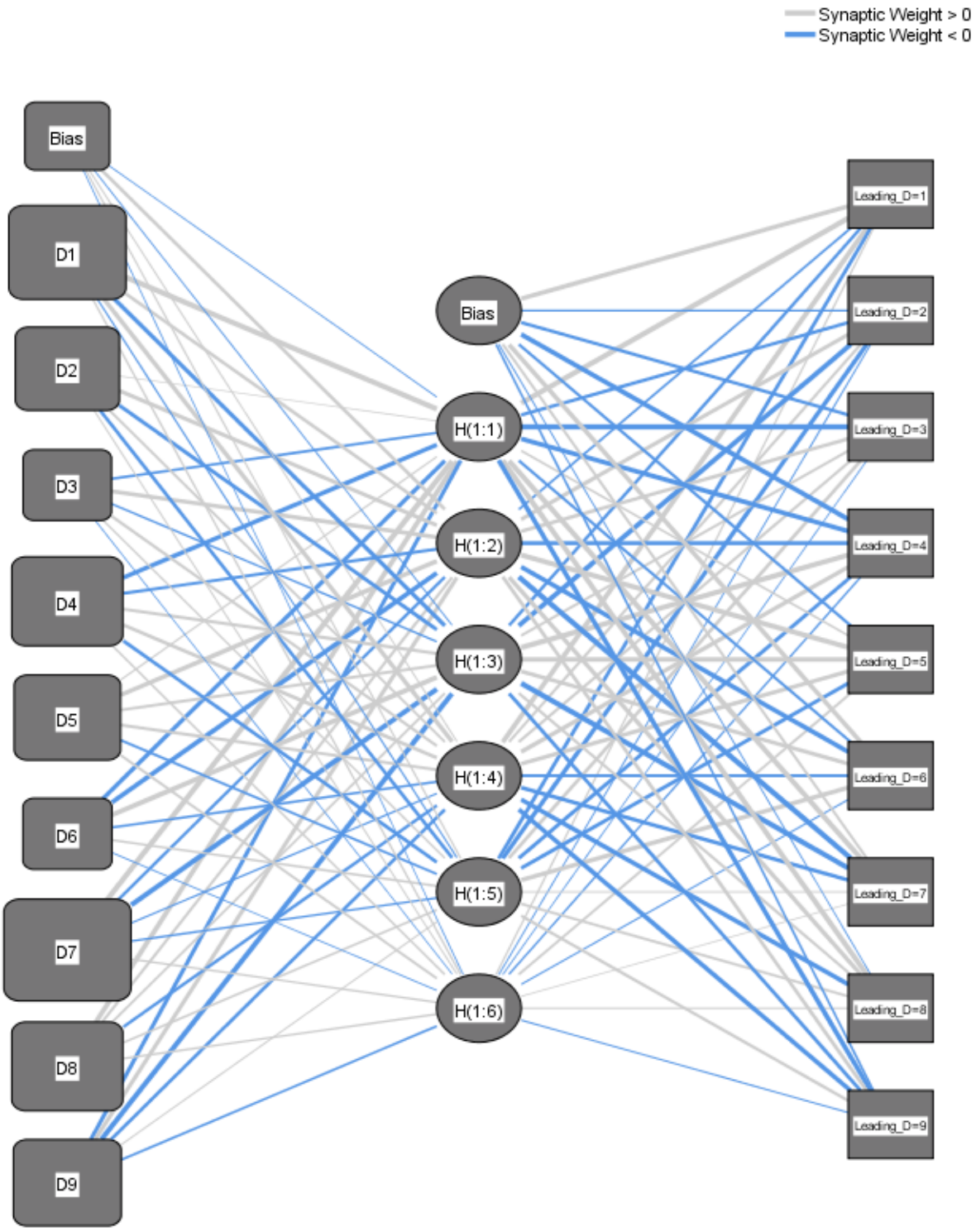
## Case Processing Summary

| | | N | Percent |
|---|---|---|---|
| Sample | Training | 67 | 64.4% |
| | Testing | 37 | 35.6% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

## Network Information

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 6 |
| | Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

