

Modellazione multilevel con componenti principali funzionali

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```
library(rstanarm)
library(bayesplot)
library(tidybayes)
library(ggplot2)
library(magrittr)
library(lme4)
library(dplyr)
library(gtools)
library(tidyverse)
```

Preprocessing

Costruiamo il dataset in formato “lungo” per la stima delle fPCA:

```
mandarino_wide = spread(mandarino[ , -6 ], time, "f0")
Y = as.matrix(mandarino_wide[ , 5:(NCOL(mandarino_wide)) ])      # Funzioni osservate

mandarino$peak = ifelse(mandarino$time >= 7 & mandarino$time <= 13, 1, 0)
```

Analisi con componenti principali funzionali (fPCA)

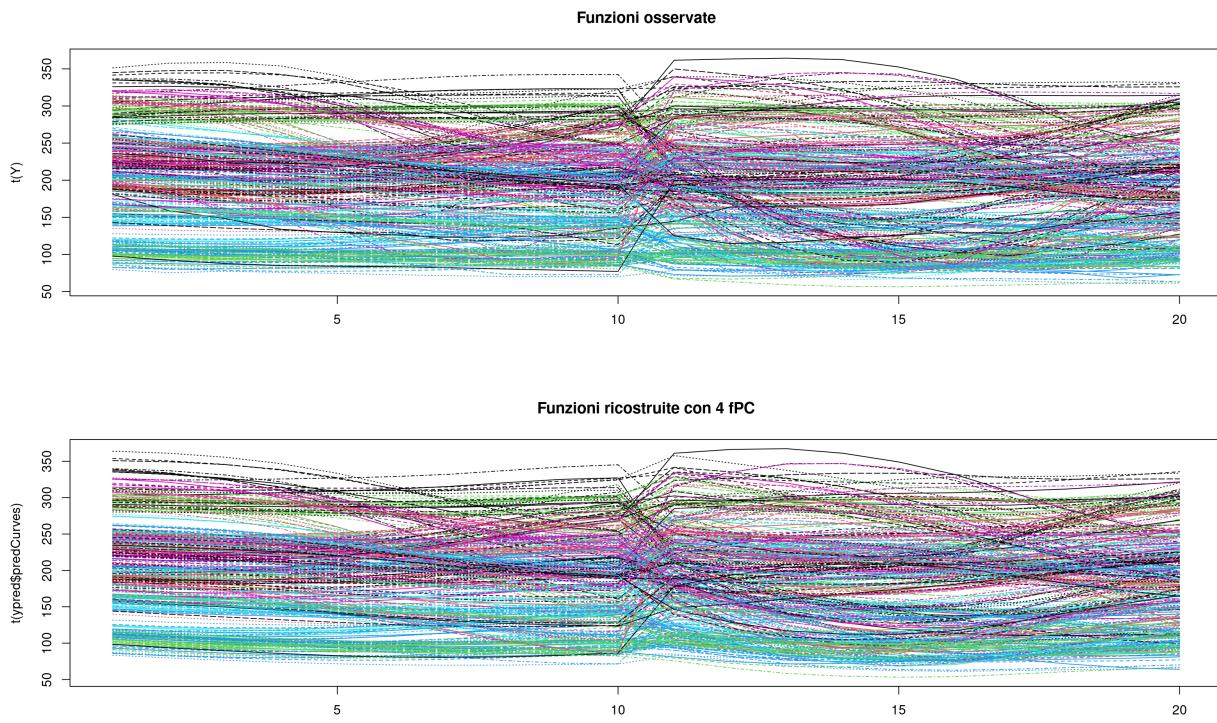
Stima delle funzioni principali che spieghino il 99% della varianza funzionale:

```
library(fdapace)

Y_list = lapply(seq_len(NROW(Y)), function(i) Y[i,])
t_list = lapply(seq_len(NROW(Y)), function(i) 1:20)

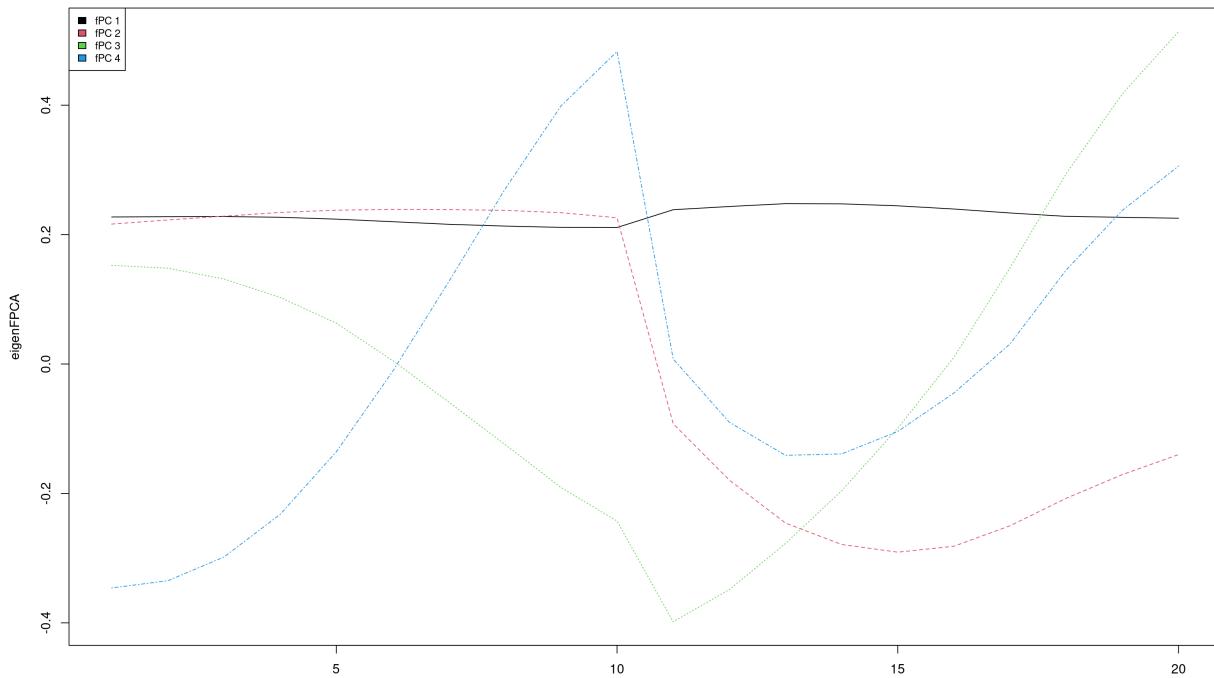
f pca = FPCA(Ly = Y_list, Lt = t_list, opts = list(FVEthreshold = fve))
K = f pca$selectK

ypred = predict(f pca, Y_list, t_list)
{
  # Confronto curve osservate con ricostruite tramite fPCA
  par(mfrow = c(2,1))
  matplot(t(Y), type = "l", main = "Funzioni osservate")
  matplot(t(ypred$predCurves), type = "l",
          main = paste0("Funzioni ricostruite con ", K, " fPC"))
  par(mfrow = c(1,1))
}
```



```
# Autofunzioni stimate
eigenFPCA = fPCA$phi
matplot(eigenFPCA, type = "l", main = "Funzioni principali")
legend("topleft", legend=paste0("fPC ", 1:K), col=1:K,cex=0.8, fill=1:K)
```

Funzioni principali



```
# Aggiungo le autofunzioni come covariate al dataset
eigenColumns = NULL
for(i in 1:NROW(Y)){
  eigenColumns = rbind(eigenColumns, eigenFPCA)
}

mandarino_fpca = cbind(mandarino, eigenColumns)
colnames(mandarino_fpca) = c(colnames(mandarino), paste0("PC", 1:K))
```

Verifico che la variabilità delle componenti principali non sia eccessiva, in modo che il modello successivo non stia “barando” nell’utilizzare le fpca stimate:

```
fPCA_list = vector(mode = "list", length = length(unique(mandarino$subject)))
i = 1
for(subj in unique(mandarino$subject)){
  idx = mandarino_wide$subject == subj
  Y_sub = as.matrix(mandarino_wide[!idx , 5:(NCOL(mandarino_wide)) ])
  # funzioni senza il soggetto
  Y_list_sub = lapply(seq_len(NROW(Y_sub)), function(i) Y_sub[i,])
  t_list_sub = lapply(seq_len(NROW(Y_sub)), function(i) 1:20)
  fPCA_list[[i]] = FPCA(Ly = Y_list_sub, Lt = t_list_sub, optns = list(FVEthreshold = fve))
  i = i+1
}

plot_phi_list = function(fPCA_list, m = 1){
  # Plot delle funzioni principali sovrapposte da una lista di oggetti fPCA
  #
  # @param fPCA_list: lista di fPCA
  # @param m: ordine della funzione principale da plottare
  #
```

```

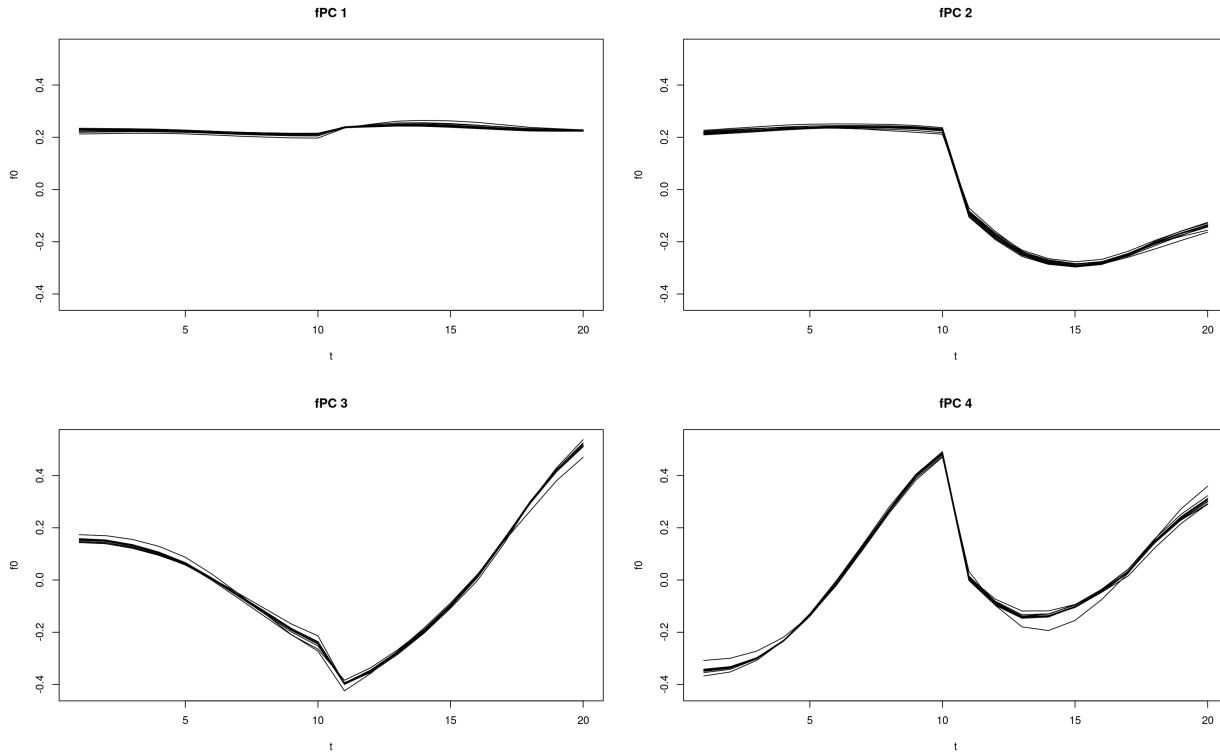
# @return oggetto plot contenente il grafico sovrapposto delle fpc

ymax = max(unlist(lapply(fPCA_list, function(obj) max(obj$phi))))
ymin = min(unlist(lapply(fPCA_list, function(obj) min(obj$phi)))))

plot(fPCA_list[[1]]$obsGrid, ylim = c(ymin, ymax), type = "n", xlab = "t", ylab = "f0", main = paste("fPC 1"))
for(i in 1:length(fPCA_list)){
  lines(fPCA_list[[i]]$obsGrid, fPCA_list[[i]]$phi[, m])
}
}

par(mfrow = c(2,2))
plot_phi_list(fPCA_list, 1)
plot_phi_list(fPCA_list, 2)
plot_phi_list(fPCA_list, 3)
plot_phi_list(fPCA_list, 4)

```



```

par(mfrow = c(1,1))

if(file.exists("fitStanLmerFPCA.Rdata")){
  load("fitStanLmerFPCA.Rdata")
} else{
  fitStanLmerFPCA = stan_glm(f0 ~ cog_load + current +
    PC1 + PC2 + PC3 + PC4 +
    PC1:syllable1 + PC1:syllable2 +
    PC2:syllable1 + PC2:syllable2 +
    PC3:syllable1 + PC3:syllable2 +
    PC4:syllable1 + PC4:syllable2 +
    (1 | subject) +
}
```

```

(0 + current|subject) +
(0 + PC1 + PC2 + PC3 + PC4|subject) +
(0 + PC1:syllable1 | subject) +
(0 + PC1:syllable2 | subject) +
(0 + PC2:syllable1 | subject) +
(0 + PC2:syllable2 | subject) +
(0 + PC3:syllable1 | subject) +
(0 + PC3:syllable2 | subject) +
(0 + PC4:syllable1 | subject) +
(0 + PC4:syllable2 | subject)
,
data = mandarino_fpca,
algorithm = "meanfield",
iter = 20000,
QR = TRUE)
save(fitStanLmerFpca, file="fitStanLmerFpca.Rdata")
}
summary(fitStanLmerFpca)

