

Other patients

Zach Wang

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1. Function Implementations

1.1 function 1: *ReadFile* and attach packages

1.2. function 2: *Wave*

1.3. function 3: *fourier_smooth*

1.4. function 4: *fPCA.nodes*

1.5. function 5: *node.scaler*

1.6. function 6: *row.check*

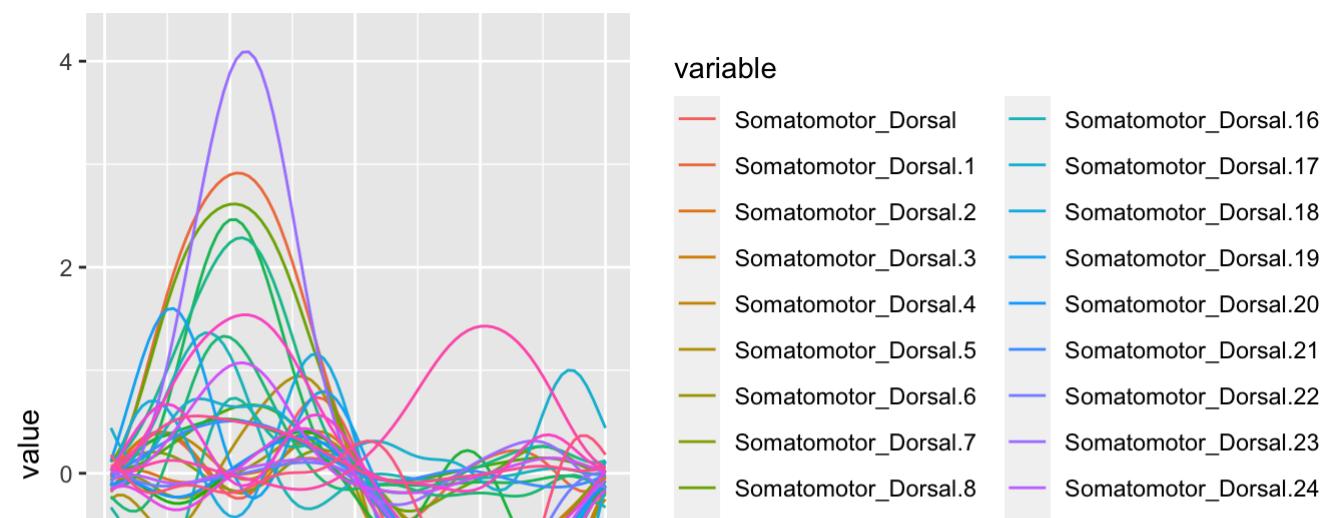
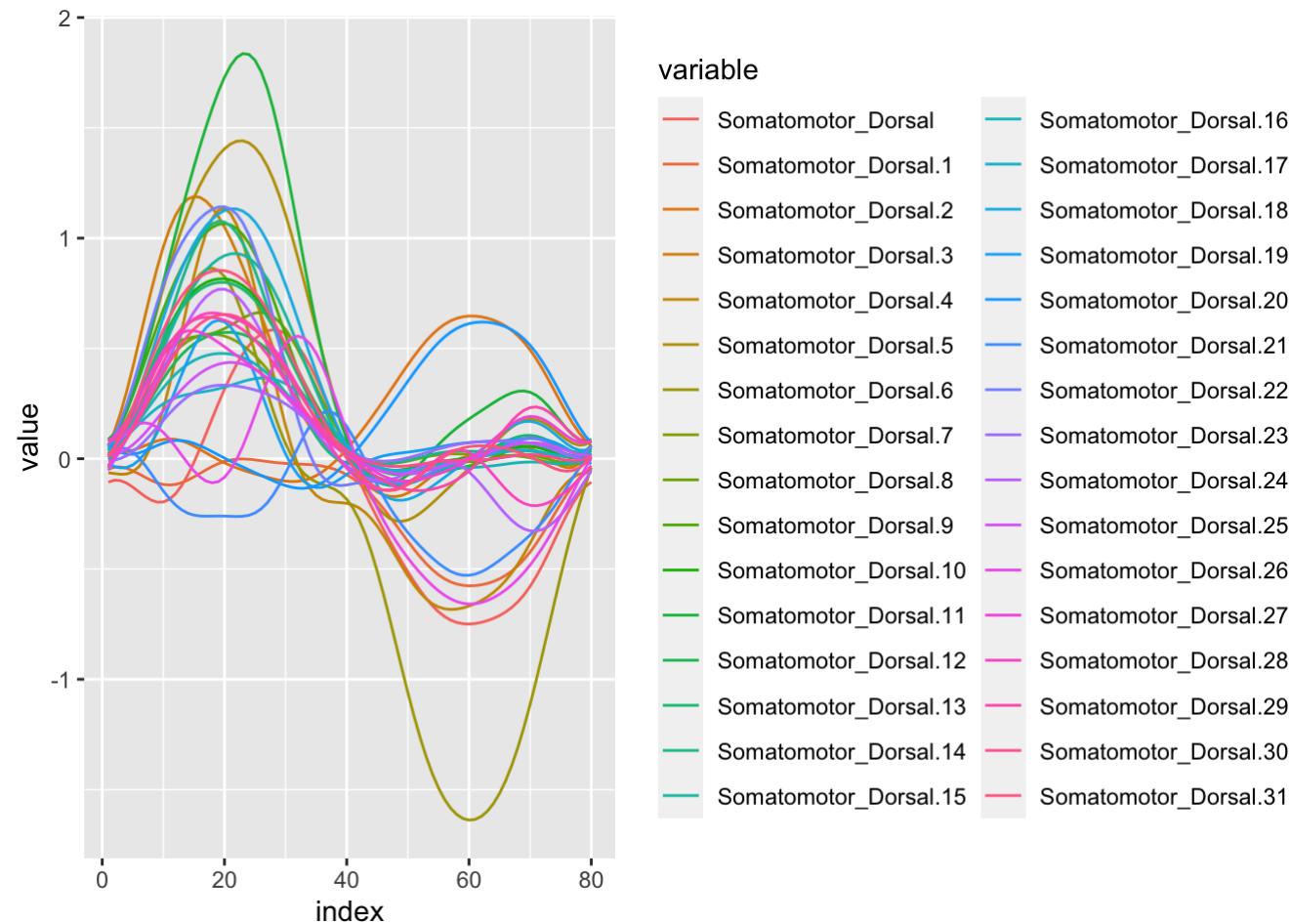
1.7 function *pc.df*