## Model Summary

| | | |
|---|---|---|
| Training | Cross Entropy Error | 13.016 |
| | Percent Incorrect Predictions | 9.0% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.04 |
| Testing | Cross Entropy Error | 38.160 |
| | Percent Incorrect Predictions | 27.0% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

| | | Predicted | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Hidden Layer 1 | | | | | | Output Layer | | | | | | | |
| Predictor | | H(1:1) | H(1:2) | H(1:3) | H(1:4) | H(1:5) | H(1:6) | [Leading_D=1] | [Leading_D=2] | [Leading_D=3] | [Leading_D=4] | [Leading_D=5] | [Leading_D=6] | [Leading_D=7] | [Leading_D=8] | [Leading_D=9] |
| Input Layer | (Bias) | -.086 | 1.105 | -.127 | .145 | .226 | -.058 | | | | | | | | | |
| | D1 | 3.165 | 1.023 | -1.474 | 1.559 | -.204 | .273 | | | | | | | | | |
| | D2 | .038 | 1.390 | -1.258 | .535 | -1.063 | .150 | | | | | | | | | |
| | D3 | -.581 | 1.436 | -.299 | .687 | .276 | -.041 | | | | | | | | | |
| | D4 | -1.641 | -.731 | .921 | 1.156 | -1.107 | .313 | | | | | | | | | |
| | D5 | .233 | 1.748 | .695 | .717 | -.518 | .567 | | | | | | | | | |
| | D6 | -1.515 | -1.984 | 2.111 | -.501 | .440 | -.101 | | | | | | | | | |
| | D7 | 3.326 | -.719 | -2.325 | -.244 | -.302 | .277 | | | | | | | | | |
| | D8 | 2.133 | .657 | .488 | -.796 | .416 | .334 | | | | | | | | | |
| | D9 | -1.402 | 1.409 | -2.437 | -1.036 | .155 | -.478 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | | | 1.658 | -.320 | -.969 | -2.092 | -.693 | 1.662 | .626 | -.124 | -.428 |
| | H(1:1) | | | | | | | 3.266 | -.987 | -3.006 | -2.061 | .391 | -.636 | 2.503 | 2.503 | -1.984 |
| | H(1:2) | | | | | | | -.473 | 1.400 | 1.141 | -1.386 | 2.346 | -1.933 | -3.278 | 1.556 | 1.110 |
| | H(1:3) | | | | | | | -.846 | -2.248 | .580 | 2.445 | 2.051 | 1.383 | -2.791 | .684 | -1.151 |
| | H(1:4) | | | | | | | 2.210 | .631 | .677 | 1.508 | 1.459 | -.823 | -1.331 | -1.924 | -1.833 |
| | H(1:5) | | | | | | | -1.158 | -1.569 | 1.085 | -1.238 | -1.203 | 1.593 | .137 | .608 | .706 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H(1:6) | | | | | | | .258 | -.144 | -.071 | -.273 | .536 | -.200 | .042 | .237 | -.170 |

**Classification**

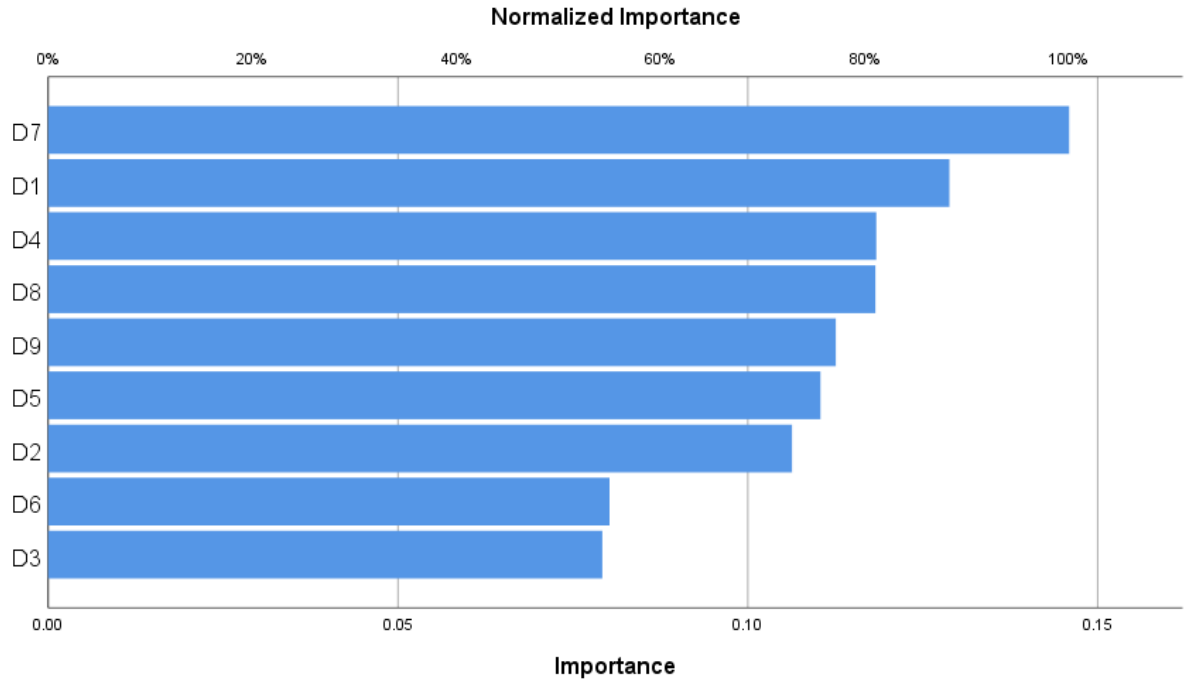
| Sample | Observed | Predicted 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Training | 1 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 4 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 75.0% |
| | 5 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 1 | 0 | 1 | 0 | 0 | 13 | 0 | 0 | 1 | 81.3% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 88.9% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 100.0% |
| | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 83.3% |
| | Overall Percent | 25.4% | 9.0% | 7.5% | 4.5% | 4.5% | 20.9% | 11.9% | 7.5% | 9.0% | 91.0% |
| Testing | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 66.7% |
| | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 2 | 0 | 1 | 1 | 0 | 2 | 2 | 0 | 1 | 22.2% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 100.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 100.0% |
| | Overall Percent | 18.9% | 8.1% | 13.5% | 10.8% | 2.7% | 8.1% | 16.2% | 0.0% | 21.6% | 73.0% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .129 | 88.3% |
| SANITATION AND HYGIENE | .106 | 72.9% |
| ISOLATION OF INFECTED | .079 | 54.3% |