## Model Info:
## function: stan_glmer
## family: gaussian [identity]
## formula: f0 ~ cog_load + current + PC1 + PC2 + PC3 + PC4 + PC1:syllable1 +
##           PC1:syllable2 + PC2:syllable1 + PC2:syllable2 + PC3:syllable1 +
##           PC3:syllable2 + PC4:syllable1 + PC4:syllable2 + (1 | subject) +
##           (0 + current | subject) + (0 + PC1 + PC2 + PC3 + PC4 | subject) +
##           (0 + PC1:syllable1 | subject) + (0 + PC1:syllable2 | subject) +
##           (0 + PC2:syllable1 | subject) + (0 + PC2:syllable2 | subject) +
##           (0 + PC3:syllable1 | subject) + (0 + PC3:syllable2 | subject) +
##           (0 + PC4:syllable1 | subject) + (0 + PC4:syllable2 | subject)
## algorithm: meanfield
## priors: see help('prior_summary')
## observations: 7640
## groups: subject (12)
##
## Estimates:
##                                     mean      sd     10%    50%    90%
## (Intercept)                 -209.9    0.0  -209.9  -209.9  -209.9
## cog_loadCL6                  -1.4    0.0   -1.4   -1.4   -1.4
## currentT2                      6.8    0.0    6.8    6.8    6.8
## currentT3                     34.7    0.0   34.7   34.7   34.7
## currentT4                     -7.3    0.0   -7.3   -7.3   -7.3
## PC1                         1023.0   0.0  1023.0  1023.0  1023.0
## PC2                           43.9    0.0   43.9   43.9   43.9
## PC3                           17.0    0.0   17.0   17.0   17.0
## PC4                           41.7    0.0   41.7   41.7   41.7
## PC1:syllable1T2                -54.3   0.0  -54.3  -54.3  -54.3
## PC1:syllable1T3                -163.7   0.0 -163.7 -163.7 -163.7
## PC1:syllable1T4                 -15.2   0.0  -15.2  -15.2  -15.2
## PC1:syllable2T2                 -47.9   0.0  -47.9  -47.9  -47.9
## PC1:syllable2T3                 -194.5   0.0 -194.5 -194.5 -194.5
## PC1:syllable2T4                 -40.0    0.0  -40.0  -40.0  -40.0
## PC2:syllable1T2                 -69.8   0.0  -69.8  -69.8  -69.8

```

## PC2:syllable1T3	-164.4	0.0	-164.4	-164.4	-164.4
## PC2:syllable1T4	12.1	0.0	12.1	12.1	12.1
## PC2:syllable2T2	62.3	0.0	62.3	62.3	62.3
## PC2:syllable2T3	248.2	0.0	248.2	248.2	248.2
## PC2:syllable2T4	1.6	0.0	1.6	1.6	1.6
## PC3:syllable1T2	-14.9	0.0	-14.9	-14.9	-14.9
## PC3:syllable1T3	24.6	0.0	24.6	24.6	24.6
## PC3:syllable1T4	49.1	0.0	49.1	49.1	49.1
## PC3:syllable2T2	33.8	0.0	33.8	33.8	33.8
## PC3:syllable2T3	-39.0	0.0	-39.0	-39.0	-39.0
## PC3:syllable2T4	-78.5	0.0	-78.5	-78.5	-78.5
## PC4:syllable1T2	25.1	0.0	25.1	25.1	25.1
## PC4:syllable1T3	-15.2	0.0	-15.2	-15.2	-15.2
## PC4:syllable1T4	-67.7	0.0	-67.7	-67.7	-67.7
## PC4:syllable2T2	19.2	0.0	19.2	19.2	19.2
## PC4:syllable2T3	-0.1	0.0	-0.1	-0.1	-0.1
## PC4:syllable2T4	-28.1	0.0	-28.1	-28.1	-28.1
## b[(Intercept) subject:S2]	120.3	0.0	120.3	120.3	120.3
## b[(Intercept) subject:S1]	99.3	0.0	99.3	99.3	99.3
## b[(Intercept) subject:S5]	78.2	0.0	78.2	78.2	78.2
## b[(Intercept) subject:S9]	51.5	0.0	51.5	51.5	51.5
## b[(Intercept) subject:S8]	71.7	0.0	71.7	71.7	71.7
## b[(Intercept) subject:S3]	66.5	0.0	66.5	66.5	66.5
## b[(Intercept) subject:S4]	99.1	0.0	99.1	99.1	99.1
## b[(Intercept) subject:S12]	88.7	0.0	88.7	88.7	88.7
## b[(Intercept) subject:S11]	135.5	0.0	135.5	135.5	135.5
## b[(Intercept) subject:S7]	41.1	0.0	41.1	41.1	41.1
## b[(Intercept) subject:S6]	51.9	0.0	51.9	51.9	51.9
## b[(Intercept) subject:S10]	96.3	0.0	96.3	96.3	96.3
## b[currentT1 subject:S2]	42.2	0.0	42.2	42.2	42.2
## b[currentT2 subject:S2]	9.7	0.0	9.7	9.7	9.7
## b[currentT3 subject:S2]	-9.3	0.0	-9.3	-9.3	-9.3
## b[currentT4 subject:S2]	33.8	0.0	33.8	33.8	33.8
## b[currentT1 subject:S1]	23.7	0.0	23.7	23.7	23.7
## b[currentT2 subject:S1]	8.2	0.0	8.2	8.2	8.2
## b[currentT3 subject:S1]	4.8	0.0	4.8	4.8	4.8
## b[currentT4 subject:S1]	27.3	0.0	27.3	27.3	27.3
## b[currentT1 subject:S5]	77.9	0.0	77.9	77.9	77.9
## b[currentT2 subject:S5]	13.0	0.0	13.0	13.0	13.0
## b[currentT3 subject:S5]	-14.1	0.0	-14.1	-14.1	-14.1
## b[currentT4 subject:S5]	26.8	0.0	26.8	26.8	26.8
## b[currentT1 subject:S9]	7.9	0.0	7.9	7.9	7.9
## b[currentT2 subject:S9]	1.9	0.0	1.9	1.9	1.9
## b[currentT3 subject:S9]	7.7	0.0	7.7	7.7	7.7
## b[currentT4 subject:S9]	20.6	0.0	20.6	20.6	20.6
## b[currentT1 subject:S8]	33.3	0.0	33.3	33.3	33.3
## b[currentT2 subject:S8]	8.8	0.0	8.8	8.8	8.8
## b[currentT3 subject:S8]	-2.7	0.0	-2.7	-2.7	-2.7
## b[currentT4 subject:S8]	40.1	0.0	40.1	40.1	40.1
## b[currentT1 subject:S3]	25.6	0.0	25.6	25.6	25.6
## b[currentT2 subject:S3]	5.6	0.0	5.6	5.6	5.6
## b[currentT3 subject:S3]	1.6	0.0	1.6	1.6	1.6
## b[currentT4 subject:S3]	29.8	0.0	29.8	29.8	29.8
## b[currentT1 subject:S4]	61.9	0.0	61.9	61.9	61.9

## b[currentT2 subject:S4]	14.7	0.0	14.7	14.7	14.7
## b[currentT3 subject:S4]	-4.6	0.0	-4.6	-4.6	-4.6
## b[currentT4 subject:S4]	59.3	0.0	59.3	59.3	59.3
## b[currentT1 subject:S12]	23.4	0.0	23.4	23.4	23.4
## b[currentT2 subject:S12]	5.3	0.0	5.3	5.3	5.3
## b[currentT3 subject:S12]	-6.9	0.0	-6.9	-6.9	-6.9
## b[currentT4 subject:S12]	26.0	0.0	26.0	26.0	26.0
## b[currentT1 subject:S11]	32.8	0.0	32.8	32.8	32.8
## b[currentT2 subject:S11]	8.3	0.0	8.3	8.3	8.3
## b[currentT3 subject:S11]	-0.5	0.0	-0.5	-0.5	-0.5
## b[currentT4 subject:S11]	34.9	0.0	34.9	34.9	34.9
## b[currentT1 subject:S7]	-9.5	0.0	-9.5	-9.5	-9.5
## b[currentT2 subject:S7]	-0.2	0.0	-0.2	-0.2	-0.2
## b[currentT3 subject:S7]	15.4	0.0	15.4	15.4	15.4
## b[currentT4 subject:S7]	-1.6	0.0	-1.6	-1.6	-1.6
## b[currentT1 subject:S6]	4.6	0.0	4.6	4.6	4.6
## b[currentT2 subject:S6]	2.3	0.0	2.3	2.3	2.3
## b[currentT3 subject:S6]	4.0	0.0	4.0	4.0	4.0
## b[currentT4 subject:S6]	3.1	0.0	3.1	3.1	3.1
## b[currentT1 subject:S10]	34.7	0.0	34.7	34.7	34.7
## b[currentT2 subject:S10]	7.9	0.0	7.9	7.9	7.9
## b[currentT3 subject:S10]	-8.2	0.0	-8.2	-8.2	-8.2
## b[currentT4 subject:S10]	23.2	0.0	23.2	23.2	23.2
## b[PC1 subject:S2]	328.7	0.0	328.7	328.7	328.7
## b[PC2 subject:S2]	29.9	0.0	29.9	29.9	29.9
## b[PC3 subject:S2]	-4.6	0.0	-4.6	-4.6	-4.6
## b[PC4 subject:S2]	-5.1	0.0	-5.1	-5.1	-5.1
## b[PC1 subject:S1]	231.7	0.0	231.7	231.7	231.7
## b[PC2 subject:S1]	4.3	0.0	4.3	4.3	4.3
## b[PC3 subject:S1]	1.6	0.0	1.6	1.6	1.6
## b[PC4 subject:S1]	-2.5	0.0	-2.5	-2.5	-2.5
## b[PC1 subject:S5]	376.0	0.0	376.0	376.0	376.0
## b[PC2 subject:S5]	7.2	0.0	7.2	7.2	7.2
## b[PC3 subject:S5]	8.7	0.0	8.7	8.7	8.7
## b[PC4 subject:S5]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC1 subject:S9]	204.7	0.0	204.7	204.7	204.7
## b[PC2 subject:S9]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3 subject:S9]	-1.9	0.0	-1.9	-1.9	-1.9
## b[PC4 subject:S9]	3.6	0.0	3.6	3.6	3.6
## b[PC1 subject:S8]	393.7	0.0	393.7	393.7	393.7
## b[PC2 subject:S8]	33.2	0.0	33.2	33.2	33.2
## b[PC3 subject:S8]	-6.2	0.0	-6.2	-6.2	-6.2
## b[PC4 subject:S8]	-9.6	0.0	-9.6	-9.6	-9.6
## b[PC1 subject:S3]	360.0	0.0	360.0	360.0	360.0
## b[PC2 subject:S3]	26.2	0.0	26.2	26.2	26.2
## b[PC3 subject:S3]	-1.2	0.0	-1.2	-1.2	-1.2
## b[PC4 subject:S3]	-12.0	0.0	-12.0	-12.0	-12.0
## b[PC1 subject:S4]	382.0	0.0	382.0	382.0	382.0
## b[PC2 subject:S4]	21.5	0.0	21.5	21.5	21.5
## b[PC3 subject:S4]	1.3	0.0	1.3	1.3	1.3
## b[PC4 subject:S4]	-1.1	0.0	-1.1	-1.1	-1.1
## b[PC1 subject:S12]	303.9	0.0	303.9	303.9	303.9
## b[PC2 subject:S12]	15.2	0.0	15.2	15.2	15.2
## b[PC3 subject:S12]	-0.3	0.0	-0.3	-0.3	-0.3

## b[PC4 subject:S12]	-4.1	0.0	-4.1	-4.1	-4.1
## b[PC1 subject:S11]	308.2	0.0	308.2	308.2	308.2
## b[PC2 subject:S11]	15.8	0.0	15.8	15.8	15.8
## b[PC3 subject:S11]	-6.2	0.0	-6.2	-6.2	-6.2
## b[PC4 subject:S11]	-11.3	0.0	-11.3	-11.3	-11.3
## b[PC1 subject:S7]	158.8	0.0	158.8	158.8	158.8
## b[PC2 subject:S7]	-12.9	0.0	-12.9	-12.9	-12.9
## b[PC3 subject:S7]	4.8	0.0	4.8	4.8	4.8
## b[PC4 subject:S7]	-5.9	0.0	-5.9	-5.9	-5.9
## b[PC1 subject:S6]	227.7	0.0	227.7	227.7	227.7
## b[PC2 subject:S6]	-7.0	0.0	-7.0	-7.0	-7.0
## b[PC3 subject:S6]	-1.5	0.0	-1.5	-1.5	-1.5
## b[PC4 subject:S6]	2.8	0.0	2.8	2.8	2.8
## b[PC1 subject:S10]	289.4	0.0	289.4	289.4	289.4
## b[PC2 subject:S10]	20.8	0.0	20.8	20.8	20.8
## b[PC3 subject:S10]	-2.2	0.0	-2.2	-2.2	-2.2
## b[PC4 subject:S10]	-7.5	0.0	-7.5	-7.5	-7.5
## b[PC1:syllable1T1 subject:S2]	78.7	0.0	78.7	78.7	78.7
## b[PC1:syllable1T2 subject:S2]	90.8	0.0	90.8	90.8	90.8
## b[PC1:syllable1T3 subject:S2]	58.2	0.0	58.2	58.2	58.2
## b[PC1:syllable1T4 subject:S2]	59.3	0.0	59.3	59.3	59.3
## b[PC1:syllable1T1 subject:S1]	84.0	0.0	84.0	84.0	84.0
## b[PC1:syllable1T2 subject:S1]	91.2	0.0	91.2	91.2	91.2
## b[PC1:syllable1T3 subject:S1]	63.1	0.0	63.1	63.1	63.1
## b[PC1:syllable1T4 subject:S1]	80.9	0.0	80.9	80.9	80.9
## b[PC1:syllable1T1 subject:S5]	91.9	0.0	91.9	91.9	91.9
## b[PC1:syllable1T2 subject:S5]	117.3	0.0	117.3	117.3	117.3
## b[PC1:syllable1T3 subject:S5]	87.5	0.0	87.5	87.5	87.5
## b[PC1:syllable1T4 subject:S5]	76.9	0.0	76.9	76.9	76.9
## b[PC1:syllable1T1 subject:S9]	50.0	0.0	50.0	50.0	50.0
## b[PC1:syllable1T2 subject:S9]	44.6	0.0	44.6	44.6	44.6
## b[PC1:syllable1T3 subject:S9]	38.6	0.0	38.6	38.6	38.6
## b[PC1:syllable1T4 subject:S9]	53.6	0.0	53.6	53.6	53.6
## b[PC1:syllable1T1 subject:S8]	70.3	0.0	70.3	70.3	70.3
## b[PC1:syllable1T2 subject:S8]	106.5	0.0	106.5	106.5	106.5
## b[PC1:syllable1T3 subject:S8]	70.4	0.0	70.4	70.4	70.4
## b[PC1:syllable1T4 subject:S8]	69.7	0.0	69.7	69.7	69.7
## b[PC1:syllable1T1 subject:S3]	50.9	0.0	50.9	50.9	50.9
## b[PC1:syllable1T2 subject:S3]	51.4	0.0	51.4	51.4	51.4
## b[PC1:syllable1T3 subject:S3]	47.3	0.0	47.3	47.3	47.3
## b[PC1:syllable1T4 subject:S3]	46.3	0.0	46.3	46.3	46.3
## b[PC1:syllable1T1 subject:S4]	116.2	0.0	116.2	116.2	116.2
## b[PC1:syllable1T2 subject:S4]	154.2	0.0	154.2	154.2	154.2
## b[PC1:syllable1T3 subject:S4]	143.5	0.0	143.5	143.5	143.5
## b[PC1:syllable1T4 subject:S4]	100.7	0.0	100.7	100.7	100.7
## b[PC1:syllable1T1 subject:S12]	59.7	0.0	59.7	59.7	59.7
## b[PC1:syllable1T2 subject:S12]	77.2	0.0	77.2	77.2	77.2
## b[PC1:syllable1T3 subject:S12]	49.7	0.0	49.7	49.7	49.7
## b[PC1:syllable1T4 subject:S12]	59.8	0.0	59.8	59.8	59.8
## b[PC1:syllable1T1 subject:S11]	94.6	0.0	94.6	94.6	94.6
## b[PC1:syllable1T2 subject:S11]	121.7	0.0	121.7	121.7	121.7
## b[PC1:syllable1T3 subject:S11]	120.7	0.0	120.7	120.7	120.7
## b[PC1:syllable1T4 subject:S11]	72.5	0.0	72.5	72.5	72.5
## b[PC1:syllable1T1 subject:S7]	40.3	0.0	40.3	40.3	40.3

## b[PC1:syllable1T2 subject:S7]	45.6	0.0	45.6	45.6	45.6
## b[PC1:syllable1T3 subject:S7]	43.8	0.0	43.8	43.8	43.8
## b[PC1:syllable1T4 subject:S7]	38.5	0.0	38.5	38.5	38.5
## b[PC1:syllable1T1 subject:S6]	57.9	0.0	57.9	57.9	57.9
## b[PC1:syllable1T2 subject:S6]	71.0	0.0	71.0	71.0	71.0
## b[PC1:syllable1T3 subject:S6]	60.0	0.0	60.0	60.0	60.0
## b[PC1:syllable1T4 subject:S6]	39.9	0.0	39.9	39.9	39.9
## b[PC1:syllable1T1 subject:S10]	67.5	0.0	67.5	67.5	67.5
## b[PC1:syllable1T2 subject:S10]	96.5	0.0	96.5	96.5	96.5
## b[PC1:syllable1T3 subject:S10]	71.3	0.0	71.3	71.3	71.3
## b[PC1:syllable1T4 subject:S10]	64.9	0.0	64.9	64.9	64.9
## b[PC1:syllable2T1 subject:S2]	-2.3	0.0	-2.3	-2.3	-2.3
## b[PC1:syllable2T2 subject:S2]	28.2	0.0	28.2	28.2	28.2
## b[PC1:syllable2T3 subject:S2]	-6.0	0.0	-6.0	-6.0	-6.0
## b[PC1:syllable2T4 subject:S2]	84.2	0.0	84.2	84.2	84.2
## b[PC1:syllable2T1 subject:S1]	1.3	0.0	1.3	1.3	1.3
## b[PC1:syllable2T2 subject:S1]	0.0	0.0	0.0	0.0	0.0
## b[PC1:syllable2T3 subject:S1]	22.8	0.0	22.8	22.8	22.8
## b[PC1:syllable2T4 subject:S1]	39.7	0.0	39.7	39.7	39.7
## b[PC1:syllable2T1 subject:S5]	-3.0	0.0	-3.0	-3.0	-3.0
## b[PC1:syllable2T2 subject:S5]	11.7	0.0	11.7	11.7	11.7
## b[PC1:syllable2T3 subject:S5]	-1.4	0.0	-1.4	-1.4	-1.4
## b[PC1:syllable2T4 subject:S5]	64.4	0.0	64.4	64.4	64.4
## b[PC1:syllable2T1 subject:S9]	1.1	0.0	1.1	1.1	1.1
## b[PC1:syllable2T2 subject:S9]	-9.6	0.0	-9.6	-9.6	-9.6
## b[PC1:syllable2T3 subject:S9]	22.1	0.0	22.1	22.1	22.1
## b[PC1:syllable2T4 subject:S9]	42.6	0.0	42.6	42.6	42.6
## b[PC1:syllable2T1 subject:S8]	1.7	0.0	1.7	1.7	1.7
## b[PC1:syllable2T2 subject:S8]	30.3	0.0	30.3	30.3	30.3
## b[PC1:syllable2T3 subject:S8]	-22.0	0.0	-22.0	-22.0	-22.0
## b[PC1:syllable2T4 subject:S8]	58.8	0.0	58.8	58.8	58.8
## b[PC1:syllable2T1 subject:S3]	-2.3	0.0	-2.3	-2.3	-2.3
## b[PC1:syllable2T2 subject:S3]	5.4	0.0	5.4	5.4	5.4
## b[PC1:syllable2T3 subject:S3]	11.5	0.0	11.5	11.5	11.5
## b[PC1:syllable2T4 subject:S3]	58.2	0.0	58.2	58.2	58.2
## b[PC1:syllable2T1 subject:S4]	-1.7	0.0	-1.7	-1.7	-1.7
## b[PC1:syllable2T2 subject:S4]	28.4	0.0	28.4	28.4	28.4
## b[PC1:syllable2T3 subject:S4]	-36.0	0.0	-36.0	-36.0	-36.0
## b[PC1:syllable2T4 subject:S4]	70.6	0.0	70.6	70.6	70.6
## b[PC1:syllable2T1 subject:S12]	3.0	0.0	3.0	3.0	3.0
## b[PC1:syllable2T2 subject:S12]	35.7	0.0	35.7	35.7	35.7
## b[PC1:syllable2T3 subject:S12]	5.1	0.0	5.1	5.1	5.1
## b[PC1:syllable2T4 subject:S12]	37.0	0.0	37.0	37.0	37.0
## b[PC1:syllable2T1 subject:S11]	3.3	0.0	3.3	3.3	3.3
## b[PC1:syllable2T2 subject:S11]	19.3	0.0	19.3	19.3	19.3
## b[PC1:syllable2T3 subject:S11]	1.5	0.0	1.5	1.5	1.5
## b[PC1:syllable2T4 subject:S11]	53.0	0.0	53.0	53.0	53.0
## b[PC1:syllable2T1 subject:S7]	1.1	0.0	1.1	1.1	1.1
## b[PC1:syllable2T2 subject:S7]	-9.8	0.0	-9.8	-9.8	-9.8
## b[PC1:syllable2T3 subject:S7]	19.2	0.0	19.2	19.2	19.2
## b[PC1:syllable2T4 subject:S7]	30.3	0.0	30.3	30.3	30.3
## b[PC1:syllable2T1 subject:S6]	1.2	0.0	1.2	1.2	1.2
## b[PC1:syllable2T2 subject:S6]	3.7	0.0	3.7	3.7	3.7
## b[PC1:syllable2T3 subject:S6]	12.2	0.0	12.2	12.2	12.2

## b[PC1:syllable2T4 subject:S6]	53.1	0.0	53.1	53.1	53.1
## b[PC1:syllable2T1 subject:S10]	-0.8	0.0	-0.8	-0.8	-0.8
## b[PC1:syllable2T2 subject:S10]	36.2	0.0	36.2	36.2	36.2
## b[PC1:syllable2T3 subject:S10]	-41.4	0.0	-41.4	-41.4	-41.4
## b[PC1:syllable2T4 subject:S10]	51.1	0.0	51.1	51.1	51.1
## b[PC2:syllable1T1 subject:S2]	0.4	0.0	0.4	0.4	0.4
## b[PC2:syllable1T2 subject:S2]	0.1	0.0	0.1	0.1	0.1
## b[PC2:syllable1T3 subject:S2]	0.2	0.0	0.2	0.2	0.2
## b[PC2:syllable1T4 subject:S2]	0.8	0.0	0.8	0.8	0.8
## b[PC2:syllable1T1 subject:S1]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC2:syllable1T2 subject:S1]	0.0	0.0	0.0	0.0	0.0
## b[PC2:syllable1T3 subject:S1]	-0.8	0.0	-0.8	-0.8	-0.8
## b[PC2:syllable1T4 subject:S1]	-0.7	0.0	-0.7	-0.7	-0.7
## b[PC2:syllable1T1 subject:S5]	1.6	0.0	1.6	1.6	1.6
## b[PC2:syllable1T2 subject:S5]	0.1	0.0	0.1	0.1	0.1
## b[PC2:syllable1T3 subject:S5]	1.1	0.0	1.1	1.1	1.1
## b[PC2:syllable1T4 subject:S5]	0.8	0.0	0.8	0.8	0.8
## b[PC2:syllable1T1 subject:S9]	0.7	0.0	0.7	0.7	0.7
## b[PC2:syllable1T2 subject:S9]	0.2	0.0	0.2	0.2	0.2
## b[PC2:syllable1T3 subject:S9]	0.3	0.0	0.3	0.3	0.3
## b[PC2:syllable1T4 subject:S9]	0.3	0.0	0.3	0.3	0.3
## b[PC2:syllable1T1 subject:S8]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC2:syllable1T2 subject:S8]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC2:syllable1T3 subject:S8]	-0.3	0.0	-0.3	-0.3	-0.3
## b[PC2:syllable1T4 subject:S8]	-0.7	0.0	-0.7	-0.7	-0.7
## b[PC2:syllable1T1 subject:S3]	0.5	0.0	0.5	0.5	0.5
## b[PC2:syllable1T2 subject:S3]	0.0	0.0	0.0	0.0	0.0
## b[PC2:syllable1T3 subject:S3]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC2:syllable1T4 subject:S3]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC2:syllable1T1 subject:S4]	0.4	0.0	0.4	0.4	0.4
## b[PC2:syllable1T2 subject:S4]	0.2	0.0	0.2	0.2	0.2
## b[PC2:syllable1T3 subject:S4]	0.2	0.0	0.2	0.2	0.2
## b[PC2:syllable1T4 subject:S4]	0.4	0.0	0.4	0.4	0.4
## b[PC2:syllable1T1 subject:S12]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC2:syllable1T2 subject:S12]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC2:syllable1T3 subject:S12]	1.2	0.0	1.2	1.2	1.2
## b[PC2:syllable1T4 subject:S12]	0.4	0.0	0.4	0.4	0.4
## b[PC2:syllable1T1 subject:S11]	0.9	0.0	0.9	0.9	0.9
## b[PC2:syllable1T2 subject:S11]	0.0	0.0	0.0	0.0	0.0
## b[PC2:syllable1T3 subject:S11]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC2:syllable1T4 subject:S11]	0.5	0.0	0.5	0.5	0.5
## b[PC2:syllable1T1 subject:S7]	-1.2	0.0	-1.2	-1.2	-1.2
## b[PC2:syllable1T2 subject:S7]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC2:syllable1T3 subject:S7]	-0.8	0.0	-0.8	-0.8	-0.8
## b[PC2:syllable1T4 subject:S7]	-0.4	0.0	-0.4	-0.4	-0.4
## b[PC2:syllable1T1 subject:S6]	-0.3	0.0	-0.3	-0.3	-0.3
## b[PC2:syllable1T2 subject:S6]	0.1	0.0	0.1	0.1	0.1
## b[PC2:syllable1T3 subject:S6]	0.1	0.0	0.1	0.1	0.1
## b[PC2:syllable1T4 subject:S6]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC2:syllable1T1 subject:S10]	0.9	0.0	0.9	0.9	0.9
## b[PC2:syllable1T2 subject:S10]	0.3	0.0	0.3	0.3	0.3
## b[PC2:syllable1T3 subject:S10]	1.3	0.0	1.3	1.3	1.3
## b[PC2:syllable1T4 subject:S10]	1.2	0.0	1.2	1.2	1.2
## b[PC2:syllable2T1 subject:S2]	0.2	0.0	0.2	0.2	0.2

## b[PC2:syllable2T2 subject:S2]	1.9	0.0	1.9	1.9	1.9
## b[PC2:syllable2T3 subject:S2]	17.3	0.0	17.3	17.3	17.3
## b[PC2:syllable2T4 subject:S2]	-6.6	0.0	-6.6	-6.6	-6.6
## b[PC2:syllable2T1 subject:S1]	0.5	0.0	0.5	0.5	0.5
## b[PC2:syllable2T2 subject:S1]	0.0	0.0	0.0	0.0	0.0
## b[PC2:syllable2T3 subject:S1]	-16.5	0.0	-16.5	-16.5	-16.5
## b[PC2:syllable2T4 subject:S1]	10.5	0.0	10.5	10.5	10.5
## b[PC2:syllable2T1 subject:S5]	0.6	0.0	0.6	0.6	0.6
## b[PC2:syllable2T2 subject:S5]	0.3	0.0	0.3	0.3	0.3
## b[PC2:syllable2T3 subject:S5]	7.2	0.0	7.2	7.2	7.2
## b[PC2:syllable2T4 subject:S5]	-9.6	0.0	-9.6	-9.6	-9.6
## b[PC2:syllable2T1 subject:S9]	1.8	0.0	1.8	1.8	1.8
## b[PC2:syllable2T2 subject:S9]	-0.3	0.0	-0.3	-0.3	-0.3
## b[PC2:syllable2T3 subject:S9]	-47.0	0.0	-47.0	-47.0	-47.0
## b[PC2:syllable2T4 subject:S9]	3.0	0.0	3.0	3.0	3.0
## b[PC2:syllable2T1 subject:S8]	-3.0	0.0	-3.0	-3.0	-3.0
## b[PC2:syllable2T2 subject:S8]	2.4	0.0	2.4	2.4	2.4
## b[PC2:syllable2T3 subject:S8]	18.6	0.0	18.6	18.6	18.6
## b[PC2:syllable2T4 subject:S8]	4.4	0.0	4.4	4.4	4.4
## b[PC2:syllable2T1 subject:S3]	0.8	0.0	0.8	0.8	0.8
## b[PC2:syllable2T2 subject:S3]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC2:syllable2T3 subject:S3]	0.0	0.0	0.0	0.0	0.0
## b[PC2:syllable2T4 subject:S3]	-1.3	0.0	-1.3	-1.3	-1.3
## b[PC2:syllable2T1 subject:S4]	-3.3	0.0	-3.3	-3.3	-3.3
## b[PC2:syllable2T2 subject:S4]	-1.6	0.0	-1.6	-1.6	-1.6
## b[PC2:syllable2T3 subject:S4]	39.7	0.0	39.7	39.7	39.7
## b[PC2:syllable2T4 subject:S4]	-6.1	0.0	-6.1	-6.1	-6.1
## b[PC2:syllable2T1 subject:S12]	3.9	0.0	3.9	3.9	3.9
## b[PC2:syllable2T2 subject:S12]	0.6	0.0	0.6	0.6	0.6
## b[PC2:syllable2T3 subject:S12]	-8.6	0.0	-8.6	-8.6	-8.6
## b[PC2:syllable2T4 subject:S12]	-14.4	0.0	-14.4	-14.4	-14.4
## b[PC2:syllable2T1 subject:S11]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC2:syllable2T2 subject:S11]	-3.6	0.0	-3.6	-3.6	-3.6
## b[PC2:syllable2T3 subject:S11]	11.6	0.0	11.6	11.6	11.6
## b[PC2:syllable2T4 subject:S11]	-11.5	0.0	-11.5	-11.5	-11.5
## b[PC2:syllable2T1 subject:S7]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC2:syllable2T2 subject:S7]	2.2	0.0	2.2	2.2	2.2
## b[PC2:syllable2T3 subject:S7]	-42.9	0.0	-42.9	-42.9	-42.9
## b[PC2:syllable2T4 subject:S7]	4.6	0.0	4.6	4.6	4.6
## b[PC2:syllable2T1 subject:S6]	0.5	0.0	0.5	0.5	0.5
## b[PC2:syllable2T2 subject:S6]	-2.6	0.0	-2.6	-2.6	-2.6
## b[PC2:syllable2T3 subject:S6]	-37.1	0.0	-37.1	-37.1	-37.1
## b[PC2:syllable2T4 subject:S6]	-0.7	0.0	-0.7	-0.7	-0.7
## b[PC2:syllable2T1 subject:S10]	-1.1	0.0	-1.1	-1.1	-1.1
## b[PC2:syllable2T2 subject:S10]	-1.6	0.0	-1.6	-1.6	-1.6
## b[PC2:syllable2T3 subject:S10]	27.1	0.0	27.1	27.1	27.1
## b[PC2:syllable2T4 subject:S10]	-11.3	0.0	-11.3	-11.3	-11.3
## b[PC3:syllable1T1 subject:S2]	0.2	0.0	0.2	0.2	0.2
## b[PC3:syllable1T2 subject:S2]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T3 subject:S2]	-0.8	0.0	-0.8	-0.8	-0.8
## b[PC3:syllable1T4 subject:S2]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T1 subject:S1]	0.0	0.0	0.0	0.0	0.0
## b[PC3:syllable1T2 subject:S1]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC3:syllable1T3 subject:S1]	-0.1	0.0	-0.1	-0.1	-0.1

## b[PC3:syllable1T4 subject:S1]	0.1	0.0	0.1	0.1	0.1
## b[PC3:syllable1T1 subject:S5]	0.3	0.0	0.3	0.3	0.3
## b[PC3:syllable1T2 subject:S5]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T3 subject:S5]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T4 subject:S5]	0.0	0.0	0.0	0.0	0.0
## b[PC3:syllable1T1 subject:S9]	0.0	0.0	0.0	0.0	0.0
## b[PC3:syllable1T2 subject:S9]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC3:syllable1T3 subject:S9]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T4 subject:S9]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC3:syllable1T1 subject:S8]	-0.7	0.0	-0.7	-0.7	-0.7
## b[PC3:syllable1T2 subject:S8]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC3:syllable1T3 subject:S8]	0.3	0.0	0.3	0.3	0.3
## b[PC3:syllable1T4 subject:S8]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC3:syllable1T1 subject:S3]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC3:syllable1T2 subject:S3]	-0.3	0.0	-0.3	-0.3	-0.3
## b[PC3:syllable1T3 subject:S3]	-0.6	0.0	-0.6	-0.6	-0.6
## b[PC3:syllable1T4 subject:S3]	0.6	0.0	0.6	0.6	0.6
## b[PC3:syllable1T1 subject:S4]	0.2	0.0	0.2	0.2	0.2
## b[PC3:syllable1T2 subject:S4]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC3:syllable1T3 subject:S4]	-0.3	0.0	-0.3	-0.3	-0.3
## b[PC3:syllable1T4 subject:S4]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC3:syllable1T1 subject:S12]	0.8	0.0	0.8	0.8	0.8
## b[PC3:syllable1T2 subject:S12]	0.3	0.0	0.3	0.3	0.3
## b[PC3:syllable1T3 subject:S12]	-0.3	0.0	-0.3	-0.3	-0.3
## b[PC3:syllable1T4 subject:S12]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T1 subject:S11]	0.3	0.0	0.3	0.3	0.3
## b[PC3:syllable1T2 subject:S11]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T3 subject:S11]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T4 subject:S11]	0.0	0.0	0.0	0.0	0.0
## b[PC3:syllable1T1 subject:S7]	0.2	0.0	0.2	0.2	0.2
## b[PC3:syllable1T2 subject:S7]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T3 subject:S7]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC3:syllable1T4 subject:S7]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC3:syllable1T1 subject:S6]	-1.1	0.0	-1.1	-1.1	-1.1
## b[PC3:syllable1T2 subject:S6]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC3:syllable1T3 subject:S6]	0.1	0.0	0.1	0.1	0.1
## b[PC3:syllable1T4 subject:S6]	0.5	0.0	0.5	0.5	0.5
## b[PC3:syllable1T1 subject:S10]	0.4	0.0	0.4	0.4	0.4
## b[PC3:syllable1T2 subject:S10]	0.3	0.0	0.3	0.3	0.3
## b[PC3:syllable1T3 subject:S10]	-0.6	0.0	-0.6	-0.6	-0.6
## b[PC3:syllable1T4 subject:S10]	-0.2	0.0	-0.2	-0.2	-0.2
## b[PC3:syllable2T1 subject:S2]	16.1	0.0	16.1	16.1	16.1
## b[PC3:syllable2T2 subject:S2]	30.0	0.0	30.0	30.0	30.0
## b[PC3:syllable2T3 subject:S2]	11.3	0.0	11.3	11.3	11.3
## b[PC3:syllable2T4 subject:S2]	-54.5	0.0	-54.5	-54.5	-54.5
## b[PC3:syllable2T1 subject:S1]	-3.2	0.0	-3.2	-3.2	-3.2
## b[PC3:syllable2T2 subject:S1]	-9.4	0.0	-9.4	-9.4	-9.4
## b[PC3:syllable2T3 subject:S1]	-4.8	0.0	-4.8	-4.8	-4.8
## b[PC3:syllable2T4 subject:S1]	26.2	0.0	26.2	26.2	26.2
## b[PC3:syllable2T1 subject:S5]	9.5	0.0	9.5	9.5	9.5
## b[PC3:syllable2T2 subject:S5]	29.1	0.0	29.1	29.1	29.1
## b[PC3:syllable2T3 subject:S5]	51.9	0.0	51.9	51.9	51.9
## b[PC3:syllable2T4 subject:S5]	-68.7	0.0	-68.7	-68.7	-68.7
## b[PC3:syllable2T1 subject:S9]	-10.7	0.0	-10.7	-10.7	-10.7

## b[PC3:syllable2T2 subject:S9]	-12.6	0.0	-12.6	-12.6	-12.6
## b[PC3:syllable2T3 subject:S9]	13.2	0.0	13.2	13.2	13.2
## b[PC3:syllable2T4 subject:S9]	8.4	0.0	8.4	8.4	8.4
## b[PC3:syllable2T1 subject:S8]	4.8	0.0	4.8	4.8	4.8
## b[PC3:syllable2T2 subject:S8]	-6.7	0.0	-6.7	-6.7	-6.7
## b[PC3:syllable2T3 subject:S8]	-43.5	0.0	-43.5	-43.5	-43.5
## b[PC3:syllable2T4 subject:S8]	28.7	0.0	28.7	28.7	28.7
## b[PC3:syllable2T1 subject:S3]	2.4	0.0	2.4	2.4	2.4
## b[PC3:syllable2T2 subject:S3]	4.8	0.0	4.8	4.8	4.8
## b[PC3:syllable2T3 subject:S3]	1.9	0.0	1.9	1.9	1.9
## b[PC3:syllable2T4 subject:S3]	-7.3	0.0	-7.3	-7.3	-7.3
## b[PC3:syllable2T1 subject:S4]	5.3	0.0	5.3	5.3	5.3
## b[PC3:syllable2T2 subject:S4]	6.0	0.0	6.0	6.0	6.0
## b[PC3:syllable2T3 subject:S4]	-10.6	0.0	-10.6	-10.6	-10.6
## b[PC3:syllable2T4 subject:S4]	-14.1	0.0	-14.1	-14.1	-14.1
## b[PC3:syllable2T1 subject:S12]	-2.8	0.0	-2.8	-2.8	-2.8
## b[PC3:syllable2T2 subject:S12]	-8.4	0.0	-8.4	-8.4	-8.4
## b[PC3:syllable2T3 subject:S12]	-5.1	0.0	-5.1	-5.1	-5.1
## b[PC3:syllable2T4 subject:S12]	7.4	0.0	7.4	7.4	7.4
## b[PC3:syllable2T1 subject:S11]	6.6	0.0	6.6	6.6	6.6
## b[PC3:syllable2T2 subject:S11]	1.6	0.0	1.6	1.6	1.6
## b[PC3:syllable2T3 subject:S11]	-34.6	0.0	-34.6	-34.6	-34.6
## b[PC3:syllable2T4 subject:S11]	9.9	0.0	9.9	9.9	9.9
## b[PC3:syllable2T1 subject:S7]	-11.4	0.0	-11.4	-11.4	-11.4
## b[PC3:syllable2T2 subject:S7]	-21.8	0.0	-21.8	-21.8	-21.8
## b[PC3:syllable2T3 subject:S7]	-2.5	0.0	-2.5	-2.5	-2.5
## b[PC3:syllable2T4 subject:S7]	42.5	0.0	42.5	42.5	42.5
## b[PC3:syllable2T1 subject:S6]	1.0	0.0	1.0	1.0	1.0
## b[PC3:syllable2T2 subject:S6]	-2.7	0.0	-2.7	-2.7	-2.7
## b[PC3:syllable2T3 subject:S6]	5.2	0.0	5.2	5.2	5.2
## b[PC3:syllable2T4 subject:S6]	6.7	0.0	6.7	6.7	6.7
## b[PC3:syllable2T1 subject:S10]	-1.1	0.0	-1.1	-1.1	-1.1
## b[PC3:syllable2T2 subject:S10]	1.1	0.0	1.1	1.1	1.1
## b[PC3:syllable2T3 subject:S10]	-4.6	0.0	-4.6	-4.6	-4.6
## b[PC3:syllable2T4 subject:S10]	4.3	0.0	4.3	4.3	4.3
## b[PC4:syllable1T1 subject:S2]	-0.7	0.0	-0.7	-0.7	-0.7
## b[PC4:syllable1T2 subject:S2]	14.9	0.0	14.9	14.9	14.9
## b[PC4:syllable1T3 subject:S2]	-7.0	0.0	-7.0	-7.0	-7.0
## b[PC4:syllable1T4 subject:S2]	-69.0	0.0	-69.0	-69.0	-69.0
## b[PC4:syllable1T1 subject:S1]	0.7	0.0	0.7	0.7	0.7
## b[PC4:syllable1T2 subject:S1]	-7.0	0.0	-7.0	-7.0	-7.0
## b[PC4:syllable1T3 subject:S1]	-1.6	0.0	-1.6	-1.6	-1.6
## b[PC4:syllable1T4 subject:S1]	37.1	0.0	37.1	37.1	37.1
## b[PC4:syllable1T1 subject:S5]	-0.3	0.0	-0.3	-0.3	-0.3
## b[PC4:syllable1T2 subject:S5]	25.7	0.0	25.7	25.7	25.7
## b[PC4:syllable1T3 subject:S5]	-23.7	0.0	-23.7	-23.7	-23.7
## b[PC4:syllable1T4 subject:S5]	-58.8	0.0	-58.8	-58.8	-58.8
## b[PC4:syllable1T1 subject:S9]	-3.2	0.0	-3.2	-3.2	-3.2
## b[PC4:syllable1T2 subject:S9]	-8.9	0.0	-8.9	-8.9	-8.9
## b[PC4:syllable1T3 subject:S9]	3.4	0.0	3.4	3.4	3.4
## b[PC4:syllable1T4 subject:S9]	12.2	0.0	12.2	12.2	12.2
## b[PC4:syllable1T1 subject:S8]	2.7	0.0	2.7	2.7	2.7
## b[PC4:syllable1T2 subject:S8]	3.2	0.0	3.2	3.2	3.2
## b[PC4:syllable1T3 subject:S8]	3.6	0.0	3.6	3.6	3.6

## b[PC4:syllable1T4 subject:S8]	5.3	0.0	5.3	5.3	5.3
## b[PC4:syllable1T1 subject:S3]	0.1	0.0	0.1	0.1	0.1
## b[PC4:syllable1T2 subject:S3]	5.5	0.0	5.5	5.5	5.5
## b[PC4:syllable1T3 subject:S3]	5.2	0.0	5.2	5.2	5.2
## b[PC4:syllable1T4 subject:S3]	6.6	0.0	6.6	6.6	6.6
## b[PC4:syllable1T1 subject:S4]	2.5	0.0	2.5	2.5	2.5
## b[PC4:syllable1T2 subject:S4]	4.8	0.0	4.8	4.8	4.8
## b[PC4:syllable1T3 subject:S4]	-3.1	0.0	-3.1	-3.1	-3.1
## b[PC4:syllable1T4 subject:S4]	-21.4	0.0	-21.4	-21.4	-21.4
## b[PC4:syllable1T1 subject:S12]	1.0	0.0	1.0	1.0	1.0
## b[PC4:syllable1T2 subject:S12]	3.8	0.0	3.8	3.8	3.8
## b[PC4:syllable1T3 subject:S12]	-11.2	0.0	-11.2	-11.2	-11.2
## b[PC4:syllable1T4 subject:S12]	1.9	0.0	1.9	1.9	1.9
## b[PC4:syllable1T1 subject:S11]	-4.6	0.0	-4.6	-4.6	-4.6
## b[PC4:syllable1T2 subject:S11]	-7.4	0.0	-7.4	-7.4	-7.4
## b[PC4:syllable1T3 subject:S11]	1.1	0.0	1.1	1.1	1.1
## b[PC4:syllable1T4 subject:S11]	20.5	0.0	20.5	20.5	20.5
## b[PC4:syllable1T1 subject:S7]	-1.5	0.0	-1.5	-1.5	-1.5
## b[PC4:syllable1T2 subject:S7]	-21.5	0.0	-21.5	-21.5	-21.5
## b[PC4:syllable1T3 subject:S7]	12.5	0.0	12.5	12.5	12.5
## b[PC4:syllable1T4 subject:S7]	34.2	0.0	34.2	34.2	34.2
## b[PC4:syllable1T1 subject:S6]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC4:syllable1T2 subject:S6]	-9.7	0.0	-9.7	-9.7	-9.7
## b[PC4:syllable1T3 subject:S6]	13.4	0.0	13.4	13.4	13.4
## b[PC4:syllable1T4 subject:S6]	2.4	0.0	2.4	2.4	2.4
## b[PC4:syllable1T1 subject:S10]	-4.1	0.0	-4.1	-4.1	-4.1
## b[PC4:syllable1T2 subject:S10]	-14.3	0.0	-14.3	-14.3	-14.3
## b[PC4:syllable1T3 subject:S10]	8.4	0.0	8.4	8.4	8.4
## b[PC4:syllable1T4 subject:S10]	20.4	0.0	20.4	20.4	20.4
## b[PC4:syllable2T1 subject:S2]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC4:syllable2T2 subject:S2]	-3.9	0.0	-3.9	-3.9	-3.9
## b[PC4:syllable2T3 subject:S2]	-3.2	0.0	-3.2	-3.2	-3.2
## b[PC4:syllable2T4 subject:S2]	7.7	0.0	7.7	7.7	7.7
## b[PC4:syllable2T1 subject:S1]	0.4	0.0	0.4	0.4	0.4
## b[PC4:syllable2T2 subject:S1]	4.8	0.0	4.8	4.8	4.8
## b[PC4:syllable2T3 subject:S1]	4.6	0.0	4.6	4.6	4.6
## b[PC4:syllable2T4 subject:S1]	-8.1	0.0	-8.1	-8.1	-8.1
## b[PC4:syllable2T1 subject:S5]	1.5	0.0	1.5	1.5	1.5
## b[PC4:syllable2T2 subject:S5]	4.1	0.0	4.1	4.1	4.1
## b[PC4:syllable2T3 subject:S5]	24.3	0.0	24.3	24.3	24.3
## b[PC4:syllable2T4 subject:S5]	-21.9	0.0	-21.9	-21.9	-21.9
## b[PC4:syllable2T1 subject:S9]	-4.0	0.0	-4.0	-4.0	-4.0
## b[PC4:syllable2T2 subject:S9]	-14.1	0.0	-14.1	-14.1	-14.1
## b[PC4:syllable2T3 subject:S9]	-16.3	0.0	-16.3	-16.3	-16.3
## b[PC4:syllable2T4 subject:S9]	30.4	0.0	30.4	30.4	30.4
## b[PC4:syllable2T1 subject:S8]	-4.0	0.0	-4.0	-4.0	-4.0
## b[PC4:syllable2T2 subject:S8]	-1.9	0.0	-1.9	-1.9	-1.9
## b[PC4:syllable2T3 subject:S8]	2.8	0.0	2.8	2.8	2.8
## b[PC4:syllable2T4 subject:S8]	2.1	0.0	2.1	2.1	2.1
## b[PC4:syllable2T1 subject:S3]	0.1	0.0	0.1	0.1	0.1
## b[PC4:syllable2T2 subject:S3]	2.3	0.0	2.3	2.3	2.3
## b[PC4:syllable2T3 subject:S3]	3.8	0.0	3.8	3.8	3.8
## b[PC4:syllable2T4 subject:S3]	-5.0	0.0	-5.0	-5.0	-5.0
## b[PC4:syllable2T1 subject:S4]	3.4	0.0	3.4	3.4	3.4

## b[PC4:syllable2T2 subject:S4]	3.0	0.0	3.0	3.0	3.0
## b[PC4:syllable2T3 subject:S4]	4.9	0.0	4.9	4.9	4.9
## b[PC4:syllable2T4 subject:S4]	-8.0	0.0	-8.0	-8.0	-8.0
## b[PC4:syllable2T1 subject:S12]	-3.3	0.0	-3.3	-3.3	-3.3
## b[PC4:syllable2T2 subject:S12]	-7.9	0.0	-7.9	-7.9	-7.9
## b[PC4:syllable2T3 subject:S12]	-1.4	0.0	-1.4	-1.4	-1.4
## b[PC4:syllable2T4 subject:S12]	11.2	0.0	11.2	11.2	11.2
## b[PC4:syllable2T1 subject:S11]	-0.5	0.0	-0.5	-0.5	-0.5
## b[PC4:syllable2T2 subject:S11]	-4.9	0.0	-4.9	-4.9	-4.9
## b[PC4:syllable2T3 subject:S11]	2.4	0.0	2.4	2.4	2.4
## b[PC4:syllable2T4 subject:S11]	4.5	0.0	4.5	4.5	4.5
## b[PC4:syllable2T1 subject:S7]	-1.4	0.0	-1.4	-1.4	-1.4
## b[PC4:syllable2T2 subject:S7]	-4.0	0.0	-4.0	-4.0	-4.0
## b[PC4:syllable2T3 subject:S7]	-8.7	0.0	-8.7	-8.7	-8.7
## b[PC4:syllable2T4 subject:S7]	11.8	0.0	11.8	11.8	11.8
## b[PC4:syllable2T1 subject:S6]	7.0	0.0	7.0	7.0	7.0
## b[PC4:syllable2T2 subject:S6]	-1.1	0.0	-1.1	-1.1	-1.1
## b[PC4:syllable2T3 subject:S6]	-3.7	0.0	-3.7	-3.7	-3.7
## b[PC4:syllable2T4 subject:S6]	0.1	0.0	0.1	0.1	0.1
## b[PC4:syllable2T1 subject:S10]	1.5	0.0	1.5	1.5	1.5
## b[PC4:syllable2T2 subject:S10]	4.0	0.0	4.0	4.0	4.0
## b[PC4:syllable2T3 subject:S10]	8.2	0.0	8.2	8.2	8.2
## b[PC4:syllable2T4 subject:S10]	-8.1	0.0	-8.1	-8.1	-8.1
## sigma	18.5	0.0	18.5	18.5	18.5
## Sigma[subject:(Intercept),(Intercept)]	807.8	0.0	807.8	807.8	807.8
## Sigma[subject:currentT1,currentT1]	361.9	0.0	361.9	361.9	361.9
## Sigma[subject:currentT2,currentT1]	59.7	0.0	59.7	59.7	59.7
## Sigma[subject:currentT3,currentT1]	-38.4	0.0	-38.4	-38.4	-38.4
## Sigma[subject:currentT4,currentT1]	121.2	0.0	121.2	121.2	121.2
## Sigma[subject:currentT2,currentT2]	13.7	0.0	13.7	13.7	13.7
## Sigma[subject:currentT3,currentT2]	-0.9	0.0	-0.9	-0.9	-0.9
## Sigma[subject:currentT4,currentT2]	29.4	0.0	29.4	29.4	29.4
## Sigma[subject:currentT3,currentT3]	31.0	0.0	31.0	31.0	31.0
## Sigma[subject:currentT4,currentT3]	-0.4	0.0	-0.4	-0.4	-0.4
## Sigma[subject:currentT4,currentT4]	144.0	0.0	144.0	144.0	144.0
## Sigma[subject:PC1,PC1]	13108.0	0.0	13108.0	13108.0	13108.0
## Sigma[subject:PC2,PC1]	514.7	0.0	514.7	514.7	514.7
## Sigma[subject:PC3,PC1]	-34.9	0.0	-34.9	-34.9	-34.9
## Sigma[subject:PC4,PC1]	-103.2	0.0	-103.2	-103.2	-103.2
## Sigma[subject:PC2,PC2]	105.7	0.0	105.7	105.7	105.7
## Sigma[subject:PC3,PC2]	-28.7	0.0	-28.7	-28.7	-28.7
## Sigma[subject:PC4,PC2]	-21.3	0.0	-21.3	-21.3	-21.3
## Sigma[subject:PC3,PC3]	49.8	0.0	49.8	49.8	49.8
## Sigma[subject:PC4,PC3]	5.5	0.0	5.5	5.5	5.5
## Sigma[subject:PC4,PC4]	34.1	0.0	34.1	34.1	34.1
## Sigma[subject:PC1:syllable1T1,PC1:syllable1T1]	957.0	0.0	957.0	957.0	957.0
## Sigma[subject:PC1:syllable1T2,PC1:syllable1T1]	1034.8	0.0	1034.8	1034.8	1034.8
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T1]	747.1	0.0	747.1	747.1	747.1
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T1]	718.0	0.0	718.0	718.0	718.0
## Sigma[subject:PC1:syllable1T2,PC1:syllable1T2]	1316.8	0.0	1316.8	1316.8	1316.8
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T2]	904.6	0.0	904.6	904.6	904.6
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T2]	841.1	0.0	841.1	841.1	841.1
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T3]	972.2	0.0	972.2	972.2	972.2
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T3]	584.4	0.0	584.4	584.4	584.4

## Sigma[subject:PC1:syllable1T4,PC1:syllable1T4]	629.3	0.0	629.3	629.3	629.3
## Sigma[subject:PC1:syllable2T1,PC1:syllable2T1]	10.0	0.0	10.0	10.0	10.0
## Sigma[subject:PC1:syllable2T2,PC1:syllable2T1]	-5.1	0.0	-5.1	-5.1	-5.1
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T1]	22.3	0.0	22.3	22.3	22.3
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T1]	-17.7	0.0	-17.7	-17.7	-17.7
## Sigma[subject:PC1:syllable2T2,PC1:syllable2T2]	433.3	0.0	433.3	433.3	433.3
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T2]	-71.4	0.0	-71.4	-71.4	-71.4
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T2]	55.4	0.0	55.4	55.4	55.4
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T3]	253.9	0.0	253.9	253.9	253.9
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T3]	-4.0	0.0	-4.0	-4.0	-4.0
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T4]	1364.1	0.0	1364.1	1364.1	1364.1
## Sigma[subject:PC2:syllable1T1,PC2:syllable1T1]	1.0	0.0	1.0	1.0	1.0
## Sigma[subject:PC2:syllable1T2,PC2:syllable1T1]	0.1	0.0	0.1	0.1	0.1
## Sigma[subject:PC2:syllable1T3,PC2:syllable1T1]	0.2	0.0	0.2	0.2	0.2
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T1]	0.2	0.0	0.2	0.2	0.2
## Sigma[subject:PC2:syllable1T2,PC2:syllable1T2]	0.1	0.0	0.1	0.1	0.1
## Sigma[subject:PC2:syllable1T3,PC2:syllable1T2]	0.0	0.0	0.0	0.0	0.0
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T2]	0.0	0.0	0.0	0.0	0.0
## Sigma[subject:PC2:syllable1T3,PC2:syllable1T3]	0.3	0.0	0.3	0.3	0.3
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T3]	0.2	0.0	0.2	0.2	0.2
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T4]	0.3	0.0	0.3	0.3	0.3
## Sigma[subject:PC2:syllable2T1,PC2:syllable2T1]	12.4	0.0	12.4	12.4	12.4
## Sigma[subject:PC2:syllable2T2,PC2:syllable2T1]	-7.3	0.0	-7.3	-7.3	-7.3
## Sigma[subject:PC2:syllable2T3,PC2:syllable2T1]	-1.8	0.0	-1.8	-1.8	-1.8
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T1]	5.4	0.0	5.4	5.4	5.4
## Sigma[subject:PC2:syllable2T2,PC2:syllable2T2]	12.3	0.0	12.3	12.3	12.3
## Sigma[subject:PC2:syllable2T3,PC2:syllable2T2]	-4.2	0.0	-4.2	-4.2	-4.2
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T2]	3.0	0.0	3.0	3.0	3.0
## Sigma[subject:PC2:syllable2T3,PC2:syllable2T3]	208.6	0.0	208.6	208.6	208.6
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T3]	-17.3	0.0	-17.3	-17.3	-17.3
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T4]	61.3	0.0	61.3	61.3	61.3
## Sigma[subject:PC3:syllable1T1,PC3:syllable1T1]	0.2	0.0	0.2	0.2	0.2
## Sigma[subject:PC3:syllable1T2,PC3:syllable1T1]	0.1	0.0	0.1	0.1	0.1
## Sigma[subject:PC3:syllable1T3,PC3:syllable1T1]	0.0	0.0	0.0	0.0	0.0
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T1]	-0.1	0.0	-0.1	-0.1	-0.1
## Sigma[subject:PC3:syllable1T2,PC3:syllable1T2]	0.0	0.0	0.0	0.0	0.0
## Sigma[subject:PC3:syllable1T3,PC3:syllable1T2]	0.0	0.0	0.0	0.0	0.0
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T2]	0.0	0.0	0.0	0.0	0.0
## Sigma[subject:PC3:syllable1T3,PC3:syllable1T3]	0.1	0.0	0.1	0.1	0.1
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T3]	0.0	0.0	0.0	0.0	0.0
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T4]	0.1	0.0	0.1	0.1	0.1
## Sigma[subject:PC3:syllable2T1,PC3:syllable2T1]	60.2	0.0	60.2	60.2	60.2
## Sigma[subject:PC3:syllable2T2,PC3:syllable2T1]	44.6	0.0	44.6	44.6	44.6
## Sigma[subject:PC3:syllable2T3,PC3:syllable2T1]	-16.6	0.0	-16.6	-16.6	-16.6
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T1]	-1.8	0.0	-1.8	-1.8	-1.8
## Sigma[subject:PC3:syllable2T2,PC3:syllable2T2]	78.1	0.0	78.1	78.1	78.1
## Sigma[subject:PC3:syllable2T3,PC3:syllable2T2]	-0.4	0.0	-0.4	-0.4	-0.4
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T2]	-90.6	0.0	-90.6	-90.6	-90.6
## Sigma[subject:PC3:syllable2T3,PC3:syllable2T3]	275.9	0.0	275.9	275.9	275.9
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T3]	-50.8	0.0	-50.8	-50.8	-50.8
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T4]	255.0	0.0	255.0	255.0	255.0
## Sigma[subject:PC4:syllable1T1,PC4:syllable1T1]	18.9	0.0	18.9	18.9	18.9
## Sigma[subject:PC4:syllable1T2,PC4:syllable1T1]	7.2	0.0	7.2	7.2	7.2
## Sigma[subject:PC4:syllable1T3,PC4:syllable1T1]	-4.1	0.0	-4.1	-4.1	-4.1