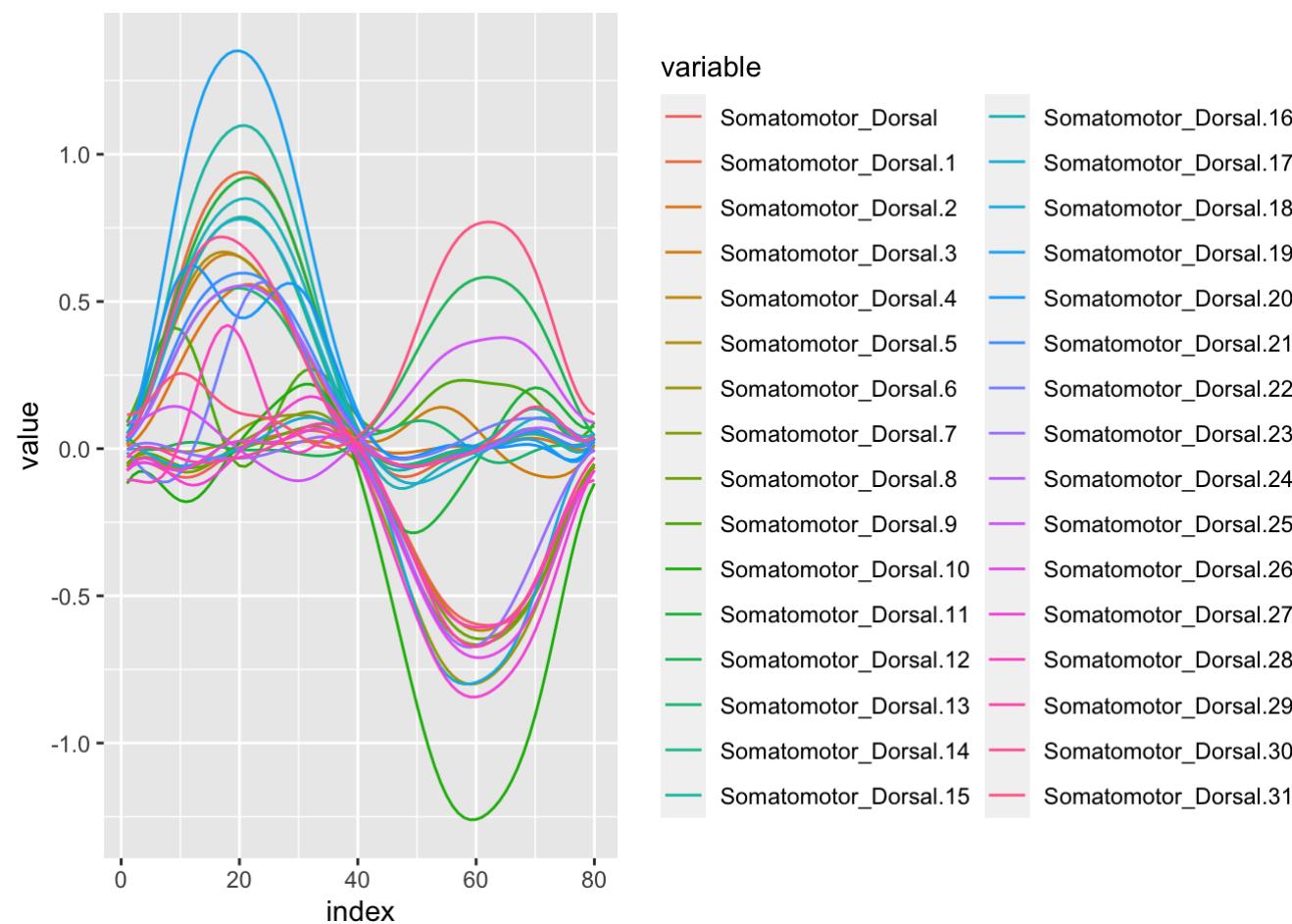
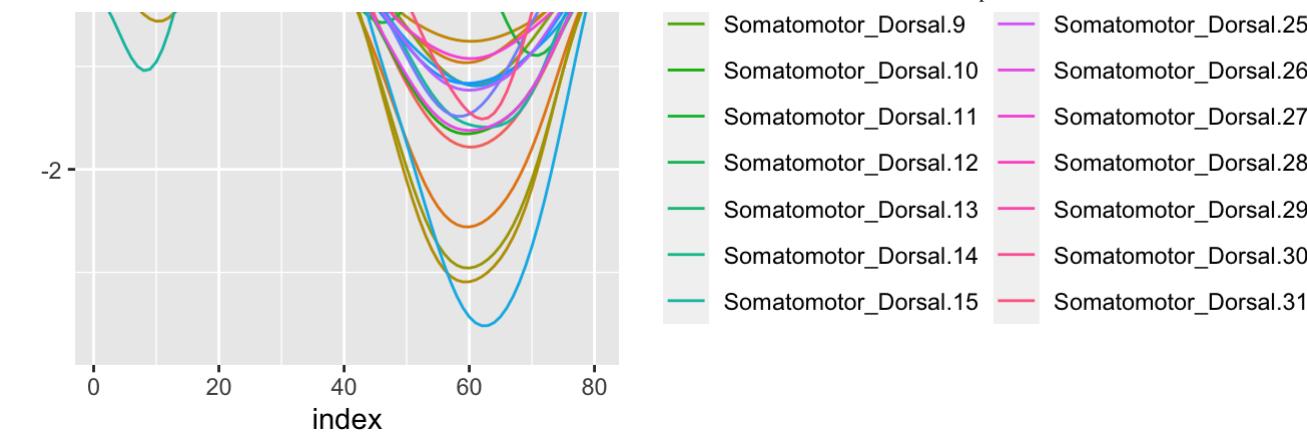
it's to put variance on Principle Components into dataframe