| | | |
|---|---|---|
| TOTAL ISOLATION | .118 | 81.1% |
| HEALTH CARE | .110 | 75.6% |
| VIRUS DISSEMINATION | .080 | 55.0% |
| LIFESTYLE CHANGES | .146 | 100.0% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .118 | 81.0% |
| BUREAUCRATIC RESPONSE | .113 | 77.1% |




```
*Multilayer Perceptron Network.
MLP Leading_D (MLEVEL=N) WITH D1 D2 D3 D4 D5 D6 D7 D8 D9
 /RESCALE COVARIATE=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE   AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)
  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE
LAMBDAINITIAL=0.0000005
    SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000
  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION SOLUTION IMPORTANCE
  /PLOT NETWORK
  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15)
MAXEPOCHS=AUTO
    ERRORCHANGE=1.0E-4 ERRORRATIO=0.001
 /MISSING USERMISSING=INCLUDE .
```

## Multilayer Perceptron

## Notes

| | | |
|---|---|---|
| Output Created | | 10-DEC-2020 15:57:57 |
| Comments | | |
| Input | Data | C:\Users\vitart0\OneDrive\Documents\!MyDocs\!Sience\Quarantine definition survey\SPSS\NN_EN_covid_nominal_9D.sav |
| | Active Dataset | DataSet3 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 104 |
| Missing Value Handling | Definition of Missing | User-missing values for categorical variables are are treated as valid data. User-missing values for scale variables and system-missing values for any variables are treated as missing. |
| | Cases Used | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | not applicable |

| | | |
|---|---|---|
| Syntax | | MLP Leading_D<br>(MLEVEL=N) WITH D1 D2<br>D3 D4 D5 D6 D7 D8 D9<br>/RESCALE<br>COVARIATE=STANDARDIZ<br>ED<br>/PARTITION<br>TRAINING=7 TESTING=3<br>HOLDOUT=0<br>/ARCHITECTURE<br>AUTOMATIC=YES<br>(MINUNITS=1<br>MAXUNITS=50)<br>/CRITERIA<br>TRAINING=BATCH<br>OPTIMIZATION=SCALEDC<br>ONJUGATE<br>LAMBDAINITIAL=0.0000005<br>SIGMAINITIAL=0.00005<br>INTERVALCENTER=0<br>INTERVALOFFSET=0.5<br>MEMSIZE=1000<br>/PRINT CPS<br>NETWORKINFO SUMMARY<br>CLASSIFICATION<br>SOLUTION IMPORTANCE<br>/PLOT NETWORK<br>/STOPPINGRULES<br>ERRORSTEPS= 1<br>(DATA=AUTO)<br>TRAININGTIMER=ON<br>(MAXTIME=15)<br>MAXEPOCHS=AUTO<br><br>ERRORCHANGE=1.0E-4<br>ERRORRATIO=0.001<br>/MISSING<br>USERMISSING=INCLUDE . |
| Resources | Processor Time | 00:00:00.55 |
| | Elapsed Time | 00:00:00.54 |