```

## Sigma[subject:PC4:syllable1T4,PC4:syllable1T1]    19.5    0.0    19.5    19.5    19.5
## Sigma[subject:PC4:syllable1T2,PC4:syllable1T2]    67.0    0.0    67.0    67.0    67.0
## Sigma[subject:PC4:syllable1T3,PC4:syllable1T2]   -43.5    0.0   -43.5   -43.5   -43.5
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T2]   -16.3    0.0   -16.3   -16.3   -16.3
## Sigma[subject:PC4:syllable1T3,PC4:syllable1T3]   126.0    0.0   126.0   126.0   126.0
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T3]     8.6    0.0    8.6    8.6    8.6
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T4]   408.9    0.0   408.9   408.9   408.9
## Sigma[subject:PC4:syllable2T1,PC4:syllable2T1]     4.4    0.0    4.4    4.4    4.4
## Sigma[subject:PC4:syllable2T2,PC4:syllable2T1]     1.0    0.0    1.0    1.0    1.0
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T1]   -4.0    0.0   -4.0   -4.0   -4.0
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T1]   -0.8    0.0   -0.8   -0.8   -0.8
## Sigma[subject:PC4:syllable2T2,PC4:syllable2T2]   21.7    0.0   21.7   21.7   21.7
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T2]   11.6    0.0   11.6   11.6   11.6
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T2]  -33.2    0.0  -33.2  -33.2  -33.2
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T3]   45.2    0.0   45.2   45.2   45.2
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T3]  -39.8    0.0  -39.8  -39.8  -39.8
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T4]   65.5    0.0   65.5   65.5   65.5
##
## Fit Diagnostics:
##           mean      sd    10%    50%    90%
## mean_PPD 191.6    0.0 191.6 191.6 191.6
##
## The mean_ppd is the sample average posterior predictive distribution of the outcome variable (for de
##
## Monte Carlo diagnostics
##                                     mcse khat n_eff
## (Intercept)                      0.0 21.2 NA
## cog_loadCL6                      0.0 20.7 NA
## currentT2                        0.0 20.8 NA
## currentT3                        0.0 20.7 NA
## currentT4                        0.0 20.8 NA
## PC1                             0.0 20.8 NA
## PC2                             0.0 20.7 NA
## PC3                             0.0 20.9 NA
## PC4                             0.0 20.8 NA
## PC1:syllable1T2                  0.0 20.8 NA
## PC1:syllable1T3                  0.0 20.7 NA
## PC1:syllable1T4                  0.0 20.7 NA
## PC1:syllable2T2                  0.0 20.9 NA
## PC1:syllable2T3                  0.0 20.5 NA
## PC1:syllable2T4                  0.0 20.8 NA
## PC2:syllable1T2                  0.0 20.8 NA
## PC2:syllable1T3                  0.0 20.7 NA
## PC2:syllable1T4                  0.0 20.9 NA
## PC2:syllable2T2                  0.0 20.8 NA
## PC2:syllable2T3                  0.0 20.7 NA
## PC2:syllable2T4                  0.0 20.9 NA
## PC3:syllable1T2                  0.0 20.7 NA
## PC3:syllable1T3                  0.0 20.7 NA
## PC3:syllable1T4                  0.0 20.7 NA
## PC3:syllable2T2                  0.0 20.7 NA
## PC3:syllable2T3                  0.0 20.8 NA
## PC3:syllable2T4                  0.0 20.7 NA
## PC4:syllable1T2                  0.0 20.7 NA

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## PC4:syllable1T3          0.0 20.6 NA
## PC4:syllable1T4          0.0 20.8 NA
## PC4:syllable2T2          0.0 20.6 NA
## PC4:syllable2T3          0.0 20.7 NA
## PC4:syllable2T4          0.0 20.7 NA
## b[(Intercept) subject:S2] 0.0 20.7 NA
## b[(Intercept) subject:S1] 0.0 20.7 NA
## b[(Intercept) subject:S5] 0.0 20.7 NA
## b[(Intercept) subject:S9] 0.0 20.7 NA
## b[(Intercept) subject:S8] 0.0 20.7 NA
## b[(Intercept) subject:S3] 0.0 20.7 NA
## b[(Intercept) subject:S4] 0.0 20.7 NA
## b[(Intercept) subject:S12] 0.0 20.7 NA
## b[(Intercept) subject:S11] 0.0 20.7 NA
## b[(Intercept) subject:S7] 0.0 20.7 NA
## b[(Intercept) subject:S6] 0.0 20.7 NA
## b[(Intercept) subject:S10] 0.0 20.7 NA
## b[currentT1 subject:S2] 0.0 20.7 NA
## b[currentT2 subject:S2] 0.0 20.8 NA
## b[currentT3 subject:S2] 0.0 21.4 NA
## b[currentT4 subject:S2] 0.0 20.6 NA
## b[currentT1 subject:S1] 0.0 20.8 NA
## b[currentT2 subject:S1] 0.0 21.0 NA
## b[currentT3 subject:S1] 0.0 21.2 NA
## b[currentT4 subject:S1] 0.0 20.9 NA
## b[currentT1 subject:S5] 0.0 20.7 NA
## b[currentT2 subject:S5] 0.0 20.8 NA
## b[currentT3 subject:S5] 0.0 20.7 NA
## b[currentT4 subject:S5] 0.0 20.8 NA
## b[currentT1 subject:S9] 0.0 20.5 NA
## b[currentT2 subject:S9] 0.0 20.5 NA
## b[currentT3 subject:S9] 0.0 20.7 NA
## b[currentT4 subject:S9] 0.0 20.7 NA
## b[currentT1 subject:S8] 0.0 20.7 NA
## b[currentT2 subject:S8] 0.0 20.8 NA
## b[currentT3 subject:S8] 0.0 21.0 NA
## b[currentT4 subject:S8] 0.0 20.6 NA
## b[currentT1 subject:S3] 0.0 20.7 NA
## b[currentT2 subject:S3] 0.0 20.7 NA
## b[currentT3 subject:S3] 0.0 20.6 NA
## b[currentT4 subject:S3] 0.0 20.7 NA
## b[currentT1 subject:S4] 0.0 20.7 NA
## b[currentT2 subject:S4] 0.0 20.9 NA
## b[currentT3 subject:S4] 0.0 20.7 NA
## b[currentT4 subject:S4] 0.0 20.7 NA
## b[currentT1 subject:S12] 0.0 20.7 NA
## b[currentT2 subject:S12] 0.0 20.7 NA
## b[currentT3 subject:S12] 0.0 20.8 NA
## b[currentT4 subject:S12] 0.0 20.6 NA
## b[currentT1 subject:S11] 0.0 20.8 NA
## b[currentT2 subject:S11] 0.0 20.9 NA
## b[currentT3 subject:S11] 0.0 20.9 NA
## b[currentT4 subject:S11] 0.0 20.7 NA
## b[currentT1 subject:S7] 0.0 20.6 NA

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## b[currentT2 subject:S7]          0.0 20.7 NA
## b[currentT3 subject:S7]          0.0 20.7 NA
## b[currentT4 subject:S7]          0.0 21.1 NA
## b[currentT1 subject:S6]          0.0 20.7 NA
## b[currentT2 subject:S6]          0.0 21.0 NA
## b[currentT3 subject:S6]          0.0 20.8 NA
## b[currentT4 subject:S6]          0.0 20.9 NA
## b[currentT1 subject:S10]         0.0 20.7 NA
## b[currentT2 subject:S10]         0.0 20.8 NA
## b[currentT3 subject:S10]         0.0 20.6 NA
## b[currentT4 subject:S10]         0.0 20.7 NA
## b[PC1 subject:S2]                0.0 20.7 NA
## b[PC2 subject:S2]                0.0 20.6 NA
## b[PC3 subject:S2]                0.0 20.8 NA
## b[PC4 subject:S2]                0.0 20.9 NA
## b[PC1 subject:S1]                0.0 20.7 NA
## b[PC2 subject:S1]                0.0 20.3 NA
## b[PC3 subject:S1]                0.0 20.7 NA
## b[PC4 subject:S1]                0.0 21.0 NA
## b[PC1 subject:S5]                0.0 20.7 NA
## b[PC2 subject:S5]                0.0 21.1 NA
## b[PC3 subject:S5]                0.0 20.7 NA
## b[PC4 subject:S5]                0.0 20.6 NA
## b[PC1 subject:S9]                0.0 20.7 NA
## b[PC2 subject:S9]                0.0 20.5 NA
## b[PC3 subject:S9]                0.0 20.7 NA
## b[PC4 subject:S9]                0.0 20.6 NA
## b[PC1 subject:S8]                0.0 20.7 NA
## b[PC2 subject:S8]                0.0 20.5 NA
## b[PC3 subject:S8]                0.0 21.2 NA
## b[PC4 subject:S8]                0.0 20.4 NA
## b[PC1 subject:S3]                0.0 20.7 NA
## b[PC2 subject:S3]                0.0 20.6 NA
## b[PC3 subject:S3]                0.0 20.4 NA
## b[PC4 subject:S3]                0.0 21.3 NA
## b[PC1 subject:S4]                0.0 20.7 NA
## b[PC2 subject:S4]                0.0 20.7 NA
## b[PC3 subject:S4]                0.0 21.2 NA
## b[PC4 subject:S4]                0.0 20.9 NA
## b[PC1 subject:S12]               0.0 20.7 NA
## b[PC2 subject:S12]               0.0 20.6 NA
## b[PC3 subject:S12]               0.0 20.9 NA
## b[PC4 subject:S12]               0.0 20.5 NA
## b[PC1 subject:S11]               0.0 20.7 NA
## b[PC2 subject:S11]               0.0 20.4 NA
## b[PC3 subject:S11]               0.0 20.8 NA
## b[PC4 subject:S11]               0.0 20.5 NA
## b[PC1 subject:S7]                0.0 20.7 NA
## b[PC2 subject:S7]                0.0 20.8 NA
## b[PC3 subject:S7]                0.0 20.7 NA
## b[PC4 subject:S7]                0.0 20.8 NA
## b[PC1 subject:S6]                0.0 20.7 NA
## b[PC2 subject:S6]                0.0 20.7 NA
## b[PC3 subject:S6]                0.0 20.8 NA

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## b[PC4 subject:S6]          0.0 20.8 NA
## b[PC1 subject:S10]         0.0 20.7 NA
## b[PC2 subject:S10]         0.0 20.5 NA
## b[PC3 subject:S10]         0.0 20.9 NA
## b[PC4 subject:S10]         0.0 20.7 NA
## b[PC1:syllable1T1 subject:S2] 0.0 20.7 NA
## b[PC1:syllable1T2 subject:S2] 0.0 20.7 NA
## b[PC1:syllable1T3 subject:S2] 0.0 20.5 NA
## b[PC1:syllable1T4 subject:S2] 0.0 20.7 NA
## b[PC1:syllable1T1 subject:S1] 0.0 20.7 NA
## b[PC1:syllable1T2 subject:S1] 0.0 20.7 NA
## b[PC1:syllable1T3 subject:S1] 0.0 20.7 NA
## b[PC1:syllable1T4 subject:S1] 0.0 20.7 NA
## b[PC1:syllable1T1 subject:S5] 0.0 20.6 NA
## b[PC1:syllable1T2 subject:S5] 0.0 20.6 NA
## b[PC1:syllable1T3 subject:S5] 0.0 20.7 NA
## b[PC1:syllable1T4 subject:S5] 0.0 20.6 NA
## b[PC1:syllable1T1 subject:S9] 0.0 20.7 NA
## b[PC1:syllable1T2 subject:S9] 0.0 20.6 NA
## b[PC1:syllable1T3 subject:S9] 0.0 20.4 NA
## b[PC1:syllable1T4 subject:S9] 0.0 20.7 NA
## b[PC1:syllable1T1 subject:S8] 0.0 20.6 NA
## b[PC1:syllable1T2 subject:S8] 0.0 20.7 NA
## b[PC1:syllable1T3 subject:S8] 0.0 20.6 NA
## b[PC1:syllable1T4 subject:S8] 0.0 20.6 NA
## b[PC1:syllable1T1 subject:S3] 0.0 20.6 NA
## b[PC1:syllable1T2 subject:S3] 0.0 20.7 NA
## b[PC1:syllable1T3 subject:S3] 0.0 20.6 NA
## b[PC1:syllable1T4 subject:S3] 0.0 20.7 NA
## b[PC1:syllable1T1 subject:S4] 0.0 20.6 NA
## b[PC1:syllable1T2 subject:S4] 0.0 20.7 NA
## b[PC1:syllable1T3 subject:S4] 0.0 20.6 NA
## b[PC1:syllable1T4 subject:S4] 0.0 20.8 NA
## b[PC1:syllable1T1 subject:S12] 0.0 20.5 NA
## b[PC1:syllable1T2 subject:S12] 0.0 20.6 NA
## b[PC1:syllable1T3 subject:S12] 0.0 20.5 NA
## b[PC1:syllable1T4 subject:S12] 0.0 20.7 NA
## b[PC1:syllable1T1 subject:S11] 0.0 20.5 NA
## b[PC1:syllable1T2 subject:S11] 0.0 20.6 NA
## b[PC1:syllable1T3 subject:S11] 0.0 20.6 NA
## b[PC1:syllable1T4 subject:S11] 0.0 20.6 NA
## b[PC1:syllable1T1 subject:S7] 0.0 20.7 NA
## b[PC1:syllable1T2 subject:S7] 0.0 20.7 NA
## b[PC1:syllable1T3 subject:S7] 0.0 20.8 NA
## b[PC1:syllable1T4 subject:S7] 0.0 20.6 NA
## b[PC1:syllable1T1 subject:S6] 0.0 20.7 NA
## b[PC1:syllable1T2 subject:S6] 0.0 20.7 NA
## b[PC1:syllable1T3 subject:S6] 0.0 20.7 NA
## b[PC1:syllable1T4 subject:S6] 0.0 20.7 NA
## b[PC1:syllable1T1 subject:S10] 0.0 20.7 NA
## b[PC1:syllable1T2 subject:S10] 0.0 20.7 NA
## b[PC1:syllable1T3 subject:S10] 0.0 20.7 NA
## b[PC1:syllable1T4 subject:S10] 0.0 20.8 NA
## b[PC1:syllable2T1 subject:S2] 0.0 20.7 NA

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## b[PC1:syllable2T2 subject:S2]          0.0 20.8 NA
## b[PC1:syllable2T3 subject:S2]          0.0 21.0 NA
## b[PC1:syllable2T4 subject:S2]          0.0 20.8 NA
## b[PC1:syllable2T1 subject:S1]          0.0 20.6 NA
## b[PC1:syllable2T2 subject:S1]          0.0 20.4 NA
## b[PC1:syllable2T3 subject:S1]          0.0 21.0 NA
## b[PC1:syllable2T4 subject:S1]          0.0 20.7 NA
## b[PC1:syllable2T1 subject:S5]          0.0 20.4 NA
## b[PC1:syllable2T2 subject:S5]          0.0 20.8 NA
## b[PC1:syllable2T3 subject:S5]          0.0 20.5 NA
## b[PC1:syllable2T4 subject:S5]          0.0 20.6 NA
## b[PC1:syllable2T1 subject:S9]          0.0 20.2 NA
## b[PC1:syllable2T2 subject:S9]          0.0 20.6 NA
## b[PC1:syllable2T3 subject:S9]          0.0 21.2 NA
## b[PC1:syllable2T4 subject:S9]          0.0 20.9 NA
## b[PC1:syllable2T1 subject:S8]          0.0 21.2 NA
## b[PC1:syllable2T2 subject:S8]          0.0 20.7 NA
## b[PC1:syllable2T3 subject:S8]          0.0 20.7 NA
## b[PC1:syllable2T4 subject:S8]          0.0 20.6 NA
## b[PC1:syllable2T1 subject:S3]          0.0 20.9 NA
## b[PC1:syllable2T2 subject:S3]          0.0 21.0 NA
## b[PC1:syllable2T3 subject:S3]          0.0 20.7 NA
## b[PC1:syllable2T4 subject:S3]          0.0 20.9 NA
## b[PC1:syllable2T1 subject:S4]          0.0 20.9 NA
## b[PC1:syllable2T2 subject:S4]          0.0 20.7 NA
## b[PC1:syllable2T3 subject:S4]          0.0 20.8 NA
## b[PC1:syllable2T4 subject:S4]          0.0 20.6 NA
## b[PC1:syllable2T1 subject:S12]         0.0 20.6 NA
## b[PC1:syllable2T2 subject:S12]         0.0 20.7 NA
## b[PC1:syllable2T3 subject:S12]         0.0 21.0 NA
## b[PC1:syllable2T4 subject:S12]         0.0 20.4 NA
## b[PC1:syllable2T1 subject:S11]         0.0 20.5 NA
## b[PC1:syllable2T2 subject:S11]         0.0 21.0 NA
## b[PC1:syllable2T3 subject:S11]         0.0 20.9 NA
## b[PC1:syllable2T4 subject:S11]         0.0 20.6 NA
## b[PC1:syllable2T1 subject:S7]          0.0 21.1 NA
## b[PC1:syllable2T2 subject:S7]          0.0 21.0 NA
## b[PC1:syllable2T3 subject:S7]          0.0 20.7 NA
## b[PC1:syllable2T4 subject:S7]          0.0 20.9 NA
## b[PC1:syllable2T1 subject:S6]          0.0 21.3 NA
## b[PC1:syllable2T2 subject:S6]          0.0 21.1 NA
## b[PC1:syllable2T3 subject:S6]          0.0 20.9 NA
## b[PC1:syllable2T4 subject:S6]          0.0 20.7 NA
## b[PC1:syllable2T1 subject:S10]         0.0 20.6 NA
## b[PC1:syllable2T2 subject:S10]         0.0 20.4 NA
## b[PC1:syllable2T3 subject:S10]         0.0 21.2 NA
## b[PC1:syllable2T4 subject:S10]         0.0 20.7 NA
## b[PC2:syllable1T1 subject:S2]          0.0 21.0 NA
## b[PC2:syllable1T2 subject:S2]          0.0 20.9 NA
## b[PC2:syllable1T3 subject:S2]          0.0 20.9 NA
## b[PC2:syllable1T4 subject:S2]          0.0 21.0 NA
## b[PC2:syllable1T1 subject:S1]          0.0 21.0 NA
## b[PC2:syllable1T2 subject:S1]          0.0 20.9 NA
## b[PC2:syllable1T3 subject:S1]          0.0 20.7 NA

```

```

## b[PC2:syllable1T4 subject:S1]          0.0 21.0 NA
## b[PC2:syllable1T1 subject:S5]          0.0 21.0 NA
## b[PC2:syllable1T2 subject:S5]          0.0 21.0 NA
## b[PC2:syllable1T3 subject:S5]          0.0 20.9 NA
## b[PC2:syllable1T4 subject:S5]          0.0 21.0 NA
## b[PC2:syllable1T1 subject:S9]          0.0 21.0 NA
## b[PC2:syllable1T2 subject:S9]          0.0 20.9 NA
## b[PC2:syllable1T3 subject:S9]          0.0 20.9 NA
## b[PC2:syllable1T4 subject:S9]          0.0 20.6 NA
## b[PC2:syllable1T1 subject:S8]          0.0 21.0 NA
## b[PC2:syllable1T2 subject:S8]          0.0 20.7 NA
## b[PC2:syllable1T3 subject:S8]          0.0 20.8 NA
## b[PC2:syllable1T4 subject:S8]          0.0 21.0 NA
## b[PC2:syllable1T1 subject:S3]          0.0 21.0 NA
## b[PC2:syllable1T2 subject:S3]          0.0 20.9 NA
## b[PC2:syllable1T3 subject:S3]          0.0 20.7 NA
## b[PC2:syllable1T4 subject:S3]          0.0 20.8 NA
## b[PC2:syllable1T1 subject:S4]          0.0 21.0 NA
## b[PC2:syllable1T2 subject:S4]          0.0 20.9 NA
## b[PC2:syllable1T3 subject:S4]          0.0 21.0 NA
## b[PC2:syllable1T4 subject:S4]          0.0 21.0 NA
## b[PC2:syllable1T1 subject:S12]         0.0 21.0 NA
## b[PC2:syllable1T2 subject:S12]         0.0 20.9 NA
## b[PC2:syllable1T3 subject:S12]         0.0 20.9 NA
## b[PC2:syllable1T4 subject:S12]         0.0 21.0 NA
## b[PC2:syllable1T1 subject:S11]         0.0 21.0 NA
## b[PC2:syllable1T2 subject:S11]         0.0 20.9 NA
## b[PC2:syllable1T3 subject:S11]         0.0 20.6 NA
## b[PC2:syllable1T4 subject:S11]         0.0 20.8 NA
## b[PC2:syllable1T1 subject:S7]          0.0 21.0 NA
## b[PC2:syllable1T2 subject:S7]          0.0 20.9 NA
## b[PC2:syllable1T3 subject:S7]          0.0 20.8 NA
## b[PC2:syllable1T4 subject:S7]          0.0 20.9 NA
## b[PC2:syllable1T1 subject:S6]          0.0 21.0 NA
## b[PC2:syllable1T2 subject:S6]          0.0 20.9 NA
## b[PC2:syllable1T3 subject:S6]          0.0 21.0 NA
## b[PC2:syllable1T4 subject:S6]          0.0 21.0 NA
## b[PC2:syllable1T1 subject:S10]         0.0 21.0 NA
## b[PC2:syllable1T2 subject:S10]         0.0 20.8 NA
## b[PC2:syllable1T3 subject:S10]         0.0 21.0 NA
## b[PC2:syllable1T4 subject:S10]         0.0 20.9 NA
## b[PC2:syllable2T1 subject:S2]          0.0 21.4 NA
## b[PC2:syllable2T2 subject:S2]          0.0 20.9 NA
## b[PC2:syllable2T3 subject:S2]          0.0 20.9 NA
## b[PC2:syllable2T4 subject:S2]          0.0 21.0 NA
## b[PC2:syllable2T1 subject:S1]          0.0 20.5 NA
## b[PC2:syllable2T2 subject:S1]          0.0 21.0 NA
## b[PC2:syllable2T3 subject:S1]          0.0 20.9 NA
## b[PC2:syllable2T4 subject:S1]          0.0 21.4 NA
## b[PC2:syllable2T1 subject:S5]          0.0 20.6 NA
## b[PC2:syllable2T2 subject:S5]          0.0 20.7 NA
## b[PC2:syllable2T3 subject:S5]          0.0 20.5 NA
## b[PC2:syllable2T4 subject:S5]          0.0 20.3 NA
## b[PC2:syllable2T1 subject:S9]          0.0 20.7 NA

```

```

## b[PC2:syllable2T2 subject:S9]          0.0 20.7 NA
## b[PC2:syllable2T3 subject:S9]          0.0 20.9 NA
## b[PC2:syllable2T4 subject:S9]          0.0 20.7 NA
## b[PC2:syllable2T1 subject:S8]          0.0 20.6 NA
## b[PC2:syllable2T2 subject:S8]          0.0 20.5 NA
## b[PC2:syllable2T3 subject:S8]          0.0 21.0 NA
## b[PC2:syllable2T4 subject:S8]          0.0 21.3 NA
## b[PC2:syllable2T1 subject:S3]          0.0 20.6 NA
## b[PC2:syllable2T2 subject:S3]          0.0 20.8 NA
## b[PC2:syllable2T3 subject:S3]          0.0 21.3 NA
## b[PC2:syllable2T4 subject:S3]          0.0 20.7 NA
## b[PC2:syllable2T1 subject:S4]          0.0 21.1 NA
## b[PC2:syllable2T2 subject:S4]          0.0 20.8 NA
## b[PC2:syllable2T3 subject:S4]          0.0 20.6 NA
## b[PC2:syllable2T4 subject:S4]          0.0 20.5 NA
## b[PC2:syllable2T1 subject:S12]         0.0 20.7 NA
## b[PC2:syllable2T2 subject:S12]         0.0 20.9 NA
## b[PC2:syllable2T3 subject:S12]         0.0 20.8 NA
## b[PC2:syllable2T4 subject:S12]         0.0 21.0 NA
## b[PC2:syllable2T1 subject:S11]         0.0 20.9 NA
## b[PC2:syllable2T2 subject:S11]         0.0 21.0 NA
## b[PC2:syllable2T3 subject:S11]         0.0 21.0 NA
## b[PC2:syllable2T4 subject:S11]         0.0 21.2 NA
## b[PC2:syllable2T1 subject:S7]          0.0 20.4 NA
## b[PC2:syllable2T2 subject:S7]          0.0 20.9 NA
## b[PC2:syllable2T3 subject:S7]          0.0 20.7 NA
## b[PC2:syllable2T4 subject:S7]          0.0 21.2 NA
## b[PC2:syllable2T1 subject:S6]          0.0 20.7 NA
## b[PC2:syllable2T2 subject:S6]          0.0 20.8 NA
## b[PC2:syllable2T3 subject:S6]          0.0 20.7 NA
## b[PC2:syllable2T4 subject:S6]          0.0 20.8 NA
## b[PC3:syllable1T1 subject:S2]          0.0 20.5 NA
## b[PC3:syllable1T2 subject:S2]          0.0 20.5 NA
## b[PC3:syllable1T3 subject:S2]          0.0 20.5 NA
## b[PC3:syllable1T4 subject:S2]          0.0 20.9 NA
## b[PC3:syllable1T1 subject:S1]          0.0 20.5 NA
## b[PC3:syllable1T2 subject:S1]          0.0 20.5 NA
## b[PC3:syllable1T3 subject:S1]          0.0 20.5 NA
## b[PC3:syllable1T4 subject:S1]          0.0 20.9 NA
## b[PC3:syllable1T1 subject:S5]          0.0 20.5 NA
## b[PC3:syllable1T2 subject:S5]          0.0 20.6 NA
## b[PC3:syllable1T3 subject:S5]          0.0 20.5 NA
## b[PC3:syllable1T4 subject:S5]          0.0 20.8 NA
## b[PC3:syllable1T1 subject:S9]          0.0 20.5 NA
## b[PC3:syllable1T2 subject:S9]          0.0 20.5 NA
## b[PC3:syllable1T3 subject:S9]          0.0 20.5 NA
## b[PC3:syllable1T4 subject:S9]          0.0 20.5 NA
## b[PC3:syllable1T1 subject:S8]          0.0 20.6 NA
## b[PC3:syllable1T2 subject:S8]          0.0 20.5 NA
## b[PC3:syllable1T3 subject:S8]          0.0 20.5 NA

```

