Subset of mean per cluster

Wednesday, January 20, 2021 10:19 AM

```
This is the mean per person per cluster for only subset of 8 clusters: cluster==9 | cluster== 26|
cluster== 27 | cluster== 32 | cluster== 34 | cluster== 35 | cluster== 38 | cluster== 39
```

About 600 obs should be 720 but have less because of missing values in region

```
Call:
bpnme(pred.I = y \sim age + gender + hand + region + (1 | writer),
   data = mean_subset)
MCMC:
iterations = 1000
burn-in = 1
lag = 1
Model Fit:
       Statistic Parameters
lppd
       -85.89097 18.0000000
DIC
       269.77940 -0.2468392
DIC.alt 1919.27496 824.5009417
WAIC
       368.27053 98.2442952
WAIC2 401.75878 114.9884205
Fixed Effects
Linear Coefficients
Component I:
                  mean
                            mode
                                      sd
                                            LB HPD
                                                      UB HPD
(Intercept)
             -3.3287351 -3.4337737 0.5756010 -4.3460075 -2.1350999
              age25-40
             1.1704312 1.1954704 0.4295127 0.3346496 2.0151983
age41-60
              1.7868711 2.0523804 0.6444378 0.5853379 3.0214833
age61+
gendermale 0.1787211 0.1589602 0.3623210 -0.5016910 0.9020311 handright -0.2359549 -0.3408232 0.4970636 -1.2017809 0.7347330
regionnortheast -0.8472053 -0.4390959 1.5951644 -3.9313897 2.2181445
regionsouth -0.1393566 -0.2799841 0.5497762 -1.1391905 1.0102381
regionwest
             -0.5427432 -0.6382650 0.9575955 -2.2750509 1.4793925
Component II:
                   mean
                             mode
                                       sd
                                              LB HPD
                                                      UB HPD
(Intercept)
             -0.20721153 -0.5789936 0.6084684 -1.31292296 1.052688
age25-40
              1.49393478 1.5991475 0.4962498 0.58972676 2.488490
age41-60
              2.18183006 2.1870504 0.7797234 0.72195263 3.800759
age61+
              gendermale
              handright
regionnortheast -2.70508597 -2.2860772 1.7423858 -6.04153288 0.749544
              regionsouth
             -0.23050068 -0.4149549 1.0383401 -2.13992918 1.753791
regionwest
Circular Coefficients
Continuous variables:
[1] "There are no numeric predictors in the model"
Categorical variables:
Means:
                                    mode
                                                      LB
                                              sd
                           mean
                       -3.080494 -2.979718 0.1813984 2.838042 3.529126
(Intercept)
```