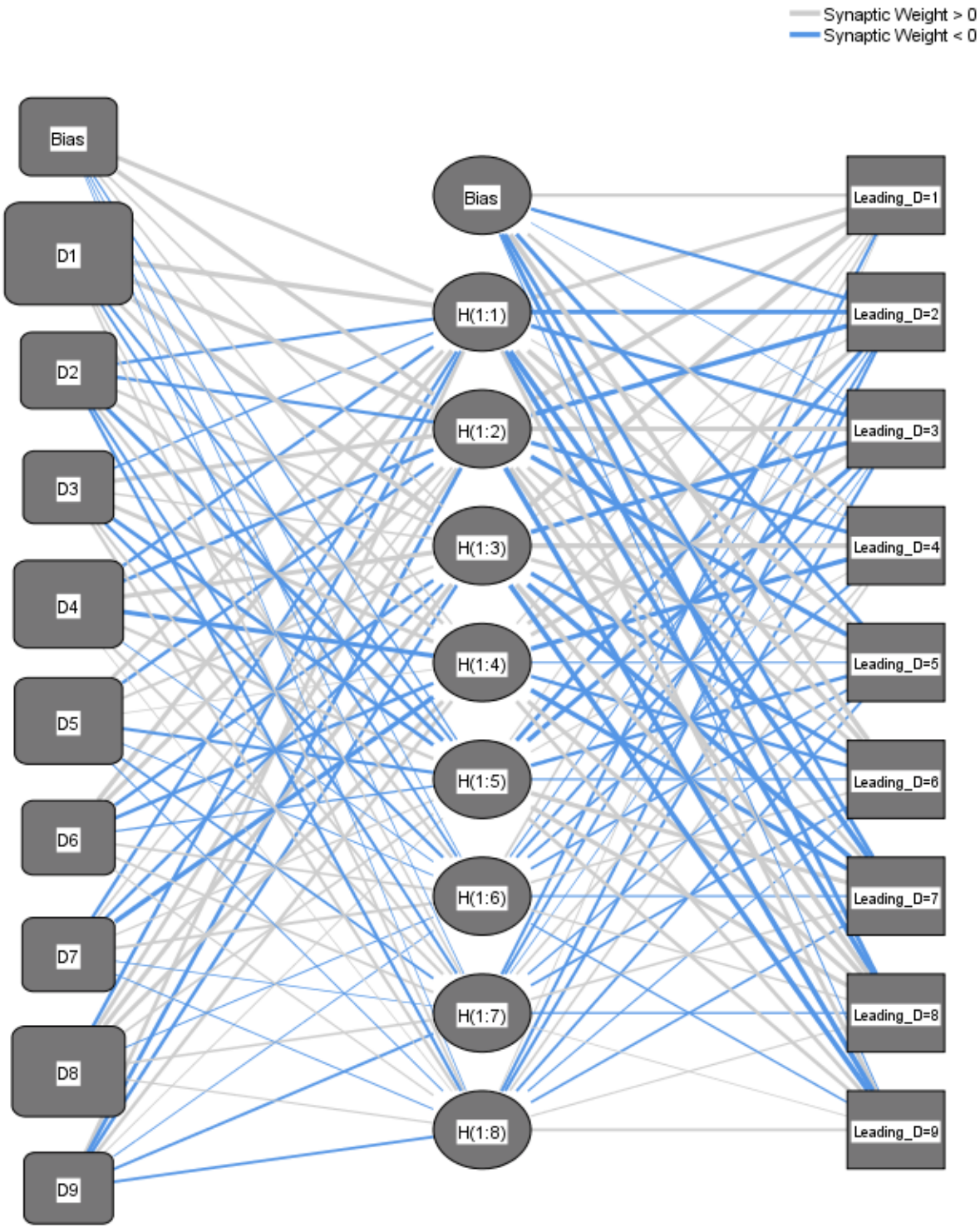
## Case Processing Summary

| | | N | Percent |
|---|---|---|---|
| Sample | Training | 72 | 69.2% |
| | Testing | 32 | 30.8% |
| Valid | | 104 | 100.0% |
| Excluded | | 0 | |
| Total | | 104 | |