```

## b[PC3:syllable1T4 subject:S8]          0.0 20.5 NA
## b[PC3:syllable1T1 subject:S3]          0.0 20.9 NA
## b[PC3:syllable1T2 subject:S3]          0.0 20.6 NA
## b[PC3:syllable1T3 subject:S3]          0.0 20.5 NA
## b[PC3:syllable1T4 subject:S3]          0.0 20.4 NA
## b[PC3:syllable1T1 subject:S4]          0.0 20.5 NA
## b[PC3:syllable1T2 subject:S4]          0.0 20.4 NA
## b[PC3:syllable1T3 subject:S4]          0.0 20.6 NA
## b[PC3:syllable1T4 subject:S4]          0.0 20.7 NA
## b[PC3:syllable1T1 subject:S12]         0.0 20.5 NA
## b[PC3:syllable1T2 subject:S12]         0.0 20.5 NA
## b[PC3:syllable1T3 subject:S12]         0.0 20.3 NA
## b[PC3:syllable1T4 subject:S12]         0.0 20.9 NA
## b[PC3:syllable1T1 subject:S11]         0.0 20.6 NA
## b[PC3:syllable1T2 subject:S11]         0.0 20.5 NA
## b[PC3:syllable1T3 subject:S11]         0.0 20.5 NA
## b[PC3:syllable1T4 subject:S11]         0.0 20.5 NA
## b[PC3:syllable1T1 subject:S7]          0.0 20.5 NA
## b[PC3:syllable1T2 subject:S7]          0.0 20.4 NA
## b[PC3:syllable1T3 subject:S7]          0.0 20.8 NA
## b[PC3:syllable1T4 subject:S7]          0.0 20.5 NA
## b[PC3:syllable1T1 subject:S6]          0.0 20.4 NA
## b[PC3:syllable1T2 subject:S6]          0.0 20.4 NA
## b[PC3:syllable1T3 subject:S6]          0.0 20.9 NA
## b[PC3:syllable1T4 subject:S6]          0.0 20.6 NA
## b[PC3:syllable1T1 subject:S10]         0.0 20.4 NA
## b[PC3:syllable1T2 subject:S10]         0.0 20.4 NA
## b[PC3:syllable1T3 subject:S10]         0.0 20.4 NA
## b[PC3:syllable1T4 subject:S10]         0.0 20.7 NA
## b[PC3:syllable2T1 subject:S2]          0.0 20.7 NA
## b[PC3:syllable2T2 subject:S2]          0.0 20.7 NA
## b[PC3:syllable2T3 subject:S2]          0.0 21.0 NA
## b[PC3:syllable2T4 subject:S2]          0.0 20.9 NA
## b[PC3:syllable2T1 subject:S1]          0.0 21.0 NA
## b[PC3:syllable2T2 subject:S1]          0.0 20.6 NA
## b[PC3:syllable2T3 subject:S1]          0.0 20.8 NA
## b[PC3:syllable2T4 subject:S1]          0.0 20.7 NA
## b[PC3:syllable2T1 subject:S5]          0.0 20.8 NA
## b[PC3:syllable2T2 subject:S5]          0.0 20.8 NA
## b[PC3:syllable2T3 subject:S5]          0.0 20.6 NA
## b[PC3:syllable2T4 subject:S5]          0.0 20.7 NA
## b[PC3:syllable2T1 subject:S9]          0.0 20.5 NA
## b[PC3:syllable2T2 subject:S9]          0.0 20.6 NA
## b[PC3:syllable2T3 subject:S9]          0.0 20.8 NA
## b[PC3:syllable2T4 subject:S9]          0.0 20.7 NA
## b[PC3:syllable2T1 subject:S8]          0.0 20.5 NA
## b[PC3:syllable2T2 subject:S8]          0.0 21.2 NA
## b[PC3:syllable2T3 subject:S8]          0.0 20.7 NA
## b[PC3:syllable2T4 subject:S8]          0.0 20.4 NA
## b[PC3:syllable2T1 subject:S3]          0.0 20.9 NA
## b[PC3:syllable2T2 subject:S3]          0.0 20.6 NA
## b[PC3:syllable2T3 subject:S3]          0.0 21.2 NA
## b[PC3:syllable2T4 subject:S3]          0.0 20.9 NA
## b[PC3:syllable2T1 subject:S4]          0.0 20.5 NA

```

```

## b[PC3:syllable2T2 subject:S4]          0.0 20.5 NA
## b[PC3:syllable2T3 subject:S4]          0.0 20.1 NA
## b[PC3:syllable2T4 subject:S4]          0.0 20.5 NA
## b[PC3:syllable2T1 subject:S12]         0.0 20.5 NA
## b[PC3:syllable2T2 subject:S12]         0.0 20.1 NA
## b[PC3:syllable2T3 subject:S12]         0.0 21.0 NA
## b[PC3:syllable2T4 subject:S12]         0.0 20.8 NA
## b[PC3:syllable2T1 subject:S11]         0.0 20.5 NA
## b[PC3:syllable2T2 subject:S11]         0.0 20.7 NA
## b[PC3:syllable2T3 subject:S11]         0.0 20.6 NA
## b[PC3:syllable2T4 subject:S11]         0.0 20.5 NA
## b[PC3:syllable2T1 subject:S7]          0.0 20.7 NA
## b[PC3:syllable2T2 subject:S7]          0.0 20.6 NA
## b[PC3:syllable2T3 subject:S7]          0.0 20.8 NA
## b[PC3:syllable2T4 subject:S7]          0.0 21.0 NA
## b[PC3:syllable2T1 subject:S6]          0.0 21.2 NA
## b[PC3:syllable2T2 subject:S6]          0.0 21.1 NA
## b[PC3:syllable2T3 subject:S6]          0.0 20.9 NA
## b[PC3:syllable2T4 subject:S6]          0.0 20.6 NA
## b[PC3:syllable2T1 subject:S10]         0.0 20.7 NA
## b[PC3:syllable2T2 subject:S10]         0.0 20.8 NA
## b[PC3:syllable2T3 subject:S10]         0.0 20.8 NA
## b[PC3:syllable2T4 subject:S10]         0.0 21.1 NA
## b[PC4:syllable1T1 subject:S2]          0.0 20.4 NA
## b[PC4:syllable1T2 subject:S2]          0.0 21.3 NA
## b[PC4:syllable1T3 subject:S2]          0.0 20.4 NA
## b[PC4:syllable1T4 subject:S2]          0.0 20.8 NA
## b[PC4:syllable1T1 subject:S1]          0.0 20.6 NA
## b[PC4:syllable1T2 subject:S1]          0.0 20.7 NA
## b[PC4:syllable1T3 subject:S1]          0.0 20.8 NA
## b[PC4:syllable1T4 subject:S1]          0.0 20.8 NA
## b[PC4:syllable1T1 subject:S5]          0.0 20.7 NA
## b[PC4:syllable1T2 subject:S5]          0.0 20.8 NA
## b[PC4:syllable1T3 subject:S5]          0.0 20.7 NA
## b[PC4:syllable1T4 subject:S5]          0.0 20.7 NA
## b[PC4:syllable1T1 subject:S9]          0.0 21.2 NA
## b[PC4:syllable1T2 subject:S9]          0.0 20.6 NA
## b[PC4:syllable1T3 subject:S9]          0.0 20.8 NA
## b[PC4:syllable1T4 subject:S9]          0.0 20.7 NA
## b[PC4:syllable1T1 subject:S8]          0.0 20.7 NA
## b[PC4:syllable1T2 subject:S8]          0.0 20.9 NA
## b[PC4:syllable1T3 subject:S8]          0.0 20.4 NA
## b[PC4:syllable1T4 subject:S8]          0.0 21.2 NA
## b[PC4:syllable1T1 subject:S3]          0.0 21.2 NA
## b[PC4:syllable1T2 subject:S3]          0.0 20.9 NA
## b[PC4:syllable1T3 subject:S3]          0.0 20.9 NA
## b[PC4:syllable1T4 subject:S3]          0.0 20.7 NA
## b[PC4:syllable1T1 subject:S4]          0.0 20.8 NA
## b[PC4:syllable1T2 subject:S4]          0.0 20.8 NA
## b[PC4:syllable1T3 subject:S4]          0.0 20.5 NA
## b[PC4:syllable1T4 subject:S4]          0.0 21.0 NA
## b[PC4:syllable1T1 subject:S12]         0.0 21.0 NA
## b[PC4:syllable1T2 subject:S12]         0.0 20.6 NA
## b[PC4:syllable1T3 subject:S12]         0.0 20.5 NA

```

```

## b[PC4:syllable1T4 subject:S12]          0.0 21.5 NA
## b[PC4:syllable1T1 subject:S11]          0.0 20.8 NA
## b[PC4:syllable1T2 subject:S11]          0.0 20.5 NA
## b[PC4:syllable1T3 subject:S11]          0.0 21.2 NA
## b[PC4:syllable1T4 subject:S11]          0.0 20.8 NA
## b[PC4:syllable1T1 subject:S7]          0.0 21.2 NA
## b[PC4:syllable1T2 subject:S7]          0.0 21.3 NA
## b[PC4:syllable1T3 subject:S7]          0.0 20.8 NA
## b[PC4:syllable1T4 subject:S7]          0.0 20.7 NA
## b[PC4:syllable1T1 subject:S6]          0.0 20.7 NA
## b[PC4:syllable1T2 subject:S6]          0.0 21.0 NA
## b[PC4:syllable1T3 subject:S6]          0.0 21.0 NA
## b[PC4:syllable1T4 subject:S6]          0.0 20.7 NA
## b[PC4:syllable1T1 subject:S10]         0.0 20.9 NA
## b[PC4:syllable1T2 subject:S10]         0.0 20.8 NA
## b[PC4:syllable1T3 subject:S10]         0.0 21.1 NA
## b[PC4:syllable1T4 subject:S10]         0.0 20.5 NA
## b[PC4:syllable2T1 subject:S2]          0.0 20.7 NA
## b[PC4:syllable2T2 subject:S2]          0.0 21.2 NA
## b[PC4:syllable2T3 subject:S2]          0.0 21.1 NA
## b[PC4:syllable2T4 subject:S2]          0.0 21.0 NA
## b[PC4:syllable2T1 subject:S1]          0.0 20.5 NA
## b[PC4:syllable2T2 subject:S1]          0.0 20.9 NA
## b[PC4:syllable2T3 subject:S1]          0.0 20.9 NA
## b[PC4:syllable2T4 subject:S1]          0.0 20.4 NA
## b[PC4:syllable2T1 subject:S5]          0.0 21.0 NA
## b[PC4:syllable2T2 subject:S5]          0.0 21.3 NA
## b[PC4:syllable2T3 subject:S5]          0.0 20.9 NA
## b[PC4:syllable2T4 subject:S5]          0.0 20.9 NA
## b[PC4:syllable2T1 subject:S9]          0.0 20.8 NA
## b[PC4:syllable2T2 subject:S9]          0.0 21.1 NA
## b[PC4:syllable2T3 subject:S9]          0.0 20.8 NA
## b[PC4:syllable2T4 subject:S9]          0.0 20.9 NA
## b[PC4:syllable2T1 subject:S8]          0.0 20.9 NA
## b[PC4:syllable2T2 subject:S8]          0.0 21.0 NA
## b[PC4:syllable2T3 subject:S8]          0.0 21.0 NA
## b[PC4:syllable2T4 subject:S8]          0.0 21.1 NA
## b[PC4:syllable2T1 subject:S3]          0.0 20.9 NA
## b[PC4:syllable2T2 subject:S3]          0.0 21.0 NA
## b[PC4:syllable2T3 subject:S3]          0.0 20.8 NA
## b[PC4:syllable2T4 subject:S3]          0.0 20.8 NA
## b[PC4:syllable2T1 subject:S4]          0.0 20.5 NA
## b[PC4:syllable2T2 subject:S4]          0.0 21.1 NA
## b[PC4:syllable2T3 subject:S4]          0.0 21.1 NA
## b[PC4:syllable2T4 subject:S4]          0.0 21.1 NA
## b[PC4:syllable2T1 subject:S12]         0.0 21.0 NA
## b[PC4:syllable2T2 subject:S12]         0.0 21.4 NA
## b[PC4:syllable2T3 subject:S12]         0.0 21.0 NA
## b[PC4:syllable2T4 subject:S12]         0.0 21.5 NA
## b[PC4:syllable2T1 subject:S11]         0.0 20.8 NA
## b[PC4:syllable2T2 subject:S11]         0.0 21.2 NA
## b[PC4:syllable2T3 subject:S11]         0.0 20.9 NA
## b[PC4:syllable2T4 subject:S11]         0.0 20.8 NA
## b[PC4:syllable2T1 subject:S7]          0.0 20.4 NA

```

```

## b[PC4:syllable2T2 subject:S7]          0.0 20.8 NA
## b[PC4:syllable2T3 subject:S7]          0.0 21.2 NA
## b[PC4:syllable2T4 subject:S7]          0.0 20.9 NA
## b[PC4:syllable2T1 subject:S6]          0.0 21.0 NA
## b[PC4:syllable2T2 subject:S6]          0.0 20.7 NA
## b[PC4:syllable2T3 subject:S6]          0.0 20.8 NA
## b[PC4:syllable2T4 subject:S6]          0.0 20.6 NA
## b[PC4:syllable2T1 subject:S10]         0.0 20.8 NA
## b[PC4:syllable2T2 subject:S10]         0.0 21.1 NA
## b[PC4:syllable2T3 subject:S10]         0.0 20.4 NA
## b[PC4:syllable2T4 subject:S10]         0.0 20.7 NA
## sigma                                0.0 20.7 NA
## Sigma[subject:(Intercept),(Intercept)] 0.0 20.7 NA
## Sigma[subject:currentT1,currentT1]      0.0 20.7 NA
## Sigma[subject:currentT2,currentT1]      0.0 20.8 NA
## Sigma[subject:currentT3,currentT1]      0.0 20.9 NA
## Sigma[subject:currentT4,currentT1]      0.0 20.8 NA
## Sigma[subject:currentT2,currentT2]      0.0 21.0 NA
## Sigma[subject:currentT3,currentT2]      0.0 20.8 NA
## Sigma[subject:currentT4,currentT2]      0.0 20.4 NA
## Sigma[subject:currentT3,currentT3]      0.0 20.7 NA
## Sigma[subject:currentT4,currentT3]      0.0 20.7 NA
## Sigma[subject:currentT4,currentT4]      0.0 20.7 NA
## Sigma[subject:PC1,PC1]                 0.0 20.7 NA
## Sigma[subject:PC2,PC1]                 0.0 20.6 NA
## Sigma[subject:PC3,PC1]                 0.0 20.8 NA
## Sigma[subject:PC4,PC1]                 0.0 20.8 NA
## Sigma[subject:PC2,PC2]                 0.0 20.5 NA
## Sigma[subject:PC3,PC2]                 0.0 20.6 NA
## Sigma[subject:PC4,PC2]                 0.0 20.9 NA
## Sigma[subject:PC3,PC3]                 0.0 20.7 NA
## Sigma[subject:PC4,PC3]                 0.0 20.8 NA
## Sigma[subject:PC4,PC4]                 0.0 20.5 NA
## Sigma[subject:PC1:syllable1T1,PC1:syllable1T1] 0.0 20.7 NA
## Sigma[subject:PC1:syllable1T2,PC1:syllable1T1] 0.0 20.7 NA
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T1] 0.0 20.7 NA
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T1] 0.0 20.6 NA
## Sigma[subject:PC1:syllable1T2,PC1:syllable1T2] 0.0 20.7 NA
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T2] 0.0 20.9 NA
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T2] 0.0 21.1 NA
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T3] 0.0 20.7 NA
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T3] 0.0 20.6 NA
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T4] 0.0 20.8 NA
## Sigma[subject:PC1:syllable2T1,PC1:syllable2T1] 0.0 20.7 NA
## Sigma[subject:PC1:syllable2T2,PC1:syllable2T1] 0.0 20.5 NA
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T1] 0.0 20.8 NA
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T1] 0.0 20.9 NA
## Sigma[subject:PC1:syllable2T2,PC1:syllable2T2] 0.0 20.7 NA
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T2] 0.0 20.7 NA
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T2] 0.0 20.3 NA
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T3] 0.0 20.7 NA
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T3] 0.0 20.9 NA
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T4] 0.0 20.7 NA
## Sigma[subject:PC2:syllable1T1,PC2:syllable1T1] 0.0 21.1 NA

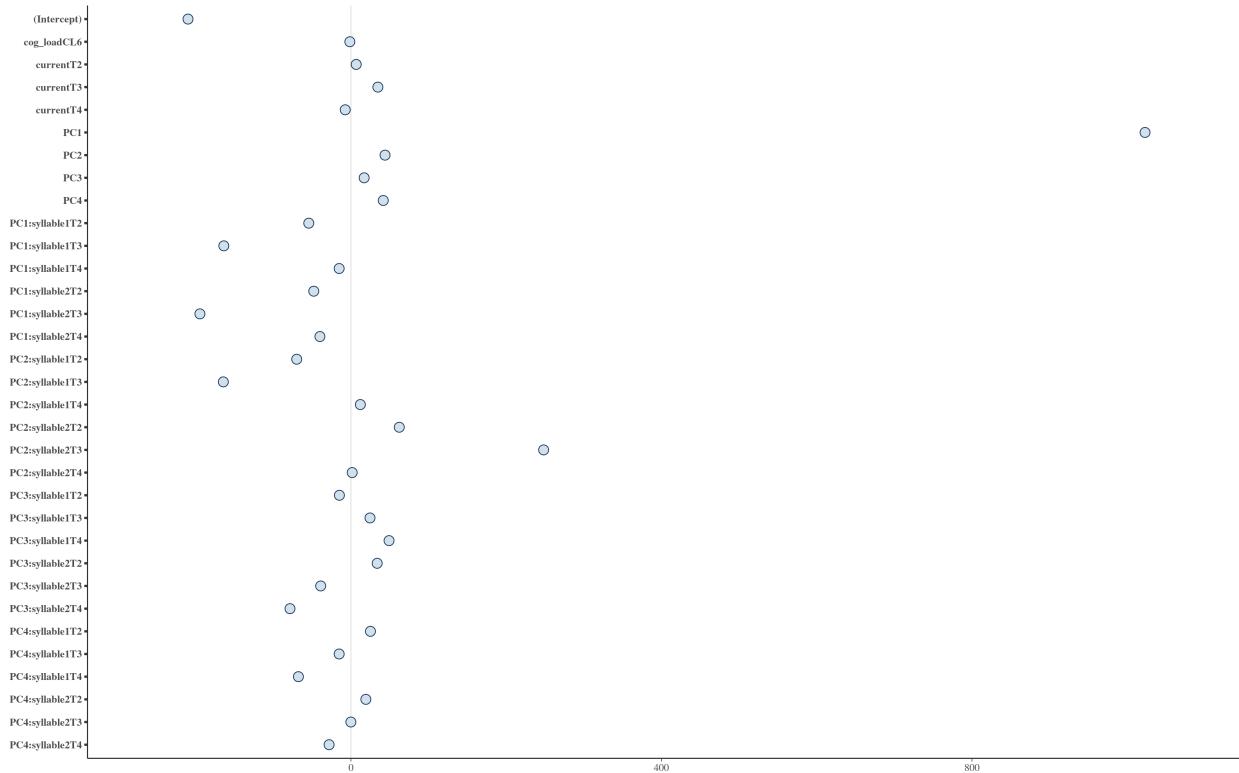
```



```

## Sigma[subject:PC4:syllable2T3,PC4:syllable2T2] 0.0 21.0 NA
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T2] 0.0 20.9 NA
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T3] 0.0 20.9 NA
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T3] 0.0 20.8 NA
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T4] 0.0 21.0 NA
## mean_PPD 0.0 20.7 NA
##
## For each parameter, mcse is Monte Carlo standard error, n_eff is a crude measure of effective sample size
plot(fitStanLmerFpca, pars=names(fitStanLmerFpca$coefficients)[1:33])

```

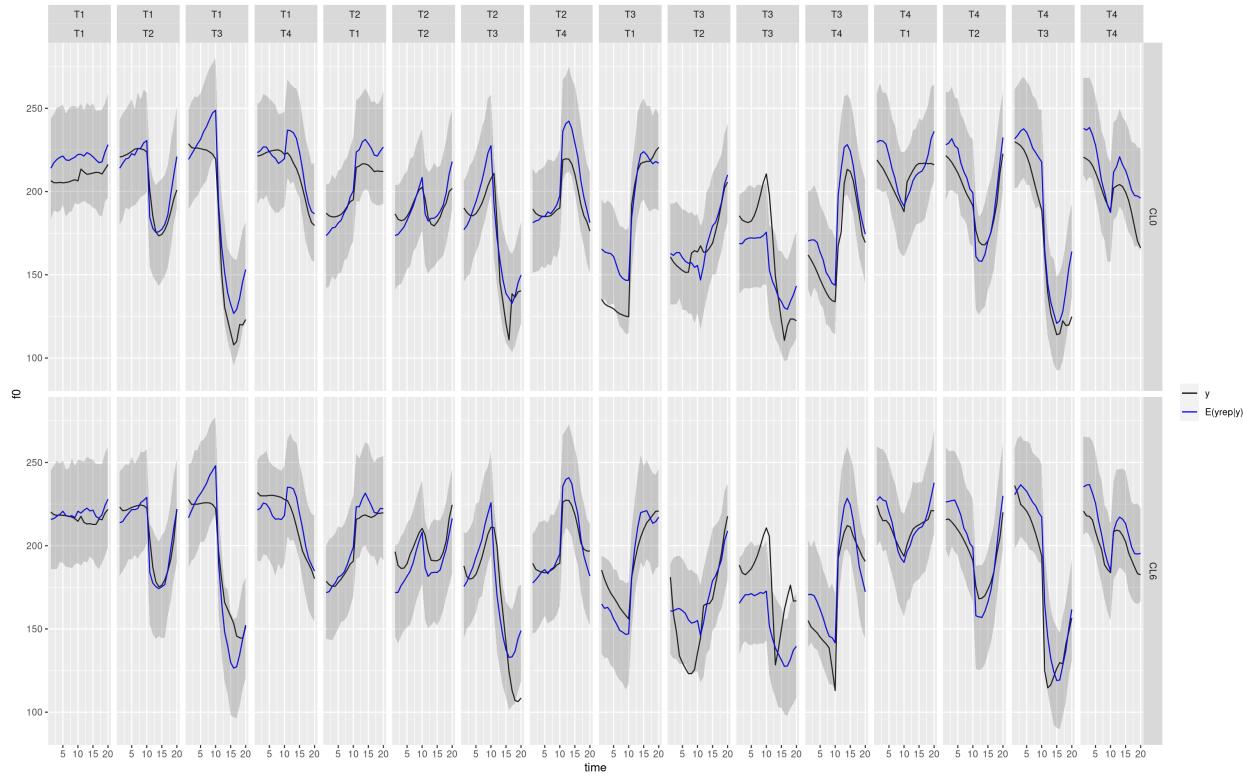


```

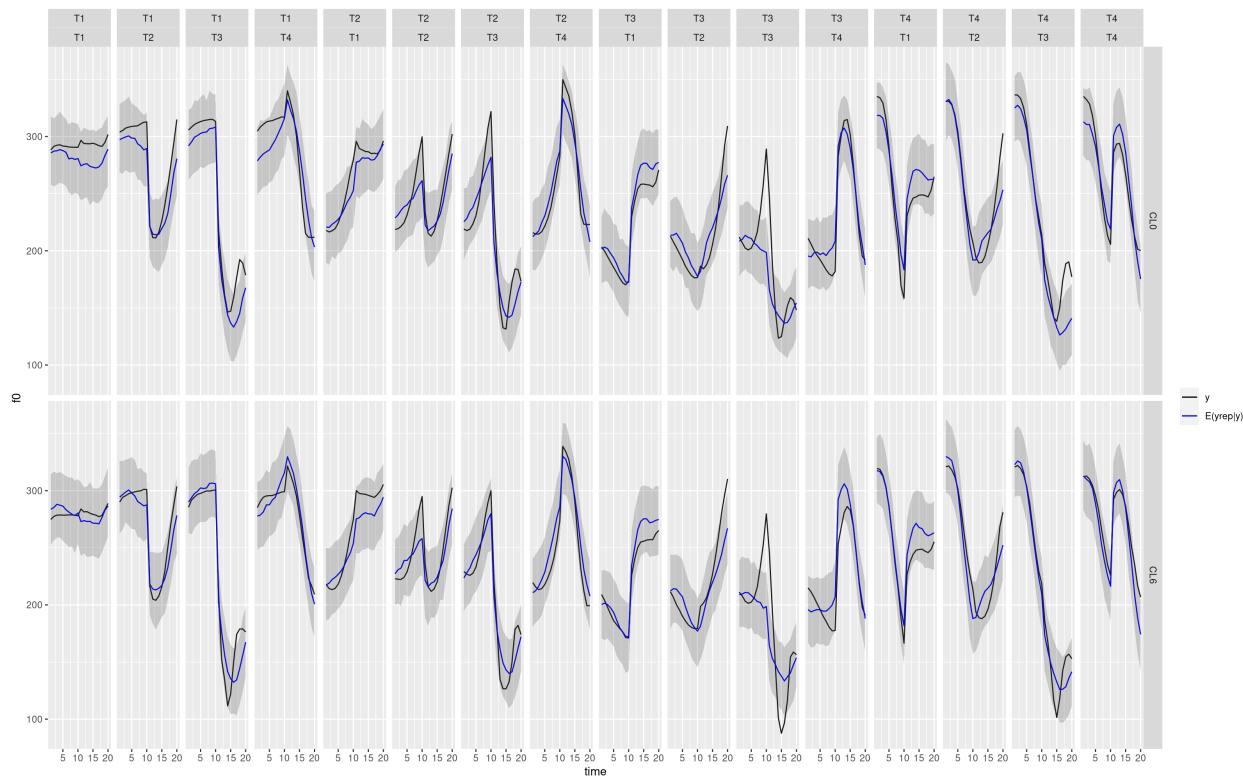
ypredStanLmerFpca = posterior_predict(fitStanLmerFpca, draws = 500)
ypred = apply(ypredStanLmerFpca, 2, mean)
stdev = apply(ypredStanLmerFpca, 2, sd)
lmin = apply(ypredStanLmerFpca, 2, function(col) quantile(col, p = 0.05))
lmax = apply(ypredStanLmerFpca, 2, function(col) quantile(col, p = 0.95))

ppc_subject("S1", mandarino, ypred, lmin, lmax)

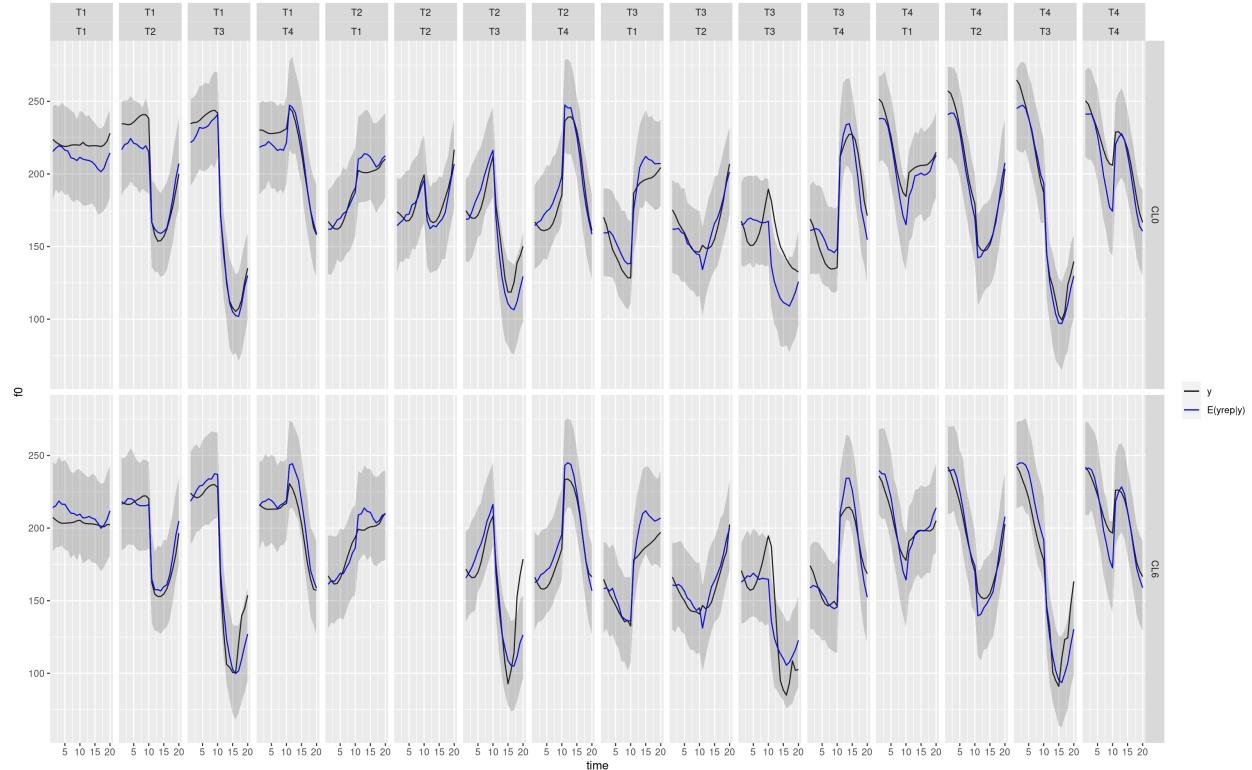
```



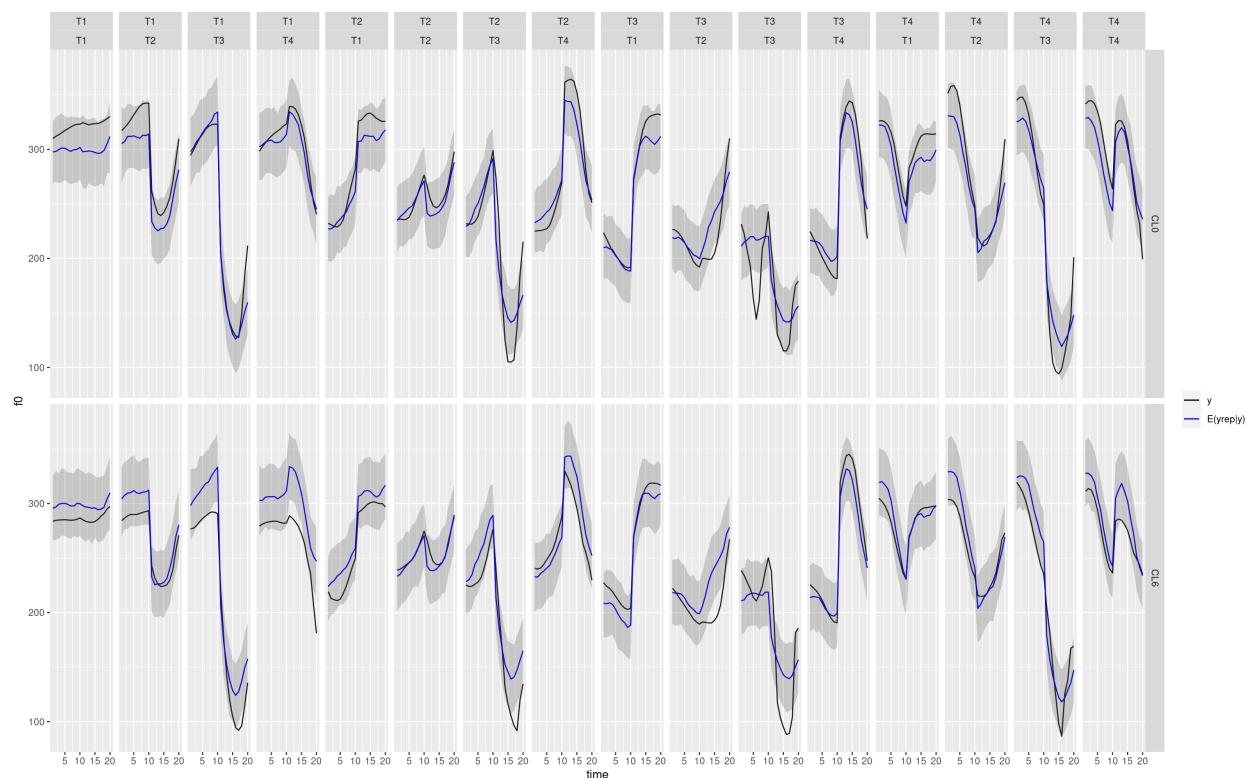
`ppc_subject("S2", mandarino, ypred, lmin, lmax)`