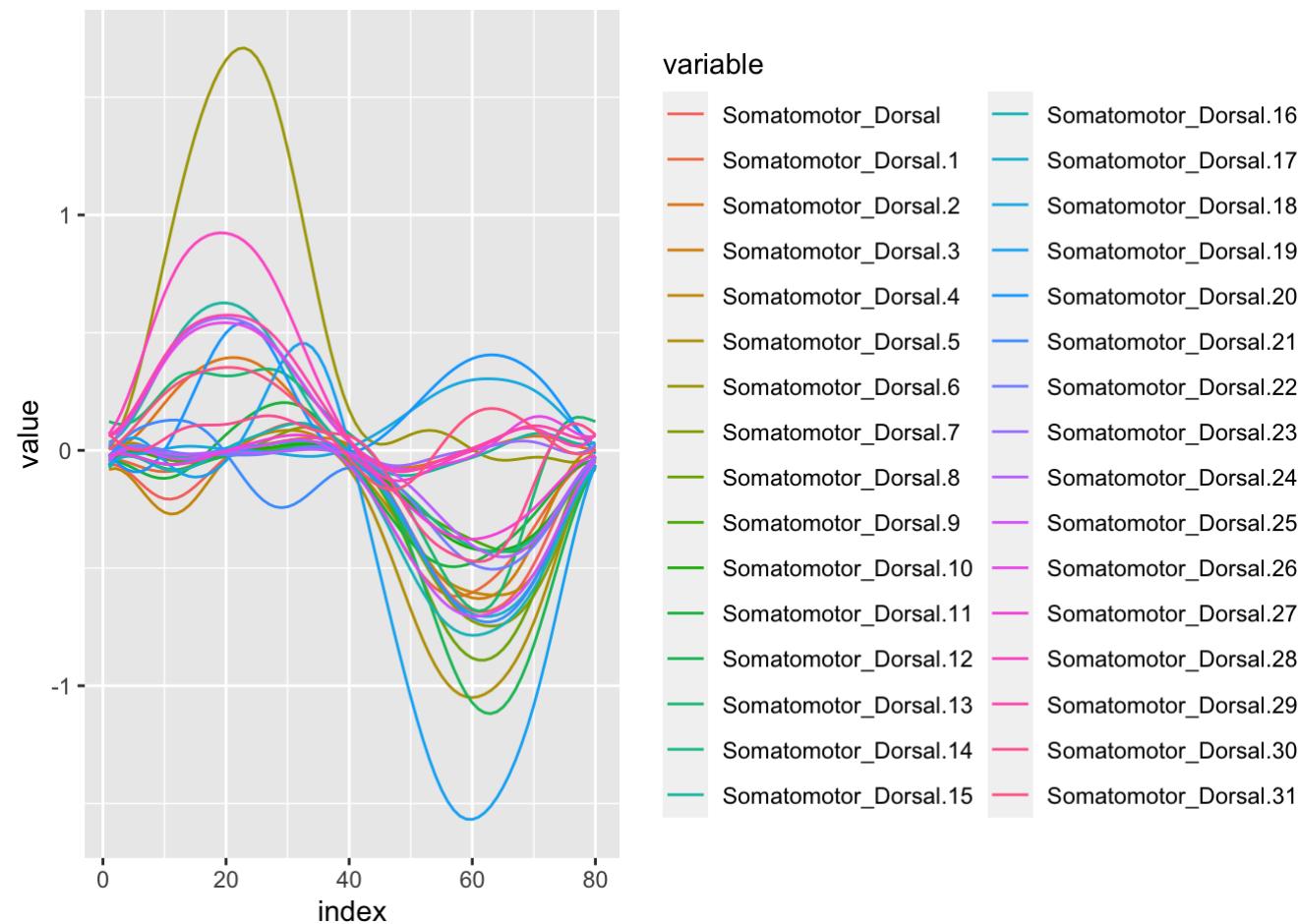
main script