## Network Information

| | | | |
|---|---|---|---|
| Input Layer | Covariates | 1 | CONTACT RESTRICTION |
| | | 2 | SANITATION AND HYGIENE |
| | | 3 | ISOLATION OF INFECTED |
| | | 4 | TOTAL ISOLATION |
| | | 5 | HEALTH CARE |
| | | 6 | VIRUS DISSEMINATION |
| | | 7 | LIFESTYLE CHANGES |
| | | 8 | RIGHTS AND FREEDOMS INFRINGEMENT |
| | | 9 | BUREAUCRATIC RESPONSE |
| | Number of Units[a] | | 9 |
| | Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| | Number of Units in Hidden Layer 1[a] | | 8 |
| | Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | Leading discourse in meaning |
| | Number of Units | | 9 |
| | Activation Function | | Softmax |
| | Error Function | | Cross-entropy |

a. Excluding the bias unit




Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Softmax

## Model Summary

| | | |
|---|---|---|
| Training | Cross Entropy Error | 21.579 |
| | Percent Incorrect Predictions | 12.5% |
| | Stopping Rule Used | 1 consecutive step(s) with no decrease in error[a] |
| | Training Time | 0:00:00.08 |
| Testing | Cross Entropy Error | 26.468 |
| | Percent Incorrect Predictions | 25.0% |

Dependent Variable: Leading discourse in meaning

a. Error computations are based on the testing sample.

**Parameter Estimates**

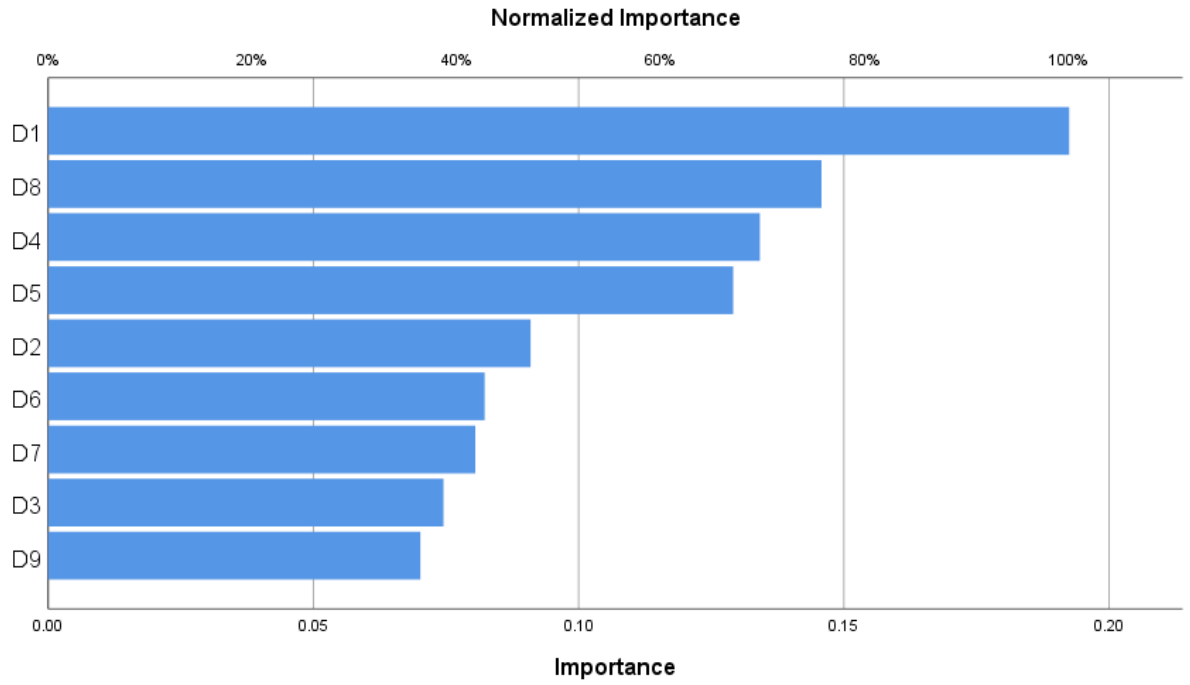
| Predictor | | Predicted: Hidden Layer 1 | | | | | | | | Predicted: Output Layer | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H(1:1) | H(1:2) | H(1:3) | H(1:4) | H(1:5) | H(1:6) | H(1:7) | H(1:8) | [Leading_D =1] | [Leading_D =2] | [Leading_D =3] | [Leading_D =4] | [Leading_D =5] | [Leading_D =6] | [Leading_D =7] | [Leading_D =8] | [Leading_D =9] |
| Input Layer | (Bias) | 1.352 | 1.456 | .309 | .256 | -.188 | -.050 | -.040 | -.012 | | | | | | | | | |
| | D1 | 3.231 | 2.416 | 2.852 | .574 | -.413 | -.328 | .237 | .315 | | | | | | | | | |
| | D2 | -.495 | -.524 | .466 | .818 | -1.112 | .453 | -.426 | -.494 | | | | | | | | | |
| | D3 | -.269 | 1.239 | .259 | 1.002 | -.877 | -.499 | .364 | .480 | | | | | | | | | |
| | D4 | -.570 | -.787 | 1.438 | -1.772 | .538 | -.059 | .433 | .039 | | | | | | | | | |
| | D5 | .822 | -.603 | .388 | .056 | -.507 | -.086 | -.319 | -.099 | | | | | | | | | |
| | D6 | 1.640 | 1.211 | -.642 | -.716 | -.205 | .324 | .322 | .189 | | | | | | | | | |
| | D7 | -.519 | .246 | -.511 | -1.816 | .217 | .459 | -.020 | -.088 | | | | | | | | | |
| | D8 | -.648 | .886 | 1.256 | 1.058 | .315 | -.092 | .315 | .175 | | | | | | | | | |
| | D9 | .812 | -.925 | -.581 | .598 | .064 | -.060 | -.414 | -.401 | | | | | | | | | |
| Hidden Layer 1 | (Bias) | | | | | | | | | .566 | -.623 | -.008 | .609 | -1.022 | 2.491 | -.986 | -1.252 | -.105 |
| | H(1:1) | | | | | | | | | 1.182 | -1.274 | -1.151 | .139 | 2.782 | 2.218 | -3.303 | -2.446 | .999 |
| | H(1:2) | | | | | | | | | 1.837 | -2.275 | 2.072 | -.932 | -1.978 | .891 | .794 | 2.510 | -2.916 |
| | H(1:3) | | | | | | | | | 2.890 | .177 | -1.777 | 3.118 | .814 | -1.147 | -2.916 | 2.387 | -3.214 |
| | H(1:4) | | | | | | | | | .199 | .910 | 1.152 | -1.656 | -.137 | -.703 | -1.798 | 1.201 | .800 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H(15) | | | | | | | | | .172 | -1.012 | -1.311 | .113 | -.795 | -.157 | 1.333 | 1.221 | .736 |
| H(16) | | | | | | | | | .294 | -.150 | -.417 | -.328 | -.319 | .272 | -.192 | .245 | -.218 |
| H(17) | | | | | | | | | -.460 | -.385 | -.014 | .290 | -.236 | -.330 | .298 | -.228 | .054 |
| H(18) | | | | | | | | | .059 | -.469 | -.475 | .285 | -.353 | -.159 | -.309 | .171 | .382 |