```
ppc_subject("S3", mandarino, ypred, lmin, lmax)
```



```
ppc_subject("S4", mandarino, ypred, lmin, lmax)
```

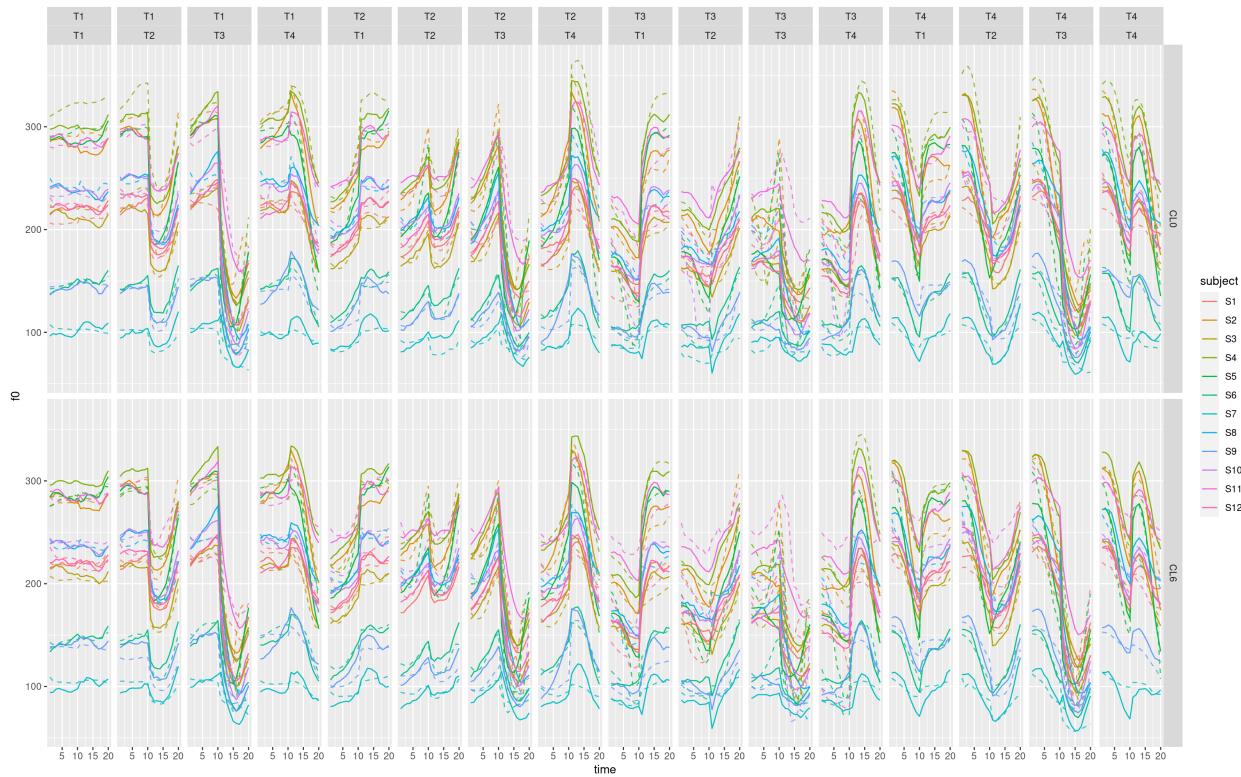


```

# ppc_subject("S5", mandarino, ypred, lmin, lmax)
# ppc_subject("S6", mandarino, ypred, lmin, lmax)
# ppc_subject("S7", mandarino, ypred, lmin, lmax)
# ppc_subject("S8", mandarino, ypred, lmin, lmax)
# ppc_subject("S9", mandarino, ypred, lmin, lmax)
# ppc_subject("S10", mandarino, ypred, lmin, lmax)
# ppc_subject("S11", mandarino, ypred, lmin, lmax)
# ppc_subject("S12", mandarino, ypred, lmin, lmax)

ppc_full(mandarino, ypred)

```



Selezione effetti fissi e casuali con LOOCV

```

cores  = min(4, parallel::detectCores())
library(loo)

# Nel primo modello metto un po' di tutto
set.seed(123)
fitStanLmerFpca1 = stan_glmer(f0 ~ cog_load + current + peak + syllable1 + syllable2 + syllable1:syllab
                               PC1 + PC2 + PC3 + PC4 +
                               PC1:syllable1 + PC1:syllable2 +
                               PC2:syllable1 + PC2:syllable2 +
                               PC3:syllable1 + PC3:syllable2 +
                               PC4:syllable1 + PC4:syllable2 +
                               (1 | subject) +
                               (0 + current|subject) +
                               (0 + PC1 + PC2 + PC3 + PC4|subject) +
                               (0 + PC1:syllable1 | subject) +

```

```

        (0 + PC1:syllable2 | subject) +
        (0 + PC2:syllable1 | subject) +
        (0 + PC2:syllable2 | subject) +
        (0 + PC3:syllable1 | subject) +
        (0 + PC3:syllable2 | subject) +
        (0 + PC4:syllable1 | subject) +
        (0 + PC4:syllable2 | subject)

        ,
        data = mandarino_fPCA,
algorithm = "meanfield",
iter = 20000,
QR = TRUE)

## Chain 1: -----
## Chain 1: EXPERIMENTAL ALGORITHM:
## Chain 1: This procedure has not been thoroughly tested and may be unstable
## Chain 1: or buggy. The interface is subject to change.
## Chain 1: -----
## Chain 1:
## Chain 1:
## Chain 1:
## Chain 1: Gradient evaluation took 0.005117 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 51.17 seconds.
## Chain 1: Adjust your expectations accordingly!
## Chain 1:
## Chain 1:
## Chain 1: Begin eta adaptation.
## Chain 1: Iteration: 1 / 250 [ 0%] (Adaptation)
## Chain 1: Iteration: 50 / 250 [ 20%] (Adaptation)
## Chain 1: Iteration: 100 / 250 [ 40%] (Adaptation)
## Chain 1: Iteration: 150 / 250 [ 60%] (Adaptation)
## Chain 1: Iteration: 200 / 250 [ 80%] (Adaptation)
## Chain 1: Iteration: 250 / 250 [100%] (Adaptation)
## Chain 1: Success! Found best value [eta = 0.1].
## Chain 1:
## Chain 1: Begin stochastic gradient ascent.
## Chain 1:   iter      ELBO  delta_ELBO_mean  delta_ELBO_med  notes
## Chain 1:   100    -105822.177      1.000      1.000
## Chain 1:   200    -75615.081      0.700      1.000
## Chain 1:   300    -64209.830      0.526      0.399
## Chain 1:   400    -59742.201      0.413      0.399
## Chain 1:   500    -56501.808      0.342      0.178
## Chain 1:   600    -54450.828      0.291      0.178
## Chain 1:   700    -52319.627      0.255      0.075
## Chain 1:   800    -50741.793      0.227      0.075
## Chain 1:   900    -49336.729      0.205      0.057
## Chain 1:  1000   -48018.219      0.187      0.057
## Chain 1:  1100   -46816.562      0.173      0.041
## Chain 1:  1200   -45563.429      0.161      0.041
## Chain 1:  1300   -44688.962      0.150      0.038
## Chain 1:  1400   -43711.987      0.141      0.038
## Chain 1:  1500   -42803.265      0.133      0.031
## Chain 1:  1600   -42033.270      0.126      0.031
## Chain 1:  1700   -41293.956      0.119      0.028

```

## Chain 1:	1800	-40561.240	0.114	0.028
## Chain 1:	1900	-39947.888	0.108	0.028
## Chain 1:	2000	-39395.410	0.104	0.028
## Chain 1:	2100	-38818.525	0.054	0.027
## Chain 1:	2200	-38311.374	0.035	0.026
## Chain 1:	2300	-37856.393	0.027	0.022
## Chain 1:	2400	-37454.654	0.024	0.021
## Chain 1:	2500	-37041.757	0.021	0.020
## Chain 1:	2600	-36663.677	0.020	0.018
## Chain 1:	2700	-36375.776	0.018	0.018
## Chain 1:	2800	-35966.196	0.017	0.018
## Chain 1:	2900	-35743.677	0.016	0.015
## Chain 1:	3000	-35445.298	0.015	0.015
## Chain 1:	3100	-35209.689	0.014	0.014
## Chain 1:	3200	-34987.051	0.013	0.013
## Chain 1:	3300	-34765.818	0.013	0.012
## Chain 1:	3400	-34558.204	0.012	0.011
## Chain 1:	3500	-34364.434	0.011	0.011
## Chain 1:	3600	-34236.553	0.010	0.011
## Chain 1:	3700	-34030.904	0.010	0.010
## Chain 1:	3800	-33917.582	0.009	0.008
## Chain 1:	3900	-33829.642	0.008	0.008
## Chain 1:	4000	-33667.484	0.008	0.007
## Chain 1:	4100	-33523.220	0.007	0.006
## Chain 1:	4200	-33378.816	0.007	0.006
## Chain 1:	4300	-33297.758	0.006	0.006
## Chain 1:	4400	-33170.426	0.006	0.006
## Chain 1:	4500	-33104.985	0.006	0.006
## Chain 1:	4600	-32999.896	0.005	0.006
## Chain 1:	4700	-32880.459	0.005	0.005
## Chain 1:	4800	-32822.432	0.005	0.004
## Chain 1:	4900	-32759.758	0.004	0.004
## Chain 1:	5000	-32684.377	0.004	0.004
## Chain 1:	5100	-32623.494	0.004	0.004
## Chain 1:	5200	-32546.033	0.004	0.004
## Chain 1:	5300	-32474.932	0.003	0.003
## Chain 1:	5400	-32431.241	0.003	0.003
## Chain 1:	5500	-32381.811	0.003	0.003
## Chain 1:	5600	-32352.885	0.003	0.002
## Chain 1:	5700	-32292.625	0.003	0.002
## Chain 1:	5800	-32292.142	0.002	0.002
## Chain 1:	5900	-32245.304	0.002	0.002
## Chain 1:	6000	-32199.615	0.002	0.002
## Chain 1:	6100	-32193.178	0.002	0.002
## Chain 1:	6200	-32145.810	0.002	0.002
## Chain 1:	6300	-32130.106	0.002	0.002
## Chain 1:	6400	-32082.150	0.002	0.002
## Chain 1:	6500	-32087.829	0.002	0.002
## Chain 1:	6600	-32063.355	0.001	0.001
## Chain 1:	6700	-32033.574	0.001	0.001
## Chain 1:	6800	-32002.280	0.001	0.001
## Chain 1:	6900	-31979.614	0.001	0.001
## Chain 1:	7000	-31960.675	0.001	0.001
## Chain 1:	7100	-31943.664	0.001	0.001

## Chain 1:	7200	-31916.175	0.001	0.001
## Chain 1:	7300	-31900.617	0.001	0.001
## Chain 1:	7400	-31891.937	0.001	0.001
## Chain 1:	7500	-31852.026	0.001	0.001
## Chain 1:	7600	-31838.999	0.001	0.001
## Chain 1:	7700	-31846.757	0.001	0.001
## Chain 1:	7800	-31822.666	0.001	0.001
## Chain 1:	7900	-31804.317	0.001	0.001
## Chain 1:	8000	-31794.115	0.001	0.001
## Chain 1:	8100	-31818.490	0.001	0.001
## Chain 1:	8200	-31761.867	0.001	0.001
## Chain 1:	8300	-31752.529	0.001	0.001
## Chain 1:	8400	-31731.462	0.001	0.001
## Chain 1:	8500	-31728.065	0.001	0.001
## Chain 1:	8600	-31725.932	0.001	0.001
## Chain 1:	8700	-31713.368	0.001	0.001
## Chain 1:	8800	-31700.046	0.001	0.001
## Chain 1:	8900	-31678.154	0.001	0.001
## Chain 1:	9000	-31687.212	0.001	0.000
## Chain 1:	9100	-31677.505	0.001	0.000
## Chain 1:	9200	-31683.826	0.001	0.000
## Chain 1:	9300	-31675.005	0.001	0.000
## Chain 1:	9400	-31663.664	0.001	0.000
## Chain 1:	9500	-31658.518	0.000	0.000
## Chain 1:	9600	-31641.962	0.000	0.000
## Chain 1:	9700	-31639.972	0.000	0.000
## Chain 1:	9800	-31627.258	0.000	0.000
## Chain 1:	9900	-31637.601	0.000	0.000
## Chain 1:	10000	-31632.249	0.000	0.000
## Chain 1:	10100	-31607.370	0.000	0.000
## Chain 1:	10200	-31621.077	0.000	0.000
## Chain 1:	10300	-31606.572	0.000	0.000
## Chain 1:	10400	-31597.558	0.000	0.000
## Chain 1:	10500	-31611.091	0.000	0.000
## Chain 1:	10600	-31611.215	0.000	0.000
## Chain 1:	10700	-31593.898	0.000	0.000
## Chain 1:	10800	-31585.383	0.000	0.000
## Chain 1:	10900	-31595.257	0.000	0.000
## Chain 1:	11000	-31598.858	0.000	0.000
## Chain 1:	11100	-31580.174	0.000	0.000
## Chain 1:	11200	-31573.611	0.000	0.000
## Chain 1:	11300	-31582.925	0.000	0.000
## Chain 1:	11400	-31575.499	0.000	0.000
## Chain 1:	11500	-31566.198	0.000	0.000
## Chain 1:	11600	-31582.269	0.000	0.000
## Chain 1:	11700	-31567.559	0.000	0.000
## Chain 1:	11800	-31566.450	0.000	0.000
## Chain 1:	11900	-31562.682	0.000	0.000
## Chain 1:	12000	-31568.433	0.000	0.000
## Chain 1:	12100	-31575.556	0.000	0.000
## Chain 1:	12200	-31557.958	0.000	0.000
## Chain 1:	12300	-31568.855	0.000	0.000
## Chain 1:	12400	-31560.069	0.000	0.000
## Chain 1:	12500	-31575.524	0.000	0.000

## Chain 1:	12600	-31553.811	0.000	0.000
## Chain 1:	12700	-31553.476	0.000	0.000
## Chain 1:	12800	-31549.197	0.000	0.000
## Chain 1:	12900	-31567.443	0.000	0.000
## Chain 1:	13000	-31549.168	0.000	0.000
## Chain 1:	13100	-31544.534	0.000	0.000
## Chain 1:	13200	-31554.575	0.000	0.000
## Chain 1:	13300	-31543.457	0.000	0.000
## Chain 1:	13400	-31538.256	0.000	0.000
## Chain 1:	13500	-31538.993	0.000	0.000
## Chain 1:	13600	-31540.345	0.000	0.000
## Chain 1:	13700	-31548.910	0.000	0.000
## Chain 1:	13800	-31535.935	0.000	0.000
## Chain 1:	13900	-31552.210	0.000	0.000
## Chain 1:	14000	-31530.969	0.000	0.000
## Chain 1:	14100	-31540.312	0.000	0.000
## Chain 1:	14200	-31545.875	0.000	0.000
## Chain 1:	14300	-31537.637	0.000	0.000
## Chain 1:	14400	-31528.409	0.000	0.000
## Chain 1:	14500	-31528.836	0.000	0.000
## Chain 1:	14600	-31524.539	0.000	0.000
## Chain 1:	14700	-31524.999	0.000	0.000
## Chain 1:	14800	-31534.360	0.000	0.000
## Chain 1:	14900	-31518.348	0.000	0.000
## Chain 1:	15000	-31530.344	0.000	0.000
## Chain 1:	15100	-31541.565	0.000	0.000
## Chain 1:	15200	-31524.186	0.000	0.000
## Chain 1:	15300	-31536.630	0.000	0.000
## Chain 1:	15400	-31522.045	0.000	0.000
## Chain 1:	15500	-31527.022	0.000	0.000
## Chain 1:	15600	-31517.155	0.000	0.000
## Chain 1:	15700	-31519.481	0.000	0.000
## Chain 1:	15800	-31517.366	0.000	0.000
## Chain 1:	15900	-31517.966	0.000	0.000
## Chain 1:	16000	-31512.732	0.000	0.000
## Chain 1:	16100	-31517.548	0.000	0.000
## Chain 1:	16200	-31515.076	0.000	0.000
## Chain 1:	16300	-31522.320	0.000	0.000
## Chain 1:	16400	-31516.809	0.000	0.000
## Chain 1:	16500	-31514.697	0.000	0.000
## Chain 1:	16600	-31508.912	0.000	0.000
## Chain 1:	16700	-31522.865	0.000	0.000
## Chain 1:	16800	-31507.651	0.000	0.000
## Chain 1:	16900	-31522.569	0.000	0.000
## Chain 1:	17000	-31503.240	0.000	0.000
## Chain 1:	17100	-31513.922	0.000	0.000
## Chain 1:	17200	-31509.319	0.000	0.000
## Chain 1:	17300	-31514.017	0.000	0.000
## Chain 1:	17400	-31506.121	0.000	0.000
## Chain 1:	17500	-31504.429	0.000	0.000
## Chain 1:	17600	-31503.330	0.000	0.000
## Chain 1:	17700	-31500.256	0.000	0.000
## Chain 1:	17800	-31503.842	0.000	0.000
## Chain 1:	17900	-31510.237	0.000	0.000

```

## Chain 1: 18000      -31498.332      0.000      0.000
## Chain 1: 18100      -31520.995      0.000      0.000
## Chain 1: 18200      -31510.079      0.000      0.000
## Chain 1: 18300      -31505.685      0.000      0.000
## Chain 1: 18400      -31504.686      0.000      0.000
## Chain 1: 18500      -31507.897      0.000      0.000
## Chain 1: 18600      -31506.020      0.000      0.000
## Chain 1: 18700      -31496.130      0.000      0.000
## Chain 1: 18800      -31494.374      0.000      0.000
## Chain 1: 18900      -31491.189      0.000      0.000
## Chain 1: 19000      -31500.421      0.000      0.000
## Chain 1: 19100      -31502.754      0.000      0.000
## Chain 1: 19200      -31487.972      0.000      0.000
## Chain 1: 19300      -31490.079      0.000      0.000
## Chain 1: 19400      -31498.039      0.000      0.000
## Chain 1: 19500      -31500.761      0.000      0.000
## Chain 1: 19600      -31507.132      0.000      0.000
## Chain 1: 19700      -31490.416      0.000      0.000
## Chain 1: 19800      -31494.809      0.000      0.000
## Chain 1: 19900      -31497.729      0.000      0.000
## Chain 1: 20000      -31495.357      0.000      0.000
## Chain 1: Informational Message: The maximum number of iterations is reached! The algorithm may not have converged.
## Chain 1: This variational approximation is not guaranteed to be meaningful.
## Chain 1:
## Chain 1: Drawing a sample of size 1000 from the approximate posterior...
## Chain 1: COMPLETED.

## Warning: Pareto k diagnostic value is 7.13. Resampling is disabled. Decreasing tol_rel_obj may help ...
## variational algorithm has terminated prematurely. Otherwise consider using sampling instead.

save(fitStanLmerFpc1, file="fitStanLmerFpc1.Rdata")
summary(fitStanLmerFpc1)

## Model Info:
##   function: stan_glmer
##   family: gaussian [identity]
##   formula: f0 ~ cog_load + current + peak + syllable1 + syllable2 + syllable1:syllable2 +
##             PC1 + PC2 + PC3 + PC4 + PC1:syllable1 + PC1:syllable2 + PC2:syllable1 +
##             PC2:syllable2 + PC3:syllable1 + PC3:syllable2 + PC4:syllable1 +
##             PC4:syllable2 + (1 | subject) + (0 + current | subject) +
##             (0 + PC1 + PC2 + PC3 + PC4 | subject) + (0 + PC1:syllable1 |
##             subject) + (0 + PC1:syllable2 | subject) + (0 + PC2:syllable1 |
##             subject) + (0 + PC2:syllable2 | subject) + (0 + PC3:syllable1 |
##             subject) + (0 + PC3:syllable2 | subject) + (0 + PC4:syllable1 |
##             subject) + (0 + PC4:syllable2 | subject)
##   algorithm: meanfield
##   priors: see help('prior_summary')
##   observations: 7640
##   groups: subject (12)
##
## Estimates:
##                               mean     sd    10%    50%    90%
## (Intercept)                84.1    11.1   85.8   85.8   85.8
## cog_loadCL6                 -1.4     0.1   -1.4   -1.4   -1.4

```

```

## currentT2          -9.9   0.3  -9.9  -9.9  -9.9
## currentT3          -6.4   0.5  -6.3  -6.3  -6.3
## currentT4         -14.3   0.0 -14.3 -14.3 -14.3
## peak                 4.9   0.1   4.9   4.9   4.9
## syllable1T2      -139.3   1.7 -139.1 -139.1 -139.1
## syllable1T3      -181.8  10.3 -180.2 -180.2 -180.2
## syllable1T4       -28.0   7.7  -29.1  -29.1  -29.1
## syllable2T2      -182.2  11.0 -183.7 -183.7 -183.7
## syllable2T3      -284.7  13.2 -286.8 -286.8 -286.8
## syllable2T4      -128.9   9.6 -130.3 -130.3 -130.3
## PC1                -229.1  47.7 -236.2 -236.2 -236.2
## PC2                  -5.0   2.1  -5.3  -5.3  -5.3
## PC3                  8.0   1.0   7.8   7.8   7.8
## PC4                 -9.9   1.7 -10.1 -10.1 -10.1
## syllable1T2:syllable2T2    4.5   0.1   4.5   4.5   4.5
## syllable1T3:syllable2T2    4.0   0.0   4.0   4.0   4.0
## syllable1T4:syllable2T2    4.6   0.2   4.6   4.6   4.6
## syllable1T2:syllable2T3    3.4   0.4   3.4   3.4   3.4
## syllable1T3:syllable2T3    22.9   0.3  23.0  23.0  23.0
## syllable1T4:syllable2T3     0.7   0.4   0.8   0.8   0.8
## syllable1T2:syllable2T4     1.6   0.2   1.6   1.6   1.6
## syllable1T3:syllable2T4     3.5   0.3   3.6   3.6   3.6
## syllable1T4:syllable2T4     1.8   0.2   1.8   1.8   1.8
## syllable1T2:PC1            573.7   8.0  572.6  572.6  572.6
## syllable1T3:PC1            633.4  46.6  626.1  626.1  626.1
## syllable1T4:PC1            107.7  32.7 112.2 112.2 112.2
## syllable2T2:PC1            762.4  48.0  768.6  768.6  768.6
## syllable2T3:PC1            1059.2 55.1 1067.8 1067.8 1067.8
## syllable2T4:PC1            576.4  40.3  582.5  582.5  582.5
## syllable1T2:PC2            -34.2   0.8  -34.3  -34.3  -34.3
## syllable1T3:PC2            -93.5   2.6  -94.0  -94.0  -94.0
## syllable1T4:PC2            31.1   1.3   31.3   31.3   31.3
## syllable2T2:PC2            85.8   2.0   86.2   86.2   86.2
## syllable2T3:PC2            260.8   3.3  261.3  261.3  261.3
## syllable2T4:PC2            11.7   1.9   12.0   12.0   12.0
## syllable1T2:PC3            -6.5   0.3  -6.5  -6.5  -6.5
## syllable1T3:PC3            29.6   0.2   29.6   29.6   29.6
## syllable1T4:PC3            46.3   0.1   46.3   46.3   46.3
## syllable2T2:PC3            42.5   0.4   42.5   42.5   42.5
## syllable2T3:PC3            -22.7   1.1  -22.6  -22.6  -22.6
## syllable2T4:PC3            -64.6   0.3  -64.5  -64.5  -64.5
## syllable1T2:PC4            44.0   0.5   43.9   43.9   43.9
## syllable1T3:PC4            9.7   0.7   9.6   9.6   9.6
## syllable1T4:PC4            -59.1   1.3  -58.9  -58.9  -58.9
## syllable2T2:PC4            42.1   2.1   42.4   42.4   42.4
## syllable2T3:PC4            39.0   2.3   39.4   39.4   39.4
## syllable2T4:PC4            -15.6   1.9  -15.3  -15.3  -15.3
## b[(Intercept) subject:S2] 197.8   0.1  197.8  197.8  197.8
## b[(Intercept) subject:S1] 149.7   0.0  149.7  149.7  149.7
## b[(Intercept) subject:S5] 167.5   0.0  167.5  167.5  167.5
## b[(Intercept) subject:S9] 82.6   0.0  82.6  82.6  82.6
## b[(Intercept) subject:S8] 176.4   0.1  176.4  176.4  176.4
## b[(Intercept) subject:S3] 129.8   0.0  129.8  129.8  129.8
## b[(Intercept) subject:S4] 181.7   0.4  181.7  181.7  181.7

```

## b[(Intercept) subject:S12]	169.5	0.1	169.6	169.6	169.6
## b[(Intercept) subject:S11]	197.2	0.2	197.1	197.1	197.1
## b[(Intercept) subject:S7]	75.5	0.0	75.5	75.5	75.5
## b[(Intercept) subject:S6]	95.7	0.0	95.7	95.7	95.7
## b[(Intercept) subject:S10]	154.0	0.3	154.0	154.0	154.0
## b[currentT1 subject:S2]	22.1	0.4	22.2	22.2	22.2
## b[currentT2 subject:S2]	0.7	0.1	0.7	0.7	0.7
## b[currentT3 subject:S2]	-7.8	0.2	-7.8	-7.8	-7.8
## b[currentT4 subject:S2]	11.5	0.0	11.5	11.5	11.5
## b[currentT1 subject:S1]	1.5	0.1	1.5	1.5	1.5
## b[currentT2 subject:S1]	0.5	0.1	0.6	0.6	0.6
## b[currentT3 subject:S1]	3.6	0.1	3.6	3.6	3.6
## b[currentT4 subject:S1]	-0.6	0.0	-0.6	-0.6	-0.6
## b[currentT1 subject:S5]	50.6	0.4	50.6	50.6	50.6
## b[currentT2 subject:S5]	0.8	0.1	0.8	0.8	0.8
## b[currentT3 subject:S5]	-21.1	0.3	-21.1	-21.1	-21.1
## b[currentT4 subject:S5]	5.1	0.6	5.2	5.2	5.2
## b[currentT1 subject:S9]	5.2	0.1	5.2	5.2	5.2
## b[currentT2 subject:S9]	-0.1	0.1	-0.1	-0.1	-0.1
## b[currentT3 subject:S9]	23.6	0.2	23.7	23.7	23.7
## b[currentT4 subject:S9]	13.4	0.2	13.4	13.4	13.4
## b[currentT1 subject:S8]	7.6	0.0	7.6	7.6	7.6
## b[currentT2 subject:S8]	0.6	0.2	0.7	0.7	0.7
## b[currentT3 subject:S8]	7.4	0.4	7.4	7.4	7.4
## b[currentT4 subject:S8]	7.0	0.3	7.0	7.0	7.0
## b[currentT1 subject:S3]	15.4	0.1	15.4	15.4	15.4
## b[currentT2 subject:S3]	0.5	0.1	0.5	0.5	0.5
## b[currentT3 subject:S3]	15.6	0.3	15.7	15.7	15.7
## b[currentT4 subject:S3]	20.2	0.1	20.2	20.2	20.2
## b[currentT1 subject:S4]	30.1	0.2	30.2	30.2	30.2
## b[currentT2 subject:S4]	0.3	0.1	0.3	0.3	0.3
## b[currentT3 subject:S4]	-1.1	0.1	-1.1	-1.1	-1.1
## b[currentT4 subject:S4]	22.9	0.3	23.0	23.0	23.0
## b[currentT1 subject:S12]	4.8	0.1	4.8	4.8	4.8
## b[currentT2 subject:S12]	0.1	0.1	0.2	0.2	0.2
## b[currentT3 subject:S12]	-3.7	0.2	-3.7	-3.7	-3.7
## b[currentT4 subject:S12]	4.7	0.1	4.8	4.8	4.8
## b[currentT1 subject:S11]	5.0	0.0	5.0	5.0	5.0
## b[currentT2 subject:S11]	0.0	0.1	0.0	0.0	0.0
## b[currentT3 subject:S11]	2.1	0.3	2.0	2.0	2.0
## b[currentT4 subject:S11]	11.7	0.1	11.7	11.7	11.7
## b[currentT1 subject:S7]	-15.0	0.0	-15.0	-15.0	-15.0
## b[currentT2 subject:S7]	-0.5	0.0	-0.5	-0.5	-0.5
## b[currentT3 subject:S7]	27.3	0.6	27.4	27.4	27.4
## b[currentT4 subject:S7]	-6.6	0.1	-6.6	-6.6	-6.6
## b[currentT1 subject:S6]	-4.3	0.1	-4.3	-4.3	-4.3
## b[currentT2 subject:S6]	0.0	0.1	0.0	0.0	0.0
## b[currentT3 subject:S6]	9.9	0.6	10.0	10.0	10.0
## b[currentT4 subject:S6]	-3.3	0.6	-3.2	-3.2	-3.2
## b[currentT1 subject:S10]	1.5	0.3	1.5	1.5	1.5
## b[currentT2 subject:S10]	-0.2	0.0	-0.2	-0.2	-0.2
## b[currentT3 subject:S10]	-10.9	0.1	-10.9	-10.9	-10.9
## b[currentT4 subject:S10]	-6.1	0.2	-6.2	-6.2	-6.2
## b[PC1 subject:S2]	154.0	0.5	154.0	154.0	154.0

## b[PC2 subject:S2]	4.9	0.1	4.9	4.9	4.9
## b[PC3 subject:S2]	-0.1	0.0	-0.1	-0.1	-0.1
## b[PC4 subject:S2]	-3.1	0.3	-3.1	-3.1	-3.1
## b[PC1 subject:S1]	131.9	0.3	132.0	132.0	132.0
## b[PC2 subject:S1]	0.3	0.1	0.3	0.3	0.3
## b[PC3 subject:S1]	1.6	0.2	1.6	1.6	1.6
## b[PC4 subject:S1]	-0.5	0.2	-0.5	-0.5	-0.5
## b[PC1 subject:S5]	156.4	0.9	156.3	156.3	156.3
## b[PC2 subject:S5]	2.7	0.4	2.6	2.6	2.6
## b[PC3 subject:S5]	1.6	0.5	1.7	1.7	1.7
## b[PC4 subject:S5]	-2.2	0.3	-2.2	-2.2	-2.2
## b[PC1 subject:S9]	88.6	0.7	88.7	88.7	88.7
## b[PC2 subject:S9]	0.1	0.3	0.1	0.1	0.1
## b[PC3 subject:S9]	0.0	0.1	-0.1	-0.1	-0.1
## b[PC4 subject:S9]	-0.3	0.3	-0.4	-0.4	-0.4
## b[PC1 subject:S8]	89.1	0.5	89.2	89.2	89.2
## b[PC2 subject:S8]	6.7	0.0	6.7	6.7	6.7
## b[PC3 subject:S8]	0.6	0.6	0.7	0.7	0.7
## b[PC4 subject:S8]	-3.9	0.7	-4.0	-4.0	-4.0
## b[PC1 subject:S3]	155.6	0.4	155.5	155.5	155.5
## b[PC2 subject:S3]	5.3	0.1	5.3	5.3	5.3
## b[PC3 subject:S3]	0.3	0.2	0.3	0.3	0.3
## b[PC4 subject:S3]	-3.2	0.6	-3.3	-3.3	-3.3
## b[PC1 subject:S4]	240.4	0.3	240.3	240.3	240.3
## b[PC2 subject:S4]	4.0	0.2	4.0	4.0	4.0
## b[PC3 subject:S4]	-2.6	0.3	-2.6	-2.6	-2.6
## b[PC4 subject:S4]	-1.5	0.4	-1.5	-1.5	-1.5
## b[PC1 subject:S12]	81.3	0.1	81.3	81.3	81.3
## b[PC2 subject:S12]	3.5	0.2	3.5	3.5	3.5
## b[PC3 subject:S12]	-2.3	0.2	-2.3	-2.3	-2.3
## b[PC4 subject:S12]	-1.5	0.1	-1.5	-1.5	-1.5
## b[PC1 subject:S11]	204.8	0.1	204.8	204.8	204.8
## b[PC2 subject:S11]	1.6	0.4	1.7	1.7	1.7
## b[PC3 subject:S11]	-0.4	0.4	-0.5	-0.5	-0.5
## b[PC4 subject:S11]	-1.2	0.4	-1.3	-1.3	-1.3
## b[PC1 subject:S7]	36.9	0.4	37.0	37.0	37.0
## b[PC2 subject:S7]	-0.2	0.1	-0.2	-0.2	-0.2
## b[PC3 subject:S7]	-2.7	0.5	-2.8	-2.8	-2.8
## b[PC4 subject:S7]	0.5	0.4	0.5	0.5	0.5
## b[PC1 subject:S6]	88.6	0.5	88.5	88.5	88.5
## b[PC2 subject:S6]	-0.9	0.2	-0.9	-0.9	-0.9
## b[PC3 subject:S6]	0.9	0.1	0.9	0.9	0.9
## b[PC4 subject:S6]	0.4	0.2	0.4	0.4	0.4
## b[PC1 subject:S10]	214.8	0.4	214.9	214.9	214.9
## b[PC2 subject:S10]	3.1	0.2	3.0	3.0	3.0
## b[PC3 subject:S10]	2.1	0.5	2.1	2.1	2.1
## b[PC4 subject:S10]	-2.0	0.1	-2.0	-2.0	-2.0
## b[PC1:syllable1T1 subject:S2]	20.4	0.1	20.4	20.4	20.4
## b[PC1:syllable1T2 subject:S2]	-7.2	1.9	-7.4	-7.4	-7.4
## b[PC1:syllable1T3 subject:S2]	-31.6	2.4	-32.0	-32.0	-32.0
## b[PC1:syllable1T4 subject:S2]	-8.5	0.5	-8.5	-8.5	-8.5
## b[PC1:syllable1T1 subject:S1]	0.7	0.4	0.7	0.7	0.7
## b[PC1:syllable1T2 subject:S1]	0.1	0.4	0.2	0.2	0.2
## b[PC1:syllable1T3 subject:S1]	5.9	1.0	6.1	6.1	6.1

## b[PC1:syllable1T4 subject:S1]	13.3	1.6	13.5	13.5	13.5
## b[PC1:syllable1T1 subject:S5]	1.6	0.5	1.5	1.5	1.5
## b[PC1:syllable1T2 subject:S5]	-1.4	0.4	-1.4	-1.4	-1.4
## b[PC1:syllable1T3 subject:S5]	2.5	1.8	2.8	2.8	2.8
## b[PC1:syllable1T4 subject:S5]	-4.7	0.2	-4.7	-4.7	-4.7
## b[PC1:syllable1T1 subject:S9]	-4.5	0.2	-4.5	-4.5	-4.5
## b[PC1:syllable1T2 subject:S9]	0.5	0.4	0.6	0.6	0.6
## b[PC1:syllable1T3 subject:S9]	0.7	1.1	0.5	0.5	0.5
## b[PC1:syllable1T4 subject:S9]	16.8	1.2	16.6	16.6	16.6
## b[PC1:syllable1T1 subject:S8]	-12.6	0.0	-12.6	-12.6	-12.6
## b[PC1:syllable1T2 subject:S8]	3.5	0.6	3.5	3.5	3.5
## b[PC1:syllable1T3 subject:S8]	1.3	2.1	1.6	1.6	1.6
## b[PC1:syllable1T4 subject:S8]	-4.1	1.2	-4.3	-4.3	-4.3
## b[PC1:syllable1T1 subject:S3]	9.5	0.7	9.6	9.6	9.6
## b[PC1:syllable1T2 subject:S3]	-2.2	0.5	-2.3	-2.3	-2.3
## b[PC1:syllable1T3 subject:S3]	-10.5	0.3	-10.6	-10.6	-10.6
## b[PC1:syllable1T4 subject:S3]	16.0	0.4	15.9	15.9	15.9
## b[PC1:syllable1T1 subject:S4]	-11.3	0.2	-11.4	-11.4	-11.4
## b[PC1:syllable1T2 subject:S4]	4.3	1.3	4.5	4.5	4.5
## b[PC1:syllable1T3 subject:S4]	-1.4	0.4	-1.5	-1.5	-1.5
## b[PC1:syllable1T4 subject:S4]	9.2	0.1	9.3	9.3	9.3
## b[PC1:syllable1T1 subject:S12]	-2.8	1.5	-2.6	-2.6	-2.6
## b[PC1:syllable1T2 subject:S12]	-0.5	0.3	-0.5	-0.5	-0.5
## b[PC1:syllable1T3 subject:S12]	9.1	0.6	9.2	9.2	9.2
## b[PC1:syllable1T4 subject:S12]	-1.7	2.4	-2.1	-2.1	-2.1
## b[PC1:syllable1T1 subject:S11]	6.2	0.2	6.2	6.2	6.2
## b[PC1:syllable1T2 subject:S11]	0.4	0.5	0.4	0.4	0.4
## b[PC1:syllable1T3 subject:S11]	20.6	1.5	20.8	20.8	20.8
## b[PC1:syllable1T4 subject:S11]	-24.4	1.1	-24.3	-24.3	-24.3
## b[PC1:syllable1T1 subject:S7]	-8.3	0.2	-8.3	-8.3	-8.3
## b[PC1:syllable1T2 subject:S7]	-0.1	0.4	0.0	0.0	0.0
## b[PC1:syllable1T3 subject:S7]	21.6	1.6	21.8	21.8	21.8
## b[PC1:syllable1T4 subject:S7]	-10.2	0.2	-10.2	-10.2	-10.2
## b[PC1:syllable1T1 subject:S6]	7.7	1.0	7.8	7.8	7.8
## b[PC1:syllable1T2 subject:S6]	0.0	0.1	0.0	0.0	0.0
## b[PC1:syllable1T3 subject:S6]	15.8	0.4	15.7	15.7	15.7
## b[PC1:syllable1T4 subject:S6]	-17.8	1.2	-17.7	-17.7	-17.7
## b[PC1:syllable1T1 subject:S10]	-1.0	0.4	-1.1	-1.1	-1.1
## b[PC1:syllable1T2 subject:S10]	1.5	0.0	1.5	1.5	1.5
## b[PC1:syllable1T3 subject:S10]	-10.9	0.2	-10.9	-10.9	-10.9
## b[PC1:syllable1T4 subject:S10]	12.1	0.5	12.2	12.2	12.2
## b[PC1:syllable2T1 subject:S2]	-26.4	0.2	-26.4	-26.4	-26.4
## b[PC1:syllable2T2 subject:S2]	-0.6	1.7	-0.9	-0.9	-0.9
## b[PC1:syllable2T3 subject:S2]	7.5	0.9	7.6	7.6	7.6
## b[PC1:syllable2T4 subject:S2]	-0.3	1.1	-0.5	-0.5	-0.5
## b[PC1:syllable2T1 subject:S1]	0.4	2.0	0.1	0.1	0.1
## b[PC1:syllable2T2 subject:S1]	-2.5	0.3	-2.6	-2.6	-2.6
## b[PC1:syllable2T3 subject:S1]	50.3	0.5	50.2	50.2	50.2
## b[PC1:syllable2T4 subject:S1]	-4.5	0.8	-4.6	-4.6	-4.6
## b[PC1:syllable2T1 subject:S5]	15.3	2.2	15.0	15.0	15.0
## b[PC1:syllable2T2 subject:S5]	-1.8	1.0	-1.6	-1.6	-1.6
## b[PC1:syllable2T3 subject:S5]	13.7	0.1	13.7	13.7	13.7
## b[PC1:syllable2T4 subject:S5]	21.0	0.3	21.0	21.0	21.0
## b[PC1:syllable2T1 subject:S9]	14.0	1.7	14.2	14.2	14.2

## b[PC1:syllable2T2 subject:S9]	-4.0	0.8	-4.1	-4.1	-4.1
## b[PC1:syllable2T3 subject:S9]	64.6	3.5	65.1	65.1	65.1
## b[PC1:syllable2T4 subject:S9]	2.2	0.6	2.3	2.3	2.3
## b[PC1:syllable2T1 subject:S8]	10.5	0.6	10.5	10.5	10.5
## b[PC1:syllable2T2 subject:S8]	2.9	1.1	3.1	3.1	3.1
## b[PC1:syllable2T3 subject:S8]	-55.9	3.2	-56.4	-56.4	-56.4
## b[PC1:syllable2T4 subject:S8]	27.1	0.3	27.1	27.1	27.1
## b[PC1:syllable2T1 subject:S3]	-8.0	1.7	-7.7	-7.7	-7.7
## b[PC1:syllable2T2 subject:S3]	-1.1	0.8	-1.2	-1.2	-1.2
## b[PC1:syllable2T3 subject:S3]	28.9	2.4	29.3	29.3	29.3
## b[PC1:syllable2T4 subject:S3]	2.0	0.8	2.1	2.1	2.1
## b[PC1:syllable2T1 subject:S4]	24.6	0.1	24.6	24.6	24.6
## b[PC1:syllable2T2 subject:S4]	6.5	1.3	6.7	6.7	6.7
## b[PC1:syllable2T3 subject:S4]	-88.1	1.6	-88.4	-88.4	-88.4
## b[PC1:syllable2T4 subject:S4]	21.7	2.1	21.4	21.4	21.4
## b[PC1:syllable2T1 subject:S12]	-7.9	0.4	-7.9	-7.9	-7.9
## b[PC1:syllable2T2 subject:S12]	3.1	1.0	2.9	2.9	2.9
## b[PC1:syllable2T3 subject:S12]	8.7	0.7	8.8	8.8	8.8
## b[PC1:syllable2T4 subject:S12]	-31.5	0.6	-31.4	-31.4	-31.4
## b[PC1:syllable2T1 subject:S11]	14.2	0.4	14.2	14.2	14.2
## b[PC1:syllable2T2 subject:S11]	10.8	1.1	11.0	11.0	11.0
## b[PC1:syllable2T3 subject:S11]	-7.9	0.5	-7.8	-7.8	-7.8
## b[PC1:syllable2T4 subject:S11]	-8.6	0.4	-8.7	-8.7	-8.7
## b[PC1:syllable2T1 subject:S7]	18.7	0.2	18.7	18.7	18.7
## b[PC1:syllable2T2 subject:S7]	-1.8	0.4	-1.7	-1.7	-1.7
## b[PC1:syllable2T3 subject:S7]	55.7	1.6	55.9	55.9	55.9
## b[PC1:syllable2T4 subject:S7]	3.9	0.1	3.9	3.9	3.9
## b[PC1:syllable2T1 subject:S6]	18.0	1.0	18.2	18.2	18.2
## b[PC1:syllable2T2 subject:S6]	8.7	1.6	8.9	8.9	8.9
## b[PC1:syllable2T3 subject:S6]	44.3	0.1	44.3	44.3	44.3
## b[PC1:syllable2T4 subject:S6]	1.9	2.0	1.6	1.6	1.6
## b[PC1:syllable2T1 subject:S10]	16.9	1.9	16.6	16.6	16.6
## b[PC1:syllable2T2 subject:S10]	0.3	0.1	0.3	0.3	0.3
## b[PC1:syllable2T3 subject:S10]	-74.8	3.7	-75.4	-75.4	-75.4
## b[PC1:syllable2T4 subject:S10]	7.8	0.4	7.7	7.7	7.7
## b[PC2:syllable1T1 subject:S2]	0.9	0.9	0.8	0.8	0.8
## b[PC2:syllable1T2 subject:S2]	-2.2	1.0	-2.0	-2.0	-2.0
## b[PC2:syllable1T3 subject:S2]	-3.7	0.2	-3.7	-3.7	-3.7
## b[PC2:syllable1T4 subject:S2]	10.5	0.9	10.4	10.4	10.4
## b[PC2:syllable1T1 subject:S1]	2.7	0.8	2.9	2.9	2.9
## b[PC2:syllable1T2 subject:S1]	-0.6	0.6	-0.7	-0.7	-0.7
## b[PC2:syllable1T3 subject:S1]	0.3	1.1	0.4	0.4	0.4
## b[PC2:syllable1T4 subject:S1]	-5.0	0.4	-5.0	-5.0	-5.0
## b[PC2:syllable1T1 subject:S5]	0.2	0.4	0.3	0.3	0.3
## b[PC2:syllable1T2 subject:S5]	0.8	0.2	0.8	0.8	0.8
## b[PC2:syllable1T3 subject:S5]	0.6	0.3	0.6	0.6	0.6
## b[PC2:syllable1T4 subject:S5]	-15.5	1.2	-15.3	-15.3	-15.3
## b[PC2:syllable1T1 subject:S9]	-0.8	0.3	-0.8	-0.8	-0.8
## b[PC2:syllable1T2 subject:S9]	1.2	0.1	1.1	1.1	1.1
## b[PC2:syllable1T3 subject:S9]	-2.0	0.2	-2.0	-2.0	-2.0
## b[PC2:syllable1T4 subject:S9]	-1.6	0.2	-1.6	-1.6	-1.6
## b[PC2:syllable1T1 subject:S8]	1.7	0.5	1.6	1.6	1.6
## b[PC2:syllable1T2 subject:S8]	-0.5	1.2	-0.3	-0.3	-0.3
## b[PC2:syllable1T3 subject:S8]	2.7	0.4	2.7	2.7	2.7

## b[PC2:syllable1T4 subject:S8]	18.3	1.9	18.6	18.6	18.6
## b[PC2:syllable1T1 subject:S3]	5.1	0.5	5.1	5.1	5.1
## b[PC2:syllable1T2 subject:S3]	-1.1	0.3	-1.2	-1.2	-1.2
## b[PC2:syllable1T3 subject:S3]	3.3	1.1	3.5	3.5	3.5
## b[PC2:syllable1T4 subject:S3]	1.9	1.2	2.1	2.1	2.1
## b[PC2:syllable1T1 subject:S4]	-0.4	1.2	-0.5	-0.5	-0.5
## b[PC2:syllable1T2 subject:S4]	-0.3	1.5	-0.1	-0.1	-0.1
## b[PC2:syllable1T3 subject:S4]	-1.3	0.4	-1.3	-1.3	-1.3
## b[PC2:syllable1T4 subject:S4]	24.3	0.3	24.3	24.3	24.3
## b[PC2:syllable1T1 subject:S12]	2.2	0.2	2.2	2.2	2.2
## b[PC2:syllable1T2 subject:S12]	0.3	0.3	0.2	0.2	0.2
## b[PC2:syllable1T3 subject:S12]	-0.7	0.3	-0.7	-0.7	-0.7
## b[PC2:syllable1T4 subject:S12]	0.7	0.5	0.7	0.7	0.7
## b[PC2:syllable1T1 subject:S11]	-2.6	0.1	-2.6	-2.6	-2.6
## b[PC2:syllable1T2 subject:S11]	2.2	1.2	2.4	2.4	2.4
## b[PC2:syllable1T3 subject:S11]	-2.3	0.4	-2.2	-2.2	-2.2
## b[PC2:syllable1T4 subject:S11]	13.6	1.1	13.5	13.5	13.5
## b[PC2:syllable1T1 subject:S7]	-3.9	1.7	-3.6	-3.6	-3.6
## b[PC2:syllable1T2 subject:S7]	3.8	0.6	3.7	3.7	3.7
## b[PC2:syllable1T3 subject:S7]	-3.3	0.3	-3.3	-3.3	-3.3
## b[PC2:syllable1T4 subject:S7]	-9.0	1.2	-8.8	-8.8	-8.8
## b[PC2:syllable1T1 subject:S6]	-4.1	0.3	-4.0	-4.0	-4.0
## b[PC2:syllable1T2 subject:S6]	3.2	0.3	3.2	3.2	3.2
## b[PC2:syllable1T3 subject:S6]	0.3	0.5	0.3	0.3	0.3
## b[PC2:syllable1T4 subject:S6]	-10.5	1.0	-10.7	-10.7	-10.7
## b[PC2:syllable1T1 subject:S10]	1.0	0.7	1.1	1.1	1.1
## b[PC2:syllable1T2 subject:S10]	1.3	0.4	1.3	1.3	1.3
## b[PC2:syllable1T3 subject:S10]	1.2	1.2	1.0	1.0	1.0
## b[PC2:syllable1T4 subject:S10]	-11.8	0.2	-11.8	-11.8	-11.8
## b[PC2:syllable2T1 subject:S2]	2.5	1.3	2.2	2.2	2.2
## b[PC2:syllable2T2 subject:S2]	4.9	0.3	4.9	4.9	4.9
## b[PC2:syllable2T3 subject:S2]	32.0	0.2	32.0	32.0	32.0
## b[PC2:syllable2T4 subject:S2]	-1.8	2.4	-2.2	-2.2	-2.2
## b[PC2:syllable2T1 subject:S1]	1.3	0.1	1.3	1.3	1.3
## b[PC2:syllable2T2 subject:S1]	-3.0	0.2	-3.0	-3.0	-3.0
## b[PC2:syllable2T3 subject:S1]	-35.3	0.5	-35.3	-35.3	-35.3
## b[PC2:syllable2T4 subject:S1]	5.9	0.2	5.8	5.8	5.8
## b[PC2:syllable2T1 subject:S5]	-23.9	0.5	-24.0	-24.0	-24.0
## b[PC2:syllable2T2 subject:S5]	20.1	0.9	20.2	20.2	20.2
## b[PC2:syllable2T3 subject:S5]	42.0	1.1	42.2	42.2	42.2
## b[PC2:syllable2T4 subject:S5]	-25.4	1.0	-25.5	-25.5	-25.5
## b[PC2:syllable2T1 subject:S9]	6.5	1.1	6.7	6.7	6.7
## b[PC2:syllable2T2 subject:S9]	-11.1	1.7	-11.3	-11.3	-11.3
## b[PC2:syllable2T3 subject:S9]	-76.8	1.0	-76.7	-76.7	-76.7
## b[PC2:syllable2T4 subject:S9]	11.9	0.8	12.0	12.0	12.0
## b[PC2:syllable2T1 subject:S8]	-8.6	0.1	-8.6	-8.6	-8.6
## b[PC2:syllable2T2 subject:S8]	9.4	0.5	9.4	9.4	9.4
## b[PC2:syllable2T3 subject:S8]	52.8	1.1	52.9	52.9	52.9
## b[PC2:syllable2T4 subject:S8]	-10.8	0.9	-11.0	-11.0	-11.0
## b[PC2:syllable2T1 subject:S3]	16.3	0.2	16.4	16.4	16.4
## b[PC2:syllable2T2 subject:S3]	3.0	1.1	3.2	3.2	3.2
## b[PC2:syllable2T3 subject:S3]	-12.9	0.7	-12.8	-12.8	-12.8
## b[PC2:syllable2T4 subject:S3]	8.1	1.5	7.9	7.9	7.9
## b[PC2:syllable2T1 subject:S4]	-21.0	0.3	-20.9	-20.9	-20.9

## b[PC2:syllable2T2 subject:S4]	11.8	1.5	12.0	12.0	12.0
## b[PC2:syllable2T3 subject:S4]	58.6	0.2	58.5	58.5	58.5
## b[PC2:syllable2T4 subject:S4]	-20.8	0.7	-20.7	-20.7	-20.7
## b[PC2:syllable2T1 subject:S12]	8.8	0.3	8.8	8.8	8.8
## b[PC2:syllable2T2 subject:S12]	6.2	0.2	6.2	6.2	6.2
## b[PC2:syllable2T3 subject:S12]	-12.3	1.0	-12.4	-12.4	-12.4
## b[PC2:syllable2T4 subject:S12]	3.9	1.4	3.7	3.7	3.7
## b[PC2:syllable2T1 subject:S11]	7.9	1.0	8.1	8.1	8.1
## b[PC2:syllable2T2 subject:S11]	-10.2	0.5	-10.3	-10.3	-10.3
## b[PC2:syllable2T3 subject:S11]	21.2	1.1	21.0	21.0	21.0
## b[PC2:syllable2T4 subject:S11]	-0.1	1.1	0.1	0.1	0.1
## b[PC2:syllable2T1 subject:S7]	3.2	0.2	3.2	3.2	3.2
## b[PC2:syllable2T2 subject:S7]	-5.1	0.1	-5.1	-5.1	-5.1
## b[PC2:syllable2T3 subject:S7]	-66.1	0.6	-66.2	-66.2	-66.2
## b[PC2:syllable2T4 subject:S7]	6.5	0.1	6.5	6.5	6.5
## b[PC2:syllable2T1 subject:S6]	4.2	0.8	4.3	4.3	4.3
## b[PC2:syllable2T2 subject:S6]	-7.7	1.1	-7.8	-7.8	-7.8
## b[PC2:syllable2T3 subject:S6]	-52.4	0.4	-52.3	-52.3	-52.3
## b[PC2:syllable2T4 subject:S6]	13.6	1.5	13.8	13.8	13.8
## b[PC2:syllable2T1 subject:S10]	2.4	0.4	2.5	2.5	2.5
## b[PC2:syllable2T2 subject:S10]	-5.7	1.6	-6.0	-6.0	-6.0
## b[PC2:syllable2T3 subject:S10]	65.9	0.2	65.9	65.9	65.9
## b[PC2:syllable2T4 subject:S10]	-4.8	0.7	-4.9	-4.9	-4.9
## b[PC3:syllable1T1 subject:S2]	-0.2	0.9	-0.4	-0.4	-0.4
## b[PC3:syllable1T2 subject:S2]	-6.5	1.1	-6.3	-6.3	-6.3
## b[PC3:syllable1T3 subject:S2]	3.4	0.3	3.3	3.3	3.3
## b[PC3:syllable1T4 subject:S2]	31.6	0.2	31.6	31.6	31.6
## b[PC3:syllable1T1 subject:S1]	1.1	0.5	1.1	1.1	1.1
## b[PC3:syllable1T2 subject:S1]	-0.6	1.0	-0.7	-0.7	-0.7
## b[PC3:syllable1T3 subject:S1]	6.6	1.8	6.9	6.9	6.9
## b[PC3:syllable1T4 subject:S1]	-11.4	0.8	-11.3	-11.3	-11.3
## b[PC3:syllable1T1 subject:S5]	-3.7	0.8	-3.9	-3.9	-3.9
## b[PC3:syllable1T2 subject:S5]	-20.5	1.1	-20.7	-20.7	-20.7
## b[PC3:syllable1T3 subject:S5]	9.0	0.9	9.2	9.2	9.2
## b[PC3:syllable1T4 subject:S5]	25.8	1.2	25.6	25.6	25.6
## b[PC3:syllable1T1 subject:S9]	2.5	0.4	2.5	2.5	2.5
## b[PC3:syllable1T2 subject:S9]	8.1	0.5	8.0	8.0	8.0
## b[PC3:syllable1T3 subject:S9]	-2.7	0.8	-2.6	-2.6	-2.6
## b[PC3:syllable1T4 subject:S9]	-32.3	0.8	-32.4	-32.4	-32.4
## b[PC3:syllable1T1 subject:S8]	-1.5	0.3	-1.6	-1.6	-1.6
## b[PC3:syllable1T2 subject:S8]	-2.8	1.4	-3.0	-3.0	-3.0
## b[PC3:syllable1T3 subject:S8]	-1.1	0.6	-1.0	-1.0	-1.0
## b[PC3:syllable1T4 subject:S8]	-0.5	0.7	-0.6	-0.6	-0.6
## b[PC3:syllable1T1 subject:S3]	-1.8	0.2	-1.8	-1.8	-1.8
## b[PC3:syllable1T2 subject:S3]	1.7	1.4	1.4	1.4	1.4
## b[PC3:syllable1T3 subject:S3]	-4.9	0.3	-4.8	-4.8	-4.8
## b[PC3:syllable1T4 subject:S3]	-4.2	0.6	-4.1	-4.1	-4.1
## b[PC3:syllable1T1 subject:S4]	-1.9	0.7	-1.8	-1.8	-1.8
## b[PC3:syllable1T2 subject:S4]	-13.5	0.3	-13.5	-13.5	-13.5
## b[PC3:syllable1T3 subject:S4]	8.8	0.6	8.7	8.7	8.7
## b[PC3:syllable1T4 subject:S4]	12.9	0.5	13.0	13.0	13.0
## b[PC3:syllable1T1 subject:S12]	-3.6	0.7	-3.7	-3.7	-3.7
## b[PC3:syllable1T2 subject:S12]	-5.3	0.5	-5.4	-5.4	-5.4
## b[PC3:syllable1T3 subject:S12]	0.9	0.1	0.9	0.9	0.9

## b[PC3:syllable1T4 subject:S12]	5.5	0.6	5.6	5.6	5.6
## b[PC3:syllable1T1 subject:S11]	-1.6	0.7	-1.5	-1.5	-1.5
## b[PC3:syllable1T2 subject:S11]	-2.2	0.5	-2.2	-2.2	-2.2
## b[PC3:syllable1T3 subject:S11]	0.4	1.2	0.2	0.2	0.2
## b[PC3:syllable1T4 subject:S11]	-2.1	0.1	-2.1	-2.1	-2.1
## b[PC3:syllable1T1 subject:S7]	0.5	0.2	0.5	0.5	0.5
## b[PC3:syllable1T2 subject:S7]	18.9	0.5	18.9	18.9	18.9
## b[PC3:syllable1T3 subject:S7]	-16.0	0.8	-16.2	-16.2	-16.2
## b[PC3:syllable1T4 subject:S7]	-26.8	0.3	-26.9	-26.9	-26.9
## b[PC3:syllable1T1 subject:S6]	-3.5	0.5	-3.5	-3.5	-3.5
## b[PC3:syllable1T2 subject:S6]	-9.2	1.5	-9.4	-9.4	-9.4
## b[PC3:syllable1T3 subject:S6]	-1.3	1.1	-1.5	-1.5	-1.5
## b[PC3:syllable1T4 subject:S6]	-10.8	0.6	-10.7	-10.7	-10.7
## b[PC3:syllable1T1 subject:S10]	-1.6	0.3	-1.5	-1.5	-1.5
## b[PC3:syllable1T2 subject:S10]	-0.9	1.4	-1.1	-1.1	-1.1
## b[PC3:syllable1T3 subject:S10]	0.6	0.1	0.6	0.6	0.6
## b[PC3:syllable1T4 subject:S10]	-3.2	0.9	-3.0	-3.0	-3.0
## b[PC3:syllable2T1 subject:S2]	-2.5	0.9	-2.7	-2.7	-2.7
## b[PC3:syllable2T2 subject:S2]	42.9	0.4	42.8	42.8	42.8
## b[PC3:syllable2T3 subject:S2]	2.4	0.5	2.4	2.4	2.4
## b[PC3:syllable2T4 subject:S2]	-55.7	1.3	-55.5	-55.5	-55.5
## b[PC3:syllable2T1 subject:S1]	4.3	1.6	4.6	4.6	4.6
## b[PC3:syllable2T2 subject:S1]	-13.5	0.1	-13.5	-13.5	-13.5
## b[PC3:syllable2T3 subject:S1]	-0.1	2.6	0.3	0.3	0.3
## b[PC3:syllable2T4 subject:S1]	33.9	0.9	34.0	34.0	34.0
## b[PC3:syllable2T1 subject:S5]	-4.2	1.3	-4.4	-4.4	-4.4
## b[PC3:syllable2T2 subject:S5]	31.0	1.3	30.7	30.7	30.7
## b[PC3:syllable2T3 subject:S5]	59.2	1.6	59.0	59.0	59.0
## b[PC3:syllable2T4 subject:S5]	-77.1	0.3	-77.1	-77.1	-77.1
## b[PC3:syllable2T1 subject:S9]	-7.5	0.2	-7.6	-7.6	-7.6
## b[PC3:syllable2T2 subject:S9]	-11.1	1.3	-10.9	-10.9	-10.9
## b[PC3:syllable2T3 subject:S9]	8.0	0.4	7.9	7.9	7.9
## b[PC3:syllable2T4 subject:S9]	12.8	1.6	12.5	12.5	12.5
## b[PC3:syllable2T1 subject:S8]	0.2	0.3	0.2	0.2	0.2
## b[PC3:syllable2T2 subject:S8]	-20.8	1.8	-21.0	-21.0	-21.0
## b[PC3:syllable2T3 subject:S8]	-56.5	0.1	-56.5	-56.5	-56.5
## b[PC3:syllable2T4 subject:S8]	36.5	2.8	36.9	36.9	36.9
## b[PC3:syllable2T1 subject:S3]	-3.7	1.2	-3.8	-3.8	-3.8
## b[PC3:syllable2T2 subject:S3]	4.0	0.4	4.0	4.0	4.0
## b[PC3:syllable2T3 subject:S3]	12.3	0.4	12.3	12.3	12.3
## b[PC3:syllable2T4 subject:S3]	-4.6	0.3	-4.6	-4.6	-4.6
## b[PC3:syllable2T1 subject:S4]	1.8	0.5	1.7	1.7	1.7
## b[PC3:syllable2T2 subject:S4]	8.0	0.9	7.9	7.9	7.9
## b[PC3:syllable2T3 subject:S4]	-1.2	1.0	-1.4	-1.4	-1.4
## b[PC3:syllable2T4 subject:S4]	-17.6	2.5	-17.2	-17.2	-17.2
## b[PC3:syllable2T1 subject:S12]	3.6	0.5	3.5	3.5	3.5
## b[PC3:syllable2T2 subject:S12]	-4.6	0.6	-4.5	-4.5	-4.5
## b[PC3:syllable2T3 subject:S12]	-20.7	0.9	-20.8	-20.8	-20.8
## b[PC3:syllable2T4 subject:S12]	14.2	2.1	13.8	13.8	13.8
## b[PC3:syllable2T1 subject:S11]	-0.2	0.5	-0.3	-0.3	-0.3
## b[PC3:syllable2T2 subject:S11]	-10.8	0.6	-10.7	-10.7	-10.7
## b[PC3:syllable2T3 subject:S11]	-32.2	1.1	-32.4	-32.4	-32.4
## b[PC3:syllable2T4 subject:S11]	16.2	1.9	15.9	15.9	15.9
## b[PC3:syllable2T1 subject:S7]	-8.2	0.2	-8.2	-8.2	-8.2

## b[PC3:syllable2T2 subject:S7]	-31.7	0.2	-31.7	-31.7	-31.7
## b[PC3:syllable2T3 subject:S7]	10.7	1.1	10.5	10.5	10.5
## b[PC3:syllable2T4 subject:S7]	48.8	0.3	48.7	48.7	48.7
## b[PC3:syllable2T1 subject:S6]	-1.9	0.3	-1.9	-1.9	-1.9
## b[PC3:syllable2T2 subject:S6]	-6.2	0.4	-6.3	-6.3	-6.3
## b[PC3:syllable2T3 subject:S6]	18.9	0.8	18.8	18.8	18.8
## b[PC3:syllable2T4 subject:S6]	15.9	1.6	16.1	16.1	16.1
## b[PC3:syllable2T1 subject:S10]	-5.0	0.8	-5.1	-5.1	-5.1
## b[PC3:syllable2T2 subject:S10]	-10.8	1.8	-11.1	-11.1	-11.1
## b[PC3:syllable2T3 subject:S10]	-0.3	2.6	0.1	0.1	0.1
## b[PC3:syllable2T4 subject:S10]	5.5	0.5	5.5	5.5	5.5
## b[PC4:syllable1T1 subject:S2]	11.8	0.4	11.8	11.8	11.8
## b[PC4:syllable1T2 subject:S2]	46.1	2.9	46.5	46.5	46.5
## b[PC4:syllable1T3 subject:S2]	4.1	0.4	4.0	4.0	4.0
## b[PC4:syllable1T4 subject:S2]	-60.4	0.7	-60.3	-60.3	-60.3
## b[PC4:syllable1T1 subject:S1]	-0.4	1.4	-0.1	-0.1	-0.1
## b[PC4:syllable1T2 subject:S1]	-13.7	0.4	-13.6	-13.6	-13.6
## b[PC4:syllable1T3 subject:S1]	11.9	0.2	11.9	11.9	11.9
## b[PC4:syllable1T4 subject:S1]	37.8	0.8	37.6	37.6	37.6
## b[PC4:syllable1T1 subject:S5]	5.2	0.5	5.3	5.3	5.3
## b[PC4:syllable1T2 subject:S5]	41.2	1.0	41.4	41.4	41.4
## b[PC4:syllable1T3 subject:S5]	-34.7	0.7	-34.8	-34.8	-34.8
## b[PC4:syllable1T4 subject:S5]	-73.9	1.5	-73.7	-73.7	-73.7
## b[PC4:syllable1T1 subject:S9]	-5.4	0.3	-5.4	-5.4	-5.4
## b[PC4:syllable1T2 subject:S9]	-17.0	1.1	-17.1	-17.1	-17.1
## b[PC4:syllable1T3 subject:S9]	14.4	0.5	14.5	14.5	14.5
## b[PC4:syllable1T4 subject:S9]	37.2	0.3	37.2	37.2	37.2
## b[PC4:syllable1T1 subject:S8]	-6.9	0.3	-6.9	-6.9	-6.9
## b[PC4:syllable1T2 subject:S8]	-17.3	1.2	-17.5	-17.5	-17.5
## b[PC4:syllable1T3 subject:S8]	-0.6	0.3	-0.6	-0.6	-0.6
## b[PC4:syllable1T4 subject:S8]	9.6	1.9	9.9	9.9	9.9
## b[PC4:syllable1T1 subject:S3]	0.8	0.7	0.9	0.9	0.9
## b[PC4:syllable1T2 subject:S3]	2.7	0.3	2.7	2.7	2.7
## b[PC4:syllable1T3 subject:S3]	2.6	1.4	2.8	2.8	2.8
## b[PC4:syllable1T4 subject:S3]	6.9	1.0	7.0	7.0	7.0
## b[PC4:syllable1T1 subject:S4]	1.1	1.1	1.0	1.0	1.0
## b[PC4:syllable1T2 subject:S4]	10.2	0.4	10.2	10.2	10.2
## b[PC4:syllable1T3 subject:S4]	2.9	0.5	2.9	2.9	2.9
## b[PC4:syllable1T4 subject:S4]	-14.8	0.9	-14.7	-14.7	-14.7
## b[PC4:syllable1T1 subject:S12]	-4.8	0.3	-4.8	-4.8	-4.8
## b[PC4:syllable1T2 subject:S12]	-12.8	0.4	-12.7	-12.7	-12.7
## b[PC4:syllable1T3 subject:S12]	-2.4	0.3	-2.4	-2.4	-2.4
## b[PC4:syllable1T4 subject:S12]	4.3	1.7	4.0	4.0	4.0
## b[PC4:syllable1T1 subject:S11]	-5.0	0.6	-5.1	-5.1	-5.1
## b[PC4:syllable1T2 subject:S11]	-12.3	1.3	-12.5	-12.5	-12.5
## b[PC4:syllable1T3 subject:S11]	7.4	0.1	7.4	7.4	7.4
## b[PC4:syllable1T4 subject:S11]	16.1	0.3	16.1	16.1	16.1
## b[PC4:syllable1T1 subject:S7]	-2.2	0.2	-2.2	-2.2	-2.2
## b[PC4:syllable1T2 subject:S7]	-20.7	0.1	-20.6	-20.6	-20.6
## b[PC4:syllable1T3 subject:S7]	26.1	1.6	26.3	26.3	26.3
## b[PC4:syllable1T4 subject:S7]	42.4	0.9	42.2	42.2	42.2
## b[PC4:syllable1T1 subject:S6]	3.3	0.7	3.4	3.4	3.4
## b[PC4:syllable1T2 subject:S6]	-6.3	1.3	-6.5	-6.5	-6.5
## b[PC4:syllable1T3 subject:S6]	8.8	0.2	8.8	8.8	8.8

## b[PC4:syllable1T4 subject:S6]	10.3	0.5	10.2	10.2	10.2
## b[PC4:syllable1T1 subject:S10]	4.1	0.1	4.1	4.1	4.1
## b[PC4:syllable1T2 subject:S10]	-10.6	0.6	-10.7	-10.7	-10.7
## b[PC4:syllable1T3 subject:S10]	-22.8	0.3	-22.7	-22.7	-22.7
## b[PC4:syllable1T4 subject:S10]	15.9	0.7	16.0	16.0	16.0
## b[PC4:syllable2T1 subject:S2]	-7.6	0.3	-7.6	-7.6	-7.6
## b[PC4:syllable2T2 subject:S2]	14.8	0.6	14.9	14.9	14.9
## b[PC4:syllable2T3 subject:S2]	19.7	0.3	19.7	19.7	19.7
## b[PC4:syllable2T4 subject:S2]	-16.7	1.8	-16.5	-16.5	-16.5
## b[PC4:syllable2T1 subject:S1]	0.2	1.0	0.1	0.1	0.1
## b[PC4:syllable2T2 subject:S1]	0.3	0.3	0.4	0.4	0.4
## b[PC4:syllable2T3 subject:S1]	-9.8	0.4	-9.9	-9.9	-9.9
## b[PC4:syllable2T4 subject:S1]	8.4	1.1	8.6	8.6	8.6
## b[PC4:syllable2T1 subject:S5]	-5.0	0.5	-5.1	-5.1	-5.1
## b[PC4:syllable2T2 subject:S5]	12.7	0.6	12.7	12.7	12.7
## b[PC4:syllable2T3 subject:S5]	55.1	1.4	55.3	55.3	55.3
## b[PC4:syllable2T4 subject:S5]	-52.8	0.4	-52.9	-52.9	-52.9
## b[PC4:syllable2T1 subject:S9]	2.0	0.4	2.1	2.1	2.1
## b[PC4:syllable2T2 subject:S9]	-12.6	1.4	-12.9	-12.9	-12.9
## b[PC4:syllable2T3 subject:S9]	-10.4	0.2	-10.4	-10.4	-10.4
## b[PC4:syllable2T4 subject:S9]	16.5	0.4	16.5	16.5	16.5
## b[PC4:syllable2T1 subject:S8]	4.0	0.9	3.9	3.9	3.9
## b[PC4:syllable2T2 subject:S8]	-2.1	0.1	-2.1	-2.1	-2.1
## b[PC4:syllable2T3 subject:S8]	-19.6	1.2	-19.4	-19.4	-19.4
## b[PC4:syllable2T4 subject:S8]	14.7	0.9	14.6	14.6	14.6
## b[PC4:syllable2T1 subject:S3]	0.8	0.5	0.9	0.9	0.9
## b[PC4:syllable2T2 subject:S3]	-6.2	0.7	-6.3	-6.3	-6.3
## b[PC4:syllable2T3 subject:S3]	3.1	0.7	3.2	3.2	3.2
## b[PC4:syllable2T4 subject:S3]	3.3	0.5	3.3	3.3	3.3
## b[PC4:syllable2T1 subject:S4]	6.6	0.2	6.6	6.6	6.6
## b[PC4:syllable2T2 subject:S4]	7.9	1.0	8.0	8.0	8.0
## b[PC4:syllable2T3 subject:S4]	-2.6	1.0	-2.7	-2.7	-2.7
## b[PC4:syllable2T4 subject:S4]	-14.7	0.4	-14.8	-14.8	-14.8
## b[PC4:syllable2T1 subject:S12]	-2.4	0.5	-2.5	-2.5	-2.5
## b[PC4:syllable2T2 subject:S12]	-6.8	1.0	-7.0	-7.0	-7.0
## b[PC4:syllable2T3 subject:S12]	-3.4	0.7	-3.3	-3.3	-3.3
## b[PC4:syllable2T4 subject:S12]	4.9	0.0	4.9	4.9	4.9
## b[PC4:syllable2T1 subject:S11]	4.1	0.2	4.1	4.1	4.1
## b[PC4:syllable2T2 subject:S11]	-6.0	1.2	-6.2	-6.2	-6.2
## b[PC4:syllable2T3 subject:S11]	-21.1	1.0	-21.3	-21.3	-21.3
## b[PC4:syllable2T4 subject:S11]	15.5	1.1	15.6	15.6	15.6
## b[PC4:syllable2T1 subject:S7]	3.4	0.5	3.5	3.5	3.5
## b[PC4:syllable2T2 subject:S7]	-14.8	0.1	-14.8	-14.8	-14.8
## b[PC4:syllable2T3 subject:S7]	-21.6	1.3	-21.8	-21.8	-21.8
## b[PC4:syllable2T4 subject:S7]	28.4	0.8	28.3	28.3	28.3
## b[PC4:syllable2T1 subject:S6]	-2.9	0.6	-3.0	-3.0	-3.0
## b[PC4:syllable2T2 subject:S6]	-0.3	0.2	-0.3	-0.3	-0.3
## b[PC4:syllable2T3 subject:S6]	5.0	0.3	5.1	5.1	5.1
## b[PC4:syllable2T4 subject:S6]	0.2	0.2	0.3	0.3	0.3
## b[PC4:syllable2T1 subject:S10]	3.7	1.0	3.9	3.9	3.9
## b[PC4:syllable2T2 subject:S10]	-8.3	0.6	-8.4	-8.4	-8.4
## b[PC4:syllable2T3 subject:S10]	0.6	0.3	0.6	0.6	0.6
## b[PC4:syllable2T4 subject:S10]	3.5	0.7	3.4	3.4	3.4
## sigma	12.9	0.0	12.9	12.9	12.9

## Sigma[subject:(Intercept),(Intercept)]	6145.7	2.3	6146.0	6146.0	6146.0
## Sigma[subject:currentT1,currentT1]	167.2	1.6	167.4	167.4	167.4
## Sigma[subject:currentT2,currentT1]	2.0	0.2	2.0	2.0	2.0
## Sigma[subject:currentT3,currentT1]	-0.7	0.2	-0.7	-0.7	-0.7
## Sigma[subject:currentT4,currentT1]	51.4	0.5	51.5	51.5	51.5
## Sigma[subject:currentT2,currentT2]	0.1	0.0	0.1	0.1	0.1
## Sigma[subject:currentT3,currentT2]	0.0	0.0	0.0	0.0	0.0
## Sigma[subject:currentT4,currentT2]	0.6	0.1	0.6	0.6	0.6
## Sigma[subject:currentT3,currentT3]	91.0	2.5	91.4	91.4	91.4
## Sigma[subject:currentT4,currentT3]	13.0	0.4	13.0	13.0	13.0
## Sigma[subject:currentT4,currentT4]	57.5	0.2	57.5	57.5	57.5
## Sigma[subject:PC1,PC1]	3964.0	6.2	3963.0	3963.0	3963.0
## Sigma[subject:PC2,PC1]	73.3	0.6	73.2	73.2	73.2
## Sigma[subject:PC3,PC1]	-7.0	0.6	-6.9	-6.9	-6.9
## Sigma[subject:PC4,PC1]	-43.3	4.6	-44.1	-44.1	-44.1
## Sigma[subject:PC2,PC2]	8.7	0.2	8.6	8.6	8.6
## Sigma[subject:PC3,PC2]	-1.5	0.4	-1.4	-1.4	-1.4
## Sigma[subject:PC4,PC2]	-4.2	0.3	-4.3	-4.3	-4.3
## Sigma[subject:PC3,PC3]	2.4	0.1	2.4	2.4	2.4
## Sigma[subject:PC4,PC3]	0.3	0.1	0.3	0.3	0.3
## Sigma[subject:PC4,PC4]	2.4	0.0	2.4	2.4	2.4
## Sigma[subject:PC1:syllable1T1,PC1:syllable1T1]	75.9	6.1	75.0	75.0	75.0
## Sigma[subject:PC1:syllable1T2,PC1:syllable1T1]	-9.1	6.1	-10.1	-10.1	-10.1
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T1]	-5.2	0.1	-5.2	-5.2	-5.2
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T1]	-3.3	1.0	-3.2	-3.2	-3.2
## Sigma[subject:PC1:syllable1T2,PC1:syllable1T2]	4.5	1.2	4.3	4.3	4.3
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T2]	0.1	0.5	0.2	0.2	0.2
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T2]	5.6	0.8	5.7	5.7	5.7
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T3]	125.8	5.1	126.6	126.6	126.6
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T3]	-23.5	0.4	-23.4	-23.4	-23.4
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T4]	108.3	9.4	106.8	106.8	106.8
## Sigma[subject:PC1:syllable2T1,PC1:syllable2T1]	305.4	4.4	304.7	304.7	304.7
## Sigma[subject:PC1:syllable2T2,PC1:syllable2T1]	29.1	11.6	30.9	30.9	30.9
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T1]	-6.8	2.5	-7.2	-7.2	-7.2
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T1]	113.9	5.1	113.1	113.1	113.1
## Sigma[subject:PC1:syllable2T2,PC1:syllable2T2]	35.1	1.4	34.9	34.9	34.9
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T2]	-8.2	2.2	-8.6	-8.6	-8.6
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T2]	-5.3	2.6	-4.9	-4.9	-4.9
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T3]	884.6	12.9	886.5	886.5	886.5
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T3]	-139.2	13.8	-141.4	-141.4	-141.4
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T4]	206.9	16.5	204.4	204.4	204.4
## Sigma[subject:PC2:syllable1T1,PC2:syllable1T1]	7.8	5.1	7.0	7.0	7.0
## Sigma[subject:PC2:syllable1T2,PC2:syllable1T1]	-2.9	2.1	-2.6	-2.6	-2.6
## Sigma[subject:PC2:syllable1T3,PC2:syllable1T1]	4.8	2.7	5.2	5.2	5.2
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T1]	1.9	0.0	1.9	1.9	1.9
## Sigma[subject:PC2:syllable1T2,PC2:syllable1T2]	5.7	1.8	5.4	5.4	5.4
## Sigma[subject:PC2:syllable1T3,PC2:syllable1T2]	-0.7	0.7	-0.8	-0.8	-0.8
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T2]	-0.9	0.8	-0.8	-0.8	-0.8
## Sigma[subject:PC2:syllable1T3,PC2:syllable1T3]	9.4	2.4	9.0	9.0	9.0
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T3]	-0.2	0.1	-0.2	-0.2	-0.2
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T4]	87.4	4.1	86.7	86.7	86.7
## Sigma[subject:PC2:syllable2T1,PC2:syllable2T1]	171.6	9.4	173.1	173.1	173.1
## Sigma[subject:PC2:syllable2T2,PC2:syllable2T1]	-52.7	2.9	-53.1	-53.1	-53.1
## Sigma[subject:PC2:syllable2T3,PC2:syllable2T1]	-10.7	1.9	-11.0	-11.0	-11.0

```

## Sigma[subject:PC2:syllable2T4,PC2:syllable2T1] 123.9   6.4 124.9 124.9 124.9
## Sigma[subject:PC2:syllable2T2,PC2:syllable2T2] 66.7    4.5 67.4 67.4 67.4
## Sigma[subject:PC2:syllable2T3,PC2:syllable2T2] -1.8    0.8 -1.6 -1.6 -1.6
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T2] -43.3   5.7 -44.2 -44.2 -44.2
## Sigma[subject:PC2:syllable2T3,PC2:syllable2T3] 1002.6  4.3 1002.0 1002.0 1002.0
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T3] -112.7  1.4 -112.9 -112.9 -112.9
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T4] 108.1   1.9 108.4 108.4 108.4
## Sigma[subject:PC3:syllable1T1,PC3:syllable1T1] 6.5     1.2 6.3 6.3 6.3
## Sigma[subject:PC3:syllable1T2,PC3:syllable1T1] 7.3     1.3 7.5 7.5 7.5
## Sigma[subject:PC3:syllable1T3,PC3:syllable1T1] 5.8     2.0 6.1 6.1 6.1
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T1] -2.3    0.3 -2.3 -2.3 -2.3
## Sigma[subject:PC3:syllable1T2,PC3:syllable1T2] 62.1    1.7 61.9 61.9 61.9
## Sigma[subject:PC3:syllable1T3,PC3:syllable1T2] -30.5   0.6 -30.6 -30.6 -30.6
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T2] -14.0   0.5 -13.9 -13.9 -13.9
## Sigma[subject:PC3:syllable1T3,PC3:syllable1T3] 39.4    1.5 39.6 39.6 39.6
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T3] 6.8     0.0 6.8 6.8 6.8
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T4] 212.6   10.7 214.3 214.3 214.3
## Sigma[subject:PC3:syllable2T1,PC3:syllable2T1] 24.8    1.7 24.5 24.5 24.5
## Sigma[subject:PC3:syllable2T2,PC3:syllable2T1] 15.1    0.6 15.0 15.0 15.0
## Sigma[subject:PC3:syllable2T3,PC3:syllable2T1] 9.9     0.9 10.0 10.0 10.0
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T1] -2.9    1.3 -2.7 -2.7 -2.7
## Sigma[subject:PC3:syllable2T2,PC3:syllable2T2] 239.9   2.0 239.7 239.7 239.7
## Sigma[subject:PC3:syllable2T3,PC3:syllable2T2] 12.2    1.4 12.4 12.4 12.4
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T2] -280.7  6.8 -279.7 -279.7 -279.7
## Sigma[subject:PC3:syllable2T3,PC3:syllable2T3] 705.1   2.5 705.3 705.3 705.3
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T3] -127.4  4.7 -126.7 -126.7 -126.7
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T4] 495.1   6.6 494.1 494.1 494.1
## Sigma[subject:PC4:syllable1T1,PC4:syllable1T1] 54.1    3.7 54.7 54.7 54.7
## Sigma[subject:PC4:syllable1T2,PC4:syllable1T1] 17.0    1.5 17.2 17.2 17.2
## Sigma[subject:PC4:syllable1T3,PC4:syllable1T1] -13.1   3.0 -13.5 -13.5 -13.5
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T1] -17.9   1.6 -18.1 -18.1 -18.1
## Sigma[subject:PC4:syllable1T2,PC4:syllable1T2] 231.5  9.3 232.9 232.9 232.9
## Sigma[subject:PC4:syllable1T3,PC4:syllable1T2] -49.0   4.5 -49.6 -49.6 -49.6
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T2] -97.7  1.2 -97.5 -97.5 -97.5
## Sigma[subject:PC4:syllable1T3,PC4:syllable1T3] 188.6  1.3 188.7 188.7 188.7
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T3] 42.7   1.2 42.8 42.8 42.8
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T4] 451.5  7.7 450.3 450.3 450.3
## Sigma[subject:PC4:syllable2T1,PC4:syllable2T1] 28.8   0.6 28.8 28.8 28.8
## Sigma[subject:PC4:syllable2T2,PC4:syllable2T1] -19.9  1.7 -20.1 -20.1 -20.1
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T1] -10.5  0.3 -10.5 -10.5 -10.5
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T1] 0.4   0.3 0.4 0.4 0.4
## Sigma[subject:PC4:syllable2T2,PC4:syllable2T2] 48.1   3.5 48.6 48.6 48.6
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T2] 17.2   1.1 17.4 17.4 17.4
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T2] -30.3  1.7 -30.1 -30.1 -30.1
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T3] 179.6  2.4 179.2 179.2 179.2
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T3] -151.4 3.6 -150.8 -150.8 -150.8
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T4] 151.4  8.0 150.2 150.2 150.2
##
## Fit Diagnostics:
##      mean    sd   10%   50%   90%
## mean_PPD 190.9   0.1 190.9 190.9 190.9
##
## The mean_ppd is the sample average posterior predictive distribution of the outcome variable (for de
##

```