UB

```
-3.078903 -3.113552 0.2277181 2.740928 3.614281
age25-40
                      2.609959 2.599016 0.2437528 2.120969 3.071103
age41-60
age61+
                      2.253297 2.168796 0.3578217 1.629655 3.003839
                      2.991077 3.093170 0.1989017 2.598638 3.351173
gendermale
                      3.051774 3.070146 0.1181403 2.831957 3.286001
handright
                      -2.541902 -2.655236 0.3654370 2.994014 4.464618
regionnortheast
                      2.955999 2.973731 0.2455794 2.468803 3.451931
regionsouth
regionwest
                      -3.029704 -2.940754 0.3309124 2.581741 3.877761
                      2.496156 2.458270 0.4053253 1.763818 3.291512
age25-40age41-60
                      2.086823 1.986116 0.4978696 1.045105 3.023174
age25-40age61+
                      2.957639 3.008154 0.2561414 2.473446 3.442221
age25-40gendermale
age25-40handright
                      3.032026 3.040853 0.1510170 2.714660 3.319649
age25-40regionnortheast
                      -2.487001 -2.446526 0.4284307 2.901523 4.602700
                      2.921048 2.921786 0.2675403 2.410768 3.441686
age25-40regionsouth
                      -3.022211 -2.985349 0.3509836 2.497377 3.880382
age25-40regionwest
age41-60age61+
                      1.677683 1.620444 0.2688115 1.132499 2.185577
                      2.366130 2.369525 0.2353642 1.932199 2.818865
age41-60gendermale
                      2.494042 2.479277 0.1128127 2.286982 2.719919
age41-60handright
age41-60regionnortheast
                      -2.719220 -2.653525 0.6465670 1.968676 4.836913
age41-60regionsouth
                      2.399734 2.364540 0.2738363 1.873100 2.956885
                       2.782940 2.763004 0.4518805 1.932515 3.676017
age41-60regionwest
                      2.057837 2.020799 0.2926955 1.478920 2.610187
age61+gendermale
                      2.194744 2.065729 0.2042670 1.818854 2.595612
age61+handright
                      -2.876246 -2.719135 0.8913121 1.210300 5.207300
age61+regionnortheast
age61+regionsouth
                      2.118986 2.075764 0.3274494 1.514457 2.793011
age61+regionwest
                      2.476328 2.394616 0.5095173 1.608337 3.618162
                      2.853911 2.827275 0.1164599 2.615895 3.069410
gendermalehandright
gendermaleregionnortheast -2.647566 -2.732834 0.4051708 2.751625 4.359195
gendermaleregionsouth
                      2.758769 2.713374 0.2518842 2.244463 3.236482
gendermaleregionwest
                      3.076713 -3.074048 0.3382152 2.412351 3.714423
                      -2.656963 -2.622245 0.3549417 2.973345 4.393179
handrightregionnortheast
                       2.831759 2.826703 0.1696539 2.521115 3.182176
handrightregionsouth
handrightregionwest
                       3.120203 -3.103412 0.2822003 2.606860 3.708405
regionnortheastregionsouth -2.712147 -2.672565 0.4331195 2.576485 4.338172
regionnortheastregionwest -2.565514 -2.677539 0.3914746 2.814186 4.380176
regionsouthregionwest
                      3.038214 3.110532 0.3730972 2.264396 3.720531
Differences:
                                                          LB
                                                                  UB
                            mean
                                      mode
                                                sd
                      age25-40
                       age41-60
age61+
                       gendermale
                      handright
                      -0.537374678 -0.52436038 0.3678945 -1.30398849 0.1663852
regionnortheast
                      regionsouth
                      -0.050322508 -0.08932283 0.2747242 -0.56478384 0.4853628
regionwest
                      age25-40age41-60
                      1.108542464 1.19461722 0.5006702 0.18917045 2.1979304
age25-40age61+
                      age25-40gendermale
                      age25-40handright
age25-40regionnortheast
                      -0.591678621 -0.52699730 0.4445015 -1.48137644 0.2857374
age25-40regionsouth
                      age25-40regionwest
                      -0.057577146    0.02252088    0.3168664    -0.72269376    0.5023978
                       1.522419080 1.55885235 0.3179078 0.92950137 2.1416482
age41-60age61+
                      age41-60gendermale
age41-60handright
                      age41-60regionnortheast
                      -0.358111426 -0.29316053 0.6457960 -1.55583384 1.2377801
                      0.801398309
age41-60regionsouth
                                 0.75370054 0.2706832 0.28374347 1.3421477
                       age41-60regionwest
```

```
1.142466320 1.17546449 0.3075743 0.58463312 1.7558581
age61+gendermale
age61+handright
                      1.007454886 1.12696502 0.2631714 0.50645814 1.4777685
age61+regionnortheast
                      -0.202040444 -0.41401404 0.8764591 -1.98958045 1.9240754
age61+regionsouth
                      1.079540691 1.16146081 0.3365160 0.45163933 1.7933434
age61+regionwest
                      gendermalehandright
                      gendermaleregionnortheast -0.432144066 -0.45093060 0.4099678 -1.15876612 0.4567809
                      0.442906402 \quad 0.44504591 \ 0.2258710 \quad 0.02932640 \ 0.9027890
gendermaleregionsouth
gendermaleregionwest
                      handrightregionnortheast
                      -0.424198385 -0.40033651 0.3914588 -1.15508320 0.3397812
                      handrightregionsouth
                      0.082515815 -0.02090105 0.2951985 -0.46964433 0.6930733
handrightregionwest
regionnortheastregionsouth -0.367245747 -0.46249524 0.4293266 -1.25918099 0.4616870
regionnortheastregionwest -0.513060696 -0.49490646 0.3879899 -1.30465297 0.2025283
regionsouthregionwest
                      Random Effects
Linear Coefficients
Component I:
                                   UB HPD
     mean
             mode
                      sd
                           LB HPD
RI 1.618089 1.511324 0.4339674 0.8254824 2.478743
Component II:
                           LB HPD
                                  UB HPD
     mean
                      sd
            mode
RI 2.611687 2.339492 0.5733991 1.593145 3.807101
Circular Coefficients
        mode
                  sd
                          LB
                                   UB
RI 0.887264 0.9007463 0.04144731 0.8009005 0.9486109
```

From < https://csafe-01.cssm.iastate.edu/