## Classification

| | | Predicted | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample | Observed | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Percent Correct |
| Training | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 3 | 0 | 0 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 85.7% |
| | 4 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 60.0% |
| | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 100.0% |
| | 6 | 2 | 0 | 1 | 0 | 0 | 15 | 0 | 0 | 1 | 78.9% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 87.5% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 100.0% |
| | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 90.0% |
| | Overall Percent | 23.6% | 5.6% | 9.7% | 4.2% | 2.8% | 25.0% | 9.7% | 5.6% | 13.9% | 87.5% |
| Testing | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 50.0% |
| | 3 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 66.7% |
| | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 100.0% |
| | 5 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 50.0% |
| | 6 | 2 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 50.0% |
| | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 80.0% |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 100.0% |
| | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 100.0% |
| | Overall Percent | 28.1% | 9.4% | 9.4% | 9.4% | 6.3% | 9.4% | 12.5% | 9.4% | 6.3% | 75.0% |

Dependent Variable: Leading discourse in meaning

## Independent Variable Importance

| | Importance | Normalized Importance |
|---|---|---|
| CONTACT RESTRICTION | .192 | 100.0% |
| SANITATION AND HYGIENE | .091 | 47.3% |
| ISOLATION OF INFECTED | .075 | 38.7% |
| TOTAL ISOLATION | .134 | 69.7% |
| HEALTH CARE | .129 | 67.1% |
| VIRUS DISSEMINATION | .082 | 42.8% |
| LIFESTYLE CHANGES | .081 | 41.8% |
| RIGHTS AND FREEDOMS INFRINGEMENT | .146 | 75.8% |
| BUREAUCRATIC RESPONSE | .070 | 36.5% |