```

## Monte Carlo diagnostics
## (Intercept)          mcse khat n_eff
## cog_loadCL6          0.6  6.9   38
## currentT2            0.0  7.1   66
## currentT3            0.1  7.1   1
## currentT4            0.2  7.1   1
## peak                 0.0  7.1   54
## syllable1T2           0.1  7.1   1
## syllable1T3           0.1  7.1   3
## syllable1T4           0.1  7.1   1
## syllable2T2           0.1  7.1   1
## syllable2T3           0.0  7.1   1
## syllable2T4           0.1  7.1   1
## PC1                  0.2  7.1   1
## PC2                  0.0  7.2   41
## PC3                  0.2  7.1   1
## PC4                  0.0  7.2   1
## syllable1T2:syllable2T2 0.1  7.1   3
## syllable1T3:syllable2T2 0.2  7.1   1
## syllable1T4:syllable2T2 0.1  7.1   3
## syllable1T2:syllable2T3 0.1  7.1   1
## syllable1T3:syllable2T3 0.0  7.1   1
## syllable1T4:syllable2T3 0.2  7.1   1
## syllable1T2:syllable2T4 0.0  7.1   1
## syllable1T3:syllable2T4 0.1  7.1   2
## syllable1T4:syllable2T4 0.2  7.1   2
## syllable1T2:PC1        0.0  7.1   14
## syllable1T3:PC1        0.2  7.1   1
## syllable1T4:PC1        0.1  7.1   1
## syllable2T2:PC1        0.2  7.1   1
## syllable2T3:PC1        0.0  7.2   41
## syllable2T4:PC1        0.2  7.1   1
## syllable1T2:PC2        0.0  7.1   6
## syllable1T3:PC2        0.2  7.1   1
## syllable1T4:PC2        0.0  7.1   13
## syllable2T2:PC2        0.1  7.1   3
## syllable2T3:PC2        0.1  7.1   1
## syllable2T4:PC2        0.0  7.1   614
## syllable1T2:PC3        0.1  7.1   2
## syllable1T3:PC3        0.1  7.1   2
## syllable1T4:PC3        0.1  7.1   10
## syllable2T2:PC3        0.0  7.1   370
## syllable2T3:PC3        0.1  7.1   1
## syllable2T4:PC3        0.0  7.1   10
## syllable1T2:PC4        0.0  7.1   1
## syllable1T3:PC4        0.0  7.1   18
## syllable1T4:PC4        0.0  7.1   825
## syllable2T2:PC4        0.1  7.0   7
## syllable2T3:PC4        0.1  7.1   1
## syllable2T4:PC4        0.1  7.1   2
## b[(Intercept) subject:S2] 0.7  7.1   2
## b[(Intercept) subject:S1] 0.3  7.1   3
## b[(Intercept) subject:S5] 0.1  7.1   1

```

## b[(Intercept) subject:S9]	0.1	7.1	2
## b[(Intercept) subject:S8]	0.2	7.1	32
## b[(Intercept) subject:S3]	0.1	7.1	2
## b[(Intercept) subject:S4]	0.9	7.1	2
## b[(Intercept) subject:S12]	0.6	7.1	1
## b[(Intercept) subject:S11]	0.3	7.1	9
## b[(Intercept) subject:S7]	0.2	7.1	3
## b[(Intercept) subject:S6]	0.1	7.1	14
## b[(Intercept) subject:S10]	1.2	7.1	1
## b[currentT1 subject:S2]	1.8	7.2	1
## b[currentT2 subject:S2]	0.7	7.2	1
## b[currentT3 subject:S2]	1.1	7.2	1
## b[currentT4 subject:S2]	0.0	7.2	329
## b[currentT1 subject:S1]	1.2	7.2	4
## b[currentT2 subject:S1]	0.5	7.1	1
## b[currentT3 subject:S1]	0.4	7.0	1
## b[currentT4 subject:S1]	0.1	6.9	15
## b[currentT1 subject:S5]	1.8	7.1	1
## b[currentT2 subject:S5]	0.4	7.1	2
## b[currentT3 subject:S5]	1.4	7.1	1
## b[currentT4 subject:S5]	2.2	6.9	1
## b[currentT1 subject:S9]	0.5	7.0	4
## b[currentT2 subject:S9]	0.2	7.0	5
## b[currentT3 subject:S9]	0.2	7.1	12
## b[currentT4 subject:S9]	0.0	7.0	1207
## b[currentT1 subject:S8]	0.1	7.1	1
## b[currentT2 subject:S8]	0.8	7.1	1
## b[currentT3 subject:S8]	0.9	7.0	3
## b[currentT4 subject:S8]	1.1	7.1	1
## b[currentT1 subject:S3]	0.6	7.1	7
## b[currentT2 subject:S3]	0.3	7.2	1
## b[currentT3 subject:S3]	0.9	7.1	1
## b[currentT4 subject:S3]	0.5	7.1	1
## b[currentT1 subject:S4]	1.0	7.1	1
## b[currentT2 subject:S4]	0.1	7.1	11
## b[currentT3 subject:S4]	0.2	7.2	7
## b[currentT4 subject:S4]	0.7	7.1	2
## b[currentT1 subject:S12]	0.1	7.1	63
## b[currentT2 subject:S12]	0.4	7.1	1
## b[currentT3 subject:S12]	0.7	7.0	1
## b[currentT4 subject:S12]	0.3	7.2	1
## b[currentT1 subject:S11]	0.3	7.1	3
## b[currentT2 subject:S11]	0.2	7.2	7
## b[currentT3 subject:S11]	0.8	6.9	2
## b[currentT4 subject:S11]	0.5	7.1	2
## b[currentT1 subject:S7]	0.2	7.1	1
## b[currentT2 subject:S7]	0.2	7.1	3
## b[currentT3 subject:S7]	2.6	7.1	1
## b[currentT4 subject:S7]	0.5	7.1	1
## b[currentT1 subject:S6]	0.2	7.0	10
## b[currentT2 subject:S6]	0.2	7.1	7
## b[currentT3 subject:S6]	2.3	7.0	1
## b[currentT4 subject:S6]	2.0	7.1	1
## b[currentT1 subject:S10]	1.0	7.2	1

## b[currentT2 subject:S10]	0.1	7.1	1
## b[currentT3 subject:S10]	0.4	7.1	2
## b[currentT4 subject:S10]	1.3	7.0	1
## b[PC1 subject:S2]	3.5	7.1	1
## b[PC2 subject:S2]	0.2	7.2	11
## b[PC3 subject:S2]	0.4	7.2	3
## b[PC4 subject:S2]	1.8	7.0	1
## b[PC1 subject:S1]	2.1	7.1	2
## b[PC2 subject:S1]	0.7	7.1	2
## b[PC3 subject:S1]	0.6	7.2	1
## b[PC4 subject:S1]	0.7	7.2	1
## b[PC1 subject:S5]	3.2	7.1	1
## b[PC2 subject:S5]	1.3	7.4	1
## b[PC3 subject:S5]	1.9	7.0	1
## b[PC4 subject:S5]	1.4	7.0	1
## b[PC1 subject:S9]	3.1	7.2	1
## b[PC2 subject:S9]	0.2	7.1	206
## b[PC3 subject:S9]	0.1	7.0	85
## b[PC4 subject:S9]	1.0	7.1	1
## b[PC1 subject:S8]	1.5	7.1	2
## b[PC2 subject:S8]	0.2	7.2	4
## b[PC3 subject:S8]	2.1	7.3	1
## b[PC4 subject:S8]	2.0	7.2	2
## b[PC1 subject:S3]	2.4	7.1	1
## b[PC2 subject:S3]	0.1	7.3	43
## b[PC3 subject:S3]	0.5	7.0	2
## b[PC4 subject:S3]	2.1	7.0	1
## b[PC1 subject:S4]	0.9	7.1	1
## b[PC2 subject:S4]	0.4	7.3	4
## b[PC3 subject:S4]	1.4	6.8	1
## b[PC4 subject:S4]	1.6	7.1	1
## b[PC1 subject:S12]	0.3	7.1	14
## b[PC2 subject:S12]	0.2	7.3	35
## b[PC3 subject:S12]	1.1	6.9	1
## b[PC4 subject:S12]	0.0	7.2	229
## b[PC1 subject:S11]	1.3	7.1	3
## b[PC2 subject:S11]	1.7	7.3	1
## b[PC3 subject:S11]	1.5	7.0	1
## b[PC4 subject:S11]	1.2	7.1	1
## b[PC1 subject:S7]	3.8	7.2	2
## b[PC2 subject:S7]	0.6	7.3	2
## b[PC3 subject:S7]	2.3	7.1	1
## b[PC4 subject:S7]	1.1	7.1	1
## b[PC1 subject:S6]	1.7	7.1	1
## b[PC2 subject:S6]	0.6	7.2	1
## b[PC3 subject:S6]	0.0	7.2	164
## b[PC4 subject:S6]	1.0	7.2	1
## b[PC1 subject:S10]	2.9	7.1	1
## b[PC2 subject:S10]	0.6	7.4	2
## b[PC3 subject:S10]	1.7	6.9	1
## b[PC4 subject:S10]	0.7	7.0	2
## b[PC1:syllable1T1 subject:S2]	1.1	7.2	3
## b[PC1:syllable1T2 subject:S2]	7.0	7.2	1
## b[PC1:syllable1T3 subject:S2]	8.1	7.1	1

## b[PC1:syllable1T4 subject:S2]	0.6	7.1	53
## b[PC1:syllable1T1 subject:S1]	2.7	7.0	1
## b[PC1:syllable1T2 subject:S1]	0.7	7.1	4
## b[PC1:syllable1T3 subject:S1]	2.7	7.2	2
## b[PC1:syllable1T4 subject:S1]	6.2	7.5	1
## b[PC1:syllable1T1 subject:S5]	0.2	7.0	362
## b[PC1:syllable1T2 subject:S5]	2.4	7.3	1
## b[PC1:syllable1T3 subject:S5]	8.2	7.2	1
## b[PC1:syllable1T4 subject:S5]	1.5	7.1	1
## b[PC1:syllable1T1 subject:S9]	0.7	7.1	1
## b[PC1:syllable1T2 subject:S9]	3.0	7.1	2
## b[PC1:syllable1T3 subject:S9]	0.4	7.1	246
## b[PC1:syllable1T4 subject:S9]	4.0	7.1	1
## b[PC1:syllable1T1 subject:S8]	0.4	7.3	2
## b[PC1:syllable1T2 subject:S8]	0.4	7.2	89
## b[PC1:syllable1T3 subject:S8]	6.2	6.9	1
## b[PC1:syllable1T4 subject:S8]	3.9	7.2	1
## b[PC1:syllable1T1 subject:S3]	5.9	6.7	2
## b[PC1:syllable1T2 subject:S3]	0.6	7.3	15
## b[PC1:syllable1T3 subject:S3]	3.1	6.9	2
## b[PC1:syllable1T4 subject:S3]	0.1	7.0	1623
## b[PC1:syllable1T1 subject:S4]	0.5	7.1	3
## b[PC1:syllable1T2 subject:S4]	1.8	7.0	10
## b[PC1:syllable1T3 subject:S4]	2.4	7.0	1
## b[PC1:syllable1T4 subject:S4]	0.8	7.2	1
## b[PC1:syllable1T1 subject:S12]	3.0	6.9	4
## b[PC1:syllable1T2 subject:S12]	0.1	7.0	353
## b[PC1:syllable1T3 subject:S12]	3.3	6.9	1
## b[PC1:syllable1T4 subject:S12]	9.3	7.0	1
## b[PC1:syllable1T1 subject:S11]	1.1	7.1	1
## b[PC1:syllable1T2 subject:S11]	0.1	7.2	551
## b[PC1:syllable1T3 subject:S11]	2.9	7.2	4
## b[PC1:syllable1T4 subject:S11]	5.1	7.2	1
## b[PC1:syllable1T1 subject:S7]	0.1	7.1	55
## b[PC1:syllable1T2 subject:S7]	1.0	7.3	2
## b[PC1:syllable1T3 subject:S7]	5.4	7.0	1
## b[PC1:syllable1T4 subject:S7]	2.1	7.2	3
## b[PC1:syllable1T1 subject:S6]	6.0	7.0	1
## b[PC1:syllable1T2 subject:S6]	0.6	6.8	1
## b[PC1:syllable1T3 subject:S6]	1.5	7.1	1
## b[PC1:syllable1T4 subject:S6]	5.5	7.1	1
## b[PC1:syllable1T1 subject:S10]	1.2	7.0	1
## b[PC1:syllable1T2 subject:S10]	0.1	7.2	4
## b[PC1:syllable1T3 subject:S10]	1.8	6.9	3
## b[PC1:syllable1T4 subject:S10]	3.6	7.2	1
## b[PC1:syllable2T1 subject:S2]	0.4	7.1	7
## b[PC1:syllable2T2 subject:S2]	6.0	7.3	1
## b[PC1:syllable2T3 subject:S2]	7.5	7.1	2
## b[PC1:syllable2T4 subject:S2]	3.8	6.7	1
## b[PC1:syllable2T1 subject:S1]	8.5	7.2	1
## b[PC1:syllable2T2 subject:S1]	1.0	7.2	14
## b[PC1:syllable2T3 subject:S1]	3.0	7.1	1
## b[PC1:syllable2T4 subject:S1]	1.0	6.8	19
## b[PC1:syllable2T1 subject:S5]	5.8	7.2	2

## b[PC1:syllable2T2 subject:S5]	3.3	7.2	1
## b[PC1:syllable2T3 subject:S5]	1.2	7.4	2
## b[PC1:syllable2T4 subject:S5]	0.5	7.1	7
## b[PC1:syllable2T1 subject:S9]	3.8	7.1	3
## b[PC1:syllable2T2 subject:S9]	1.9	7.3	2
## b[PC1:syllable2T3 subject:S9]	10.2	7.1	1
## b[PC1:syllable2T4 subject:S9]	2.9	7.1	1
## b[PC1:syllable2T1 subject:S8]	3.1	7.1	7
## b[PC1:syllable2T2 subject:S8]	3.0	7.3	2
## b[PC1:syllable2T3 subject:S8]	11.6	7.1	1
## b[PC1:syllable2T4 subject:S8]	2.8	7.2	2
## b[PC1:syllable2T1 subject:S3]	3.5	7.1	4
## b[PC1:syllable2T2 subject:S3]	1.3	7.3	8
## b[PC1:syllable2T3 subject:S3]	9.2	7.1	1
## b[PC1:syllable2T4 subject:S3]	0.2	7.3	557
## b[PC1:syllable2T1 subject:S4]	1.5	7.1	3
## b[PC1:syllable2T2 subject:S4]	3.9	6.9	1
## b[PC1:syllable2T3 subject:S4]	2.3	7.1	11
## b[PC1:syllable2T4 subject:S4]	7.4	7.1	1
## b[PC1:syllable2T1 subject:S12]	0.1	6.9	726
## b[PC1:syllable2T2 subject:S12]	3.9	6.9	1
## b[PC1:syllable2T3 subject:S12]	1.4	6.8	3
## b[PC1:syllable2T4 subject:S12]	1.3	7.1	4
## b[PC1:syllable2T1 subject:S11]	1.7	7.1	1
## b[PC1:syllable2T2 subject:S11]	3.0	7.1	2
## b[PC1:syllable2T3 subject:S11]	1.4	7.1	2
## b[PC1:syllable2T4 subject:S11]	0.6	7.4	7
## b[PC1:syllable2T1 subject:S7]	0.7	7.2	1
## b[PC1:syllable2T2 subject:S7]	2.5	7.1	1
## b[PC1:syllable2T3 subject:S7]	3.7	7.0	3
## b[PC1:syllable2T4 subject:S7]	1.1	7.3	2
## b[PC1:syllable2T1 subject:S6]	4.2	7.3	1
## b[PC1:syllable2T2 subject:S6]	7.8	7.1	1
## b[PC1:syllable2T3 subject:S6]	1.4	7.1	2
## b[PC1:syllable2T4 subject:S6]	7.3	7.2	1
## b[PC1:syllable2T1 subject:S10]	5.3	7.0	2
## b[PC1:syllable2T2 subject:S10]	0.8	6.9	2
## b[PC1:syllable2T3 subject:S10]	12.5	7.2	1
## b[PC1:syllable2T4 subject:S10]	2.7	7.2	1
## b[PC2:syllable1T1 subject:S2]	2.1	7.4	3
## b[PC2:syllable1T2 subject:S2]	0.9	7.4	30
## b[PC2:syllable1T3 subject:S2]	1.4	7.3	6
## b[PC2:syllable1T4 subject:S2]	1.3	7.1	10
## b[PC2:syllable1T1 subject:S1]	3.5	7.0	1
## b[PC2:syllable1T2 subject:S1]	2.6	7.1	1
## b[PC2:syllable1T3 subject:S1]	1.1	7.1	22
## b[PC2:syllable1T4 subject:S1]	3.1	7.0	1
## b[PC2:syllable1T1 subject:S5]	3.2	7.1	2
## b[PC2:syllable1T2 subject:S5]	1.2	7.4	1
## b[PC2:syllable1T3 subject:S5]	1.0	7.1	11
## b[PC2:syllable1T4 subject:S5]	5.0	7.2	1
## b[PC2:syllable1T1 subject:S9]	2.2	7.3	5
## b[PC2:syllable1T2 subject:S9]	0.4	6.9	2
## b[PC2:syllable1T3 subject:S9]	0.8	7.3	8

## b[PC2:syllable1T4 subject:S9]	1.7	7.0	5
## b[PC2:syllable1T1 subject:S8]	0.1	6.9	996
## b[PC2:syllable1T2 subject:S8]	4.5	7.1	1
## b[PC2:syllable1T3 subject:S8]	0.3	7.6	63
## b[PC2:syllable1T4 subject:S8]	7.3	7.1	1
## b[PC2:syllable1T1 subject:S3]	1.0	7.5	5
## b[PC2:syllable1T2 subject:S3]	0.4	7.4	7
## b[PC2:syllable1T3 subject:S3]	3.8	7.2	1
## b[PC2:syllable1T4 subject:S3]	2.7	7.0	3
## b[PC2:syllable1T1 subject:S4]	2.9	7.2	2
## b[PC2:syllable1T2 subject:S4]	5.1	7.0	1
## b[PC2:syllable1T3 subject:S4]	1.6	7.0	8
## b[PC2:syllable1T4 subject:S4]	1.6	7.2	1
## b[PC2:syllable1T1 subject:S12]	0.4	7.4	22
## b[PC2:syllable1T2 subject:S12]	0.6	7.5	4
## b[PC2:syllable1T3 subject:S12]	1.2	7.1	1
## b[PC2:syllable1T4 subject:S12]	2.0	6.8	1
## b[PC2:syllable1T1 subject:S11]	1.4	7.2	3
## b[PC2:syllable1T2 subject:S11]	8.3	7.3	1
## b[PC2:syllable1T3 subject:S11]	4.6	7.2	3
## b[PC2:syllable1T4 subject:S11]	1.9	7.0	6
## b[PC2:syllable1T1 subject:S7]	5.4	7.1	1
## b[PC2:syllable1T2 subject:S7]	2.5	7.0	1
## b[PC2:syllable1T3 subject:S7]	3.5	7.2	3
## b[PC2:syllable1T4 subject:S7]	5.7	7.2	1
## b[PC2:syllable1T1 subject:S6]	0.7	7.3	3
## b[PC2:syllable1T2 subject:S6]	0.3	7.2	34
## b[PC2:syllable1T3 subject:S6]	0.9	7.1	6
## b[PC2:syllable1T4 subject:S6]	4.6	7.2	1
## b[PC2:syllable1T1 subject:S10]	3.3	7.2	1
## b[PC2:syllable1T2 subject:S10]	1.1	7.2	13
## b[PC2:syllable1T3 subject:S10]	2.6	7.1	3
## b[PC2:syllable1T4 subject:S10]	1.8	6.9	3
## b[PC2:syllable2T1 subject:S2]	5.3	7.3	1
## b[PC2:syllable2T2 subject:S2]	2.9	7.1	3
## b[PC2:syllable2T3 subject:S2]	1.9	7.1	1
## b[PC2:syllable2T4 subject:S2]	8.2	7.2	1
## b[PC2:syllable2T1 subject:S1]	0.3	7.1	3
## b[PC2:syllable2T2 subject:S1]	1.1	7.2	1
## b[PC2:syllable2T3 subject:S1]	4.1	7.1	2
## b[PC2:syllable2T4 subject:S1]	0.2	6.9	17
## b[PC2:syllable2T1 subject:S5]	4.0	7.0	2
## b[PC2:syllable2T2 subject:S5]	5.8	7.2	1
## b[PC2:syllable2T3 subject:S5]	3.4	7.0	1
## b[PC2:syllable2T4 subject:S5]	3.3	7.1	1
## b[PC2:syllable2T1 subject:S9]	3.5	7.0	1
## b[PC2:syllable2T2 subject:S9]	4.0	7.0	2
## b[PC2:syllable2T3 subject:S9]	0.4	7.1	215
## b[PC2:syllable2T4 subject:S9]	0.5	6.9	83
## b[PC2:syllable2T1 subject:S8]	1.2	7.0	3
## b[PC2:syllable2T2 subject:S8]	4.4	7.2	2
## b[PC2:syllable2T3 subject:S8]	1.3	7.1	48
## b[PC2:syllable2T4 subject:S8]	3.1	6.9	1
## b[PC2:syllable2T1 subject:S3]	1.7	7.3	1

## b[PC2:syllable2T2 subject:S3]	3.4	7.1	1
## b[PC2:syllable2T3 subject:S3]	3.1	7.1	1
## b[PC2:syllable2T4 subject:S3]	4.0	7.2	2
## b[PC2:syllable2T1 subject:S4]	1.2	7.0	10
## b[PC2:syllable2T2 subject:S4]	7.5	7.2	1
## b[PC2:syllable2T3 subject:S4]	0.9	7.0	9
## b[PC2:syllable2T4 subject:S4]	1.2	7.1	5
## b[PC2:syllable2T1 subject:S12]	2.7	7.4	1
## b[PC2:syllable2T2 subject:S12]	0.8	6.8	7
## b[PC2:syllable2T3 subject:S12]	0.9	6.9	78
## b[PC2:syllable2T4 subject:S12]	3.1	7.1	3
## b[PC2:syllable2T1 subject:S11]	4.5	6.8	1
## b[PC2:syllable2T2 subject:S11]	3.0	7.0	1
## b[PC2:syllable2T3 subject:S11]	0.9	7.1	39
## b[PC2:syllable2T4 subject:S11]	5.9	7.2	1
## b[PC2:syllable2T1 subject:S7]	0.2	6.9	109
## b[PC2:syllable2T2 subject:S7]	1.0	7.4	3
## b[PC2:syllable2T3 subject:S7]	4.5	7.2	5
## b[PC2:syllable2T4 subject:S7]	0.4	7.0	1
## b[PC2:syllable2T1 subject:S6]	2.9	7.2	1
## b[PC2:syllable2T2 subject:S6]	4.2	7.0	1
## b[PC2:syllable2T3 subject:S6]	1.6	7.1	8
## b[PC2:syllable2T4 subject:S6]	6.5	7.1	1
## b[PC2:syllable2T1 subject:S10]	1.4	7.0	1
## b[PC2:syllable2T2 subject:S10]	4.9	7.3	1
## b[PC2:syllable2T3 subject:S10]	1.2	7.1	1
## b[PC2:syllable2T4 subject:S10]	0.9	7.1	13
## b[PC3:syllable1T1 subject:S2]	4.2	7.4	1
## b[PC3:syllable1T2 subject:S2]	5.6	7.1	1
## b[PC3:syllable1T3 subject:S2]	1.8	6.8	1
## b[PC3:syllable1T4 subject:S2]	0.6	7.0	13
## b[PC3:syllable1T1 subject:S1]	2.7	7.0	1
## b[PC3:syllable1T2 subject:S1]	4.4	7.1	1
## b[PC3:syllable1T3 subject:S1]	5.5	7.1	1
## b[PC3:syllable1T4 subject:S1]	4.3	6.9	1
## b[PC3:syllable1T1 subject:S5]	1.7	7.3	3
## b[PC3:syllable1T2 subject:S5]	6.7	7.1	1
## b[PC3:syllable1T3 subject:S5]	2.5	6.8	1
## b[PC3:syllable1T4 subject:S5]	5.5	7.3	1
## b[PC3:syllable1T1 subject:S9]	1.0	6.8	2
## b[PC3:syllable1T2 subject:S9]	2.3	7.0	8
## b[PC3:syllable1T3 subject:S9]	1.5	7.2	4
## b[PC3:syllable1T4 subject:S9]	6.5	6.9	2
## b[PC3:syllable1T1 subject:S8]	0.3	7.2	32
## b[PC3:syllable1T2 subject:S8]	5.7	6.9	1
## b[PC3:syllable1T3 subject:S8]	4.6	7.0	1
## b[PC3:syllable1T4 subject:S8]	1.5	7.1	3
## b[PC3:syllable1T1 subject:S3]	1.3	7.2	2
## b[PC3:syllable1T2 subject:S3]	3.7	7.3	2
## b[PC3:syllable1T3 subject:S3]	0.7	7.0	3
## b[PC3:syllable1T4 subject:S3]	0.6	7.1	27
## b[PC3:syllable1T1 subject:S4]	1.7	7.5	3
## b[PC3:syllable1T2 subject:S4]	2.9	7.1	2
## b[PC3:syllable1T3 subject:S4]	1.5	7.0	2

## b[PC3:syllable1T4 subject:S4]	0.4	7.1	39
## b[PC3:syllable1T1 subject:S12]	2.7	7.4	1
## b[PC3:syllable1T2 subject:S12]	2.1	7.1	1
## b[PC3:syllable1T3 subject:S12]	1.3	7.0	3
## b[PC3:syllable1T4 subject:S12]	2.6	7.5	1
## b[PC3:syllable1T1 subject:S11]	2.4	7.4	1
## b[PC3:syllable1T2 subject:S11]	3.2	6.9	6
## b[PC3:syllable1T3 subject:S11]	0.9	6.9	48
## b[PC3:syllable1T4 subject:S11]	0.7	7.3	8
## b[PC3:syllable1T1 subject:S7]	0.2	7.0	100
## b[PC3:syllable1T2 subject:S7]	5.1	7.0	3
## b[PC3:syllable1T3 subject:S7]	2.7	7.0	1
## b[PC3:syllable1T4 subject:S7]	0.0	7.0	1845
## b[PC3:syllable1T1 subject:S6]	0.6	7.3	13
## b[PC3:syllable1T2 subject:S6]	8.0	7.0	1
## b[PC3:syllable1T3 subject:S6]	2.7	6.7	3
## b[PC3:syllable1T4 subject:S6]	1.8	6.9	12
## b[PC3:syllable1T1 subject:S10]	0.2	7.0	209
## b[PC3:syllable1T2 subject:S10]	3.5	7.0	2
## b[PC3:syllable1T3 subject:S10]	1.3	7.0	3
## b[PC3:syllable1T4 subject:S10]	2.5	6.8	1
## b[PC3:syllable2T1 subject:S2]	3.2	7.1	1
## b[PC3:syllable2T2 subject:S2]	3.7	7.1	2
## b[PC3:syllable2T3 subject:S2]	1.7	6.8	11
## b[PC3:syllable2T4 subject:S2]	3.3	7.1	2
## b[PC3:syllable2T1 subject:S1]	5.6	7.1	1
## b[PC3:syllable2T2 subject:S1]	0.9	7.2	4
## b[PC3:syllable2T3 subject:S1]	7.8	6.9	1
## b[PC3:syllable2T4 subject:S1]	4.3	7.1	1
## b[PC3:syllable2T1 subject:S5]	6.2	7.1	1
## b[PC3:syllable2T2 subject:S5]	7.1	7.1	1
## b[PC3:syllable2T3 subject:S5]	2.6	7.1	8
## b[PC3:syllable2T4 subject:S5]	1.6	7.1	1
## b[PC3:syllable2T1 subject:S9]	2.0	7.1	2
## b[PC3:syllable2T2 subject:S9]	3.7	7.0	1
## b[PC3:syllable2T3 subject:S9]	2.7	7.0	1
## b[PC3:syllable2T4 subject:S9]	4.4	7.0	2
## b[PC3:syllable2T1 subject:S8]	0.4	7.3	30
## b[PC3:syllable2T2 subject:S8]	6.2	6.9	1
## b[PC3:syllable2T3 subject:S8]	1.0	7.1	4
## b[PC3:syllable2T4 subject:S8]	12.8	7.2	1
## b[PC3:syllable2T1 subject:S3]	2.5	7.1	3
## b[PC3:syllable2T2 subject:S3]	0.6	6.9	28
## b[PC3:syllable2T3 subject:S3]	1.7	7.2	8
## b[PC3:syllable2T4 subject:S3]	1.9	7.0	6
## b[PC3:syllable2T1 subject:S4]	4.2	7.1	1
## b[PC3:syllable2T2 subject:S4]	4.1	7.1	1
## b[PC3:syllable2T3 subject:S4]	1.2	6.8	17
## b[PC3:syllable2T4 subject:S4]	6.8	7.1	2
## b[PC3:syllable2T1 subject:S12]	1.3	7.2	1
## b[PC3:syllable2T2 subject:S12]	2.6	7.2	1
## b[PC3:syllable2T3 subject:S12]	1.8	7.0	5
## b[PC3:syllable2T4 subject:S12]	5.8	7.1	2
## b[PC3:syllable2T1 subject:S11]	2.2	7.2	1

## b[PC3:syllable2T2 subject:S11]	1.9	7.0	12
## b[PC3:syllable2T3 subject:S11]	2.0	7.1	6
## b[PC3:syllable2T4 subject:S11]	2.6	7.2	13
## b[PC3:syllable2T1 subject:S7]	2.1	6.9	3
## b[PC3:syllable2T2 subject:S7]	0.1	7.1	171
## b[PC3:syllable2T3 subject:S7]	4.9	7.0	1
## b[PC3:syllable2T4 subject:S7]	1.7	7.2	1
## b[PC3:syllable2T1 subject:S6]	0.2	7.0	89
## b[PC3:syllable2T2 subject:S6]	0.5	6.9	14
## b[PC3:syllable2T3 subject:S6]	3.9	7.0	1
## b[PC3:syllable2T4 subject:S6]	4.3	7.0	2
## b[PC3:syllable2T1 subject:S10]	2.5	7.3	1
## b[PC3:syllable2T2 subject:S10]	5.2	7.1	1
## b[PC3:syllable2T3 subject:S10]	9.0	7.2	1
## b[PC3:syllable2T4 subject:S10]	5.1	7.0	3
## b[PC4:syllable1T1 subject:S2]	2.5	7.5	1
## b[PC4:syllable1T2 subject:S2]	11.2	7.1	1
## b[PC4:syllable1T3 subject:S2]	1.2	7.2	1
## b[PC4:syllable1T4 subject:S2]	1.7	7.1	2
## b[PC4:syllable1T1 subject:S1]	5.1	6.9	1
## b[PC4:syllable1T2 subject:S1]	2.2	7.1	1
## b[PC4:syllable1T3 subject:S1]	1.1	7.2	6
## b[PC4:syllable1T4 subject:S1]	2.2	7.1	2
## b[PC4:syllable1T1 subject:S5]	2.1	6.9	1
## b[PC4:syllable1T2 subject:S5]	1.3	7.1	13
## b[PC4:syllable1T3 subject:S5]	3.7	7.1	1
## b[PC4:syllable1T4 subject:S5]	6.2	7.2	1
## b[PC4:syllable1T1 subject:S9]	2.2	7.3	2
## b[PC4:syllable1T2 subject:S9]	3.8	7.1	1
## b[PC4:syllable1T3 subject:S9]	4.6	7.1	2
## b[PC4:syllable1T4 subject:S9]	1.3	7.1	10
## b[PC4:syllable1T1 subject:S8]	0.5	7.1	9
## b[PC4:syllable1T2 subject:S8]	0.2	7.0	1623
## b[PC4:syllable1T3 subject:S8]	0.1	7.2	246
## b[PC4:syllable1T4 subject:S8]	6.7	7.2	1
## b[PC4:syllable1T1 subject:S3]	1.2	7.0	5
## b[PC4:syllable1T2 subject:S3]	1.4	7.2	1
## b[PC4:syllable1T3 subject:S3]	5.0	7.0	1
## b[PC4:syllable1T4 subject:S3]	1.6	7.2	9
## b[PC4:syllable1T1 subject:S4]	2.4	7.1	3
## b[PC4:syllable1T2 subject:S4]	0.5	7.1	46
## b[PC4:syllable1T3 subject:S4]	4.4	6.9	2
## b[PC4:syllable1T4 subject:S4]	2.8	7.0	1
## b[PC4:syllable1T1 subject:S12]	1.4	6.8	1
## b[PC4:syllable1T2 subject:S12]	1.8	7.1	1
## b[PC4:syllable1T3 subject:S12]	2.6	7.1	3
## b[PC4:syllable1T4 subject:S12]	6.7	6.8	1
## b[PC4:syllable1T1 subject:S11]	2.8	7.2	1
## b[PC4:syllable1T2 subject:S11]	4.9	7.1	1
## b[PC4:syllable1T3 subject:S11]	0.2	6.8	32
## b[PC4:syllable1T4 subject:S11]	0.9	7.1	2
## b[PC4:syllable1T1 subject:S7]	2.1	7.3	3
## b[PC4:syllable1T2 subject:S7]	0.9	7.1	2
## b[PC4:syllable1T3 subject:S7]	8.8	7.2	1

## b[PC4:syllable1T4 subject:S7]	2.8	7.1	1
## b[PC4:syllable1T1 subject:S6]	1.8	7.1	2
## b[PC4:syllable1T2 subject:S6]	3.9	7.1	1
## b[PC4:syllable1T3 subject:S6]	1.5	7.1	1
## b[PC4:syllable1T4 subject:S6]	1.4	7.1	2
## b[PC4:syllable1T1 subject:S10]	0.3	7.0	20
## b[PC4:syllable1T2 subject:S10]	1.9	6.9	1
## b[PC4:syllable1T3 subject:S10]	1.0	6.9	1
## b[PC4:syllable1T4 subject:S10]	0.9	7.0	41
## b[PC4:syllable2T1 subject:S2]	0.1	7.0	690
## b[PC4:syllable2T2 subject:S2]	0.2	7.2	441
## b[PC4:syllable2T3 subject:S2]	3.6	7.2	3
## b[PC4:syllable2T4 subject:S2]	8.1	7.0	1
## b[PC4:syllable2T1 subject:S1]	2.8	7.0	2
## b[PC4:syllable2T2 subject:S1]	2.2	7.1	2
## b[PC4:syllable2T3 subject:S1]	0.8	7.3	6
## b[PC4:syllable2T4 subject:S1]	1.9	7.2	7
## b[PC4:syllable2T1 subject:S5]	0.4	7.0	40
## b[PC4:syllable2T2 subject:S5]	2.6	7.2	9
## b[PC4:syllable2T3 subject:S5]	6.8	7.2	1
## b[PC4:syllable2T4 subject:S5]	3.6	7.0	2
## b[PC4:syllable2T1 subject:S9]	1.3	7.0	1
## b[PC4:syllable2T2 subject:S9]	6.1	7.0	1
## b[PC4:syllable2T3 subject:S9]	2.6	7.2	3
## b[PC4:syllable2T4 subject:S9]	3.9	7.2	3
## b[PC4:syllable2T1 subject:S8]	2.6	7.1	2
## b[PC4:syllable2T2 subject:S8]	0.4	6.9	8
## b[PC4:syllable2T3 subject:S8]	5.4	7.1	1
## b[PC4:syllable2T4 subject:S8]	1.3	6.9	9
## b[PC4:syllable2T1 subject:S3]	2.1	7.0	1
## b[PC4:syllable2T2 subject:S3]	3.9	7.1	1
## b[PC4:syllable2T3 subject:S3]	0.8	6.9	22
## b[PC4:syllable2T4 subject:S3]	0.2	7.2	230
## b[PC4:syllable2T1 subject:S4]	0.3	7.0	17
## b[PC4:syllable2T2 subject:S4]	4.8	6.9	1
## b[PC4:syllable2T3 subject:S4]	3.7	7.0	1
## b[PC4:syllable2T4 subject:S4]	2.8	6.9	1
## b[PC4:syllable2T1 subject:S12]	1.1	7.0	3
## b[PC4:syllable2T2 subject:S12]	4.3	7.0	1
## b[PC4:syllable2T3 subject:S12]	0.2	7.1	735
## b[PC4:syllable2T4 subject:S12]	0.1	7.2	6
## b[PC4:syllable2T1 subject:S11]	0.4	7.1	19
## b[PC4:syllable2T2 subject:S11]	1.1	7.4	30
## b[PC4:syllable2T3 subject:S11]	3.3	7.2	1
## b[PC4:syllable2T4 subject:S11]	1.3	7.1	19
## b[PC4:syllable2T1 subject:S7]	2.6	6.9	1
## b[PC4:syllable2T2 subject:S7]	0.7	7.2	5
## b[PC4:syllable2T3 subject:S7]	5.9	7.2	1
## b[PC4:syllable2T4 subject:S7]	0.9	7.3	50
## b[PC4:syllable2T1 subject:S6]	2.6	7.0	1
## b[PC4:syllable2T2 subject:S6]	2.0	6.9	2
## b[PC4:syllable2T3 subject:S6]	0.2	6.9	37
## b[PC4:syllable2T4 subject:S6]	0.5	7.1	2
## b[PC4:syllable2T1 subject:S10]	3.8	7.1	1

## b[PC4:syllable2T2 subject:S10]	3.3	7.2	1
## b[PC4:syllable2T3 subject:S10]	2.3	7.2	1
## b[PC4:syllable2T4 subject:S10]	2.7	7.4	1
## sigma	0.0	7.1	1
## Sigma[subject:(Intercept),(Intercept)]	0.1	7.1	1
## Sigma[subject:currentT1,currentT1]	0.4	7.1	1
## Sigma[subject:currentT2,currentT1]	0.0	7.1	1602
## Sigma[subject:currentT3,currentT1]	0.1	7.1	1
## Sigma[subject:currentT4,currentT1]	0.1	7.1	1
## Sigma[subject:currentT2,currentT2]	0.1	7.1	1
## Sigma[subject:currentT3,currentT2]	0.1	7.1	1
## Sigma[subject:currentT4,currentT2]	0.2	7.1	1
## Sigma[subject:currentT3,currentT3]	0.5	7.1	1
## Sigma[subject:currentT4,currentT3]	0.2	7.0	1
## Sigma[subject:currentT4,currentT4]	0.1	7.1	2
## Sigma[subject:PC1,PC1]	0.1	7.1	1
## Sigma[subject:PC2,PC1]	0.0	7.2	1
## Sigma[subject:PC3,PC1]	0.0	7.1	20
## Sigma[subject:PC4,PC1]	0.3	7.1	1
## Sigma[subject:PC2,PC2]	0.0	7.3	15
## Sigma[subject:PC3,PC2]	0.4	7.1	2
## Sigma[subject:PC4,PC2]	0.5	7.1	1
## Sigma[subject:PC3,PC3]	0.6	7.2	1
## Sigma[subject:PC4,PC3]	0.1	7.2	1
## Sigma[subject:PC4,PC4]	0.6	7.1	1
## Sigma[subject:PC1:syllable1T1,PC1:syllable1T1]	0.7	7.2	3
## Sigma[subject:PC1:syllable1T2,PC1:syllable1T1]	1.2	7.2	4
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T1]	0.1	7.2	8
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T1]	0.1	7.0	5
## Sigma[subject:PC1:syllable1T2,PC1:syllable1T2]	0.7	7.0	2
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T2]	0.4	7.1	1
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T2]	1.4	6.9	1
## Sigma[subject:PC1:syllable1T3,PC1:syllable1T3]	1.1	7.0	1
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T3]	0.1	7.3	16
## Sigma[subject:PC1:syllable1T4,PC1:syllable1T4]	1.4	7.1	1
## Sigma[subject:PC1:syllable2T1,PC1:syllable2T1]	0.6	7.1	1
## Sigma[subject:PC1:syllable2T2,PC1:syllable2T1]	1.8	7.1	1
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T1]	0.6	7.2	1
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T1]	0.5	7.1	4
## Sigma[subject:PC1:syllable2T2,PC1:syllable2T2]	0.2	7.1	2
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T2]	1.2	7.0	1
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T2]	0.8	7.1	4
## Sigma[subject:PC1:syllable2T3,PC1:syllable2T3]	0.5	7.1	3
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T3]	1.1	7.1	2
## Sigma[subject:PC1:syllable2T4,PC1:syllable2T4]	1.8	7.1	1
## Sigma[subject:PC2:syllable1T1,PC2:syllable1T1]	2.1	7.3	1
## Sigma[subject:PC2:syllable1T2,PC2:syllable1T1]	0.0	7.3	1251
## Sigma[subject:PC2:syllable1T3,PC2:syllable1T1]	2.4	7.2	1
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T1]	0.2	7.0	1
## Sigma[subject:PC2:syllable1T2,PC2:syllable1T2]	1.2	7.2	1
## Sigma[subject:PC2:syllable1T3,PC2:syllable1T2]	0.6	7.0	17
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T2]	0.6	7.2	2
## Sigma[subject:PC2:syllable1T3,PC2:syllable1T3]	0.8	7.1	2
## Sigma[subject:PC2:syllable1T4,PC2:syllable1T3]	0.6	7.1	1

```

## Sigma[subject:PC2:syllable1T4,PC2:syllable1T4] 0.5 7.2 2
## Sigma[subject:PC2:syllable2T1,PC2:syllable2T1] 1.9 7.1 1
## Sigma[subject:PC2:syllable2T2,PC2:syllable2T1] 0.9 7.0 1
## Sigma[subject:PC2:syllable2T3,PC2:syllable2T1] 0.4 7.2 2
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T1] 1.1 7.1 1
## Sigma[subject:PC2:syllable2T2,PC2:syllable2T2] 0.9 7.0 1
## Sigma[subject:PC2:syllable2T3,PC2:syllable2T2] 0.3 7.2 1
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T2] 1.8 7.1 2
## Sigma[subject:PC2:syllable2T3,PC2:syllable2T3] 0.0 7.1 336
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T3] 0.2 7.1 1
## Sigma[subject:PC2:syllable2T4,PC2:syllable2T4] 0.6 7.1 1
## Sigma[subject:PC3:syllable1T1,PC3:syllable1T1] 0.8 7.2 1
## Sigma[subject:PC3:syllable1T2,PC3:syllable1T1] 3.1 7.2 1
## Sigma[subject:PC3:syllable1T3,PC3:syllable1T1] 2.1 7.2 1
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T1] 0.8 7.0 1
## Sigma[subject:PC3:syllable1T2,PC3:syllable1T2] 0.1 7.2 403
## Sigma[subject:PC3:syllable1T3,PC3:syllable1T2] 1.5 7.1 1
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T2] 0.1 7.0 97
## Sigma[subject:PC3:syllable1T3,PC3:syllable1T3] 1.0 6.9 1
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T3] 0.0 6.9 1202
## Sigma[subject:PC3:syllable1T4,PC3:syllable1T4] 1.7 7.0 1
## Sigma[subject:PC3:syllable2T1,PC3:syllable2T1] 0.4 7.2 2
## Sigma[subject:PC3:syllable2T2,PC3:syllable2T1] 0.9 7.1 3
## Sigma[subject:PC3:syllable2T3,PC3:syllable2T1] 1.5 6.9 1
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T1] 0.0 7.1 1796
## Sigma[subject:PC3:syllable2T2,PC3:syllable2T2] 0.7 7.1 2
## Sigma[subject:PC3:syllable2T3,PC3:syllable2T2] 0.5 6.9 2
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T2] 0.6 7.1 7
## Sigma[subject:PC3:syllable2T3,PC3:syllable2T3] 0.5 7.1 3
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T3] 0.2 7.2 26
## Sigma[subject:PC3:syllable2T4,PC3:syllable2T4] 1.0 7.2 4
## Sigma[subject:PC4:syllable1T1,PC4:syllable1T1] 1.4 7.1 1
## Sigma[subject:PC4:syllable1T2,PC4:syllable1T1] 0.5 7.2 1
## Sigma[subject:PC4:syllable1T3,PC4:syllable1T1] 1.6 7.1 1
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T1] 0.8 7.1 1
## Sigma[subject:PC4:syllable1T2,PC4:syllable1T2] 0.7 7.1 3
## Sigma[subject:PC4:syllable1T3,PC4:syllable1T2] 0.6 7.1 1
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T2] 1.1 7.2 1
## Sigma[subject:PC4:syllable1T3,PC4:syllable1T3] 0.4 7.1 6
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T3] 0.4 7.2 7
## Sigma[subject:PC4:syllable1T4,PC4:syllable1T4] 0.2 7.1 4
## Sigma[subject:PC4:syllable2T1,PC4:syllable2T1] 0.6 7.1 4
## Sigma[subject:PC4:syllable2T2,PC4:syllable2T1] 0.6 7.3 6
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T1] 0.4 7.1 1
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T1] 0.3 7.2 1
## Sigma[subject:PC4:syllable2T2,PC4:syllable2T2] 0.6 7.2 11
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T2] 0.5 7.1 2
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T2] 1.9 7.1 1
## Sigma[subject:PC4:syllable2T3,PC4:syllable2T3] 0.3 7.1 2
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T3] 0.1 7.1 124
## Sigma[subject:PC4:syllable2T4,PC4:syllable2T4] 0.8 7.2 1
## mean_PPD 0.6 7.1 3
##
## For each parameter, mcse is Monte Carlo standard error, n_eff is a crude measure of effective sample size

```

```
loo1 <- loo(fitStanLmerFpca1, cores = cores) # warnings?  
## Warning: Found 7640 observations with a pareto_k > 0.7. With this many problematic observations we re  
loo1$estimates  
  
## Estimate SE  
## elpd_loo -30351.90446 108.016206  
## p_loo 36.84355 2.794407  
## looic 60703.80892 216.032411  
#k1 <- kfold(fitStanLmerFpca1, K = 10, cores = cores, verbose = T) RIP si impianta
```