Table 3 Average cross-validated feature importance for elastic net logistic regression predicting membership to latent class. Ordinal groups with the greatest number of subjects were used as references. Since membership to each respective class was predicted independently, relative feature importance is only meaningful within classes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Class 1 | SD | Class 2 | SD | Class 3 | SD |
| (Intercept) | 2.750 | 0.320 | 0.249 | 0.034 | 0.029 | 0.184 |
| Age | -0.216 | 0.017 | -0.001 | 0.001 | 0.087 | 0.030 |
| Age Started Smoking | -0.098 | 0.046 | -0.007 | 0.012 | 0.101 | 0.040 |
| Anxiety (reference: None) |  |  |  |  |  |  |
| Some | 0.513 | 0.192 | 0.005 | 0.009 | -0.173 | 0.039 |
| Moderate | -0.040 | 0.174 | -0.005 | 0.010 | 0.092 | 0.163 |
| High | 0.620 | 0.185 | -0.020 | 0.032 | -0.017 | 0.218 |
| CO | 0.053 | 0.025 | 0.000 | 0.000 | -0.015 | 0.012 |
| Depression (reference: None) |  |  |  |  |  |  |
| Some | -0.114 | 0.131 | 0.003 | 0.006 | 0.009 | 0.144 |
| Moderate | 1.559 | 0.579 | -0.008 | 0.016 | -0.060 | 0.092 |
| High | -0.489 | 0.106 | -0.090 | 0.167 | 0.546 | 0.443 |
| FTND | 0.227 | 0.028 | 0.001 | 0.003 | -0.091 | 0.026 |
| Intention to Quit (reference: A little) |  |  |  |  |  |  |
| None | 0.710 | 0.174 | 0.002 | 0.004 | -0.212 | 0.066 |
| Some | -0.223 | 0.111 | 0.018 | 0.027 | -0.030 | 0.109 |
| High | -0.371 | 0.115 | -0.059 | 0.065 | 0.290 | 0.087 |
| Longest Period Without Smoking (reference: <3 Months) |  |  |  |  |  |  |
| 1-3 Months | 0.063 | 0.160 | -0.002 | 0.005 | 0.008 | 0.059 |
| <1 Week | 0.523 | 0.120 | -0.006 | 0.008 | -0.100 | 0.062 |
| 1 Week – 1 Month | 0.113 | 0.089 | 0.025 | 0.039 | -0.143 | 0.140 |
| Number of Quit Attempts (reference: 2 To 5 Times) |  |  |  |  |  |  |
| Never Quit | 1.742 | 0.362 | 0.033 | 0.074 | -0.411 | 0.281 |
| Once | -0.297 | 0.127 | -0.011 | 0.024 | 0.177 | 0.113 |
| 6-10 Times | -0.191 | 0.120 | -0.001 | 0.003 | 0.099 | 0.069 |
| More than 10 Times | -0.028 | 0.218 | 0.007 | 0.015 | 0.078 | 0.106 |
| Last Cigarette Experience (reference: Neutral) |  |  |  |  |  |  |
| Very Unpleasant | 0.447 | 1.189 | 0.005 | 0.012 | -0.184 | 0.212 |
| Somewhat Unpleasant | -0.194 | 0.123 | -0.027 | 0.025 | 0.285 | 0.152 |
| Somewhat Pleasant | -0.226 | 0.110 | 0.002 | 0.005 | 0.131 | 0.091 |
| Very Pleasant | 0.146 | 0.157 | -0.002 | 0.008 | 0.024 | 0.082 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Calming Effect | -0.079 | 0.083 | 0.010 | 0.015 | -0.095 | 0.062 |
| Pepping Up Effect | 0.124 | 0.044 | 0.001 | 0.002 | 0.009 | 0.032 |
| Sex (Male) | -0.303 | 0.066 | -0.019 | 0.042 | 0.126 | 0.056 |
| SF-36 Subscales |  |  |  |  |  |  |
| Emotional Problems | -0.071 | 0.052 | 0.010 | 0.019 | -0.053 | 0.040 |
| Emotional Wellbeing | 0.057 | 0.086 | -0.001 | 0.002 | -0.013 | 0.034 |
| Pain | 0.160 | 0.088 | -0.030 | 0.036 | 0.059 | 0.043 |
| Physical Health | -0.033 | 0.061 | 0.000 | 0.000 | -0.025 | 0.049 |
| Social Functioning | -0.064 | 0.079 | -0.003 | 0.006 | 0.056 | 0.043 |
| Study Site (reference: USA) |  |  |  |  |  |  |
| Australia | -0.614 | 0.331 | 0.002 | 0.005 | 0.098 | 0.081 |
| Denmark | -0.677 | 0.176 | -0.065 | 0.065 | 0.408 | 0.114 |
| Germany | -1.086 | 0.329 | 0.006 | 0.009 | 0.282 | 0.160 |
| Switzerland | -0.457 | 0.228 | 0.006 | 0.013 | 0.213 | 0.157 |
| Treatment Group (Placebo) | 0.842 | 0.069 | 0.028 | 0.048 | -0.389 | 0.102 |
| Time Since Last Quit Attempt (reference: >12 Months) |  |  |  |  |  |  |
| Never Quit | 1.735 | 0.349 | 0.033 | 0.074 | -0.405 | 0.280 |
| 12-24 Months | -0.676 | 0.454 | 0.005 | 0.011 | 0.006 | 0.128 |
| 6-12 Months | -0.068 | 0.253 | -0.013 | 0.016 | 0.106 | 0.088 |
| 0-6 Months | -0.199 | 0.210 | 0.007 | 0.016 | -0.040 | 0.051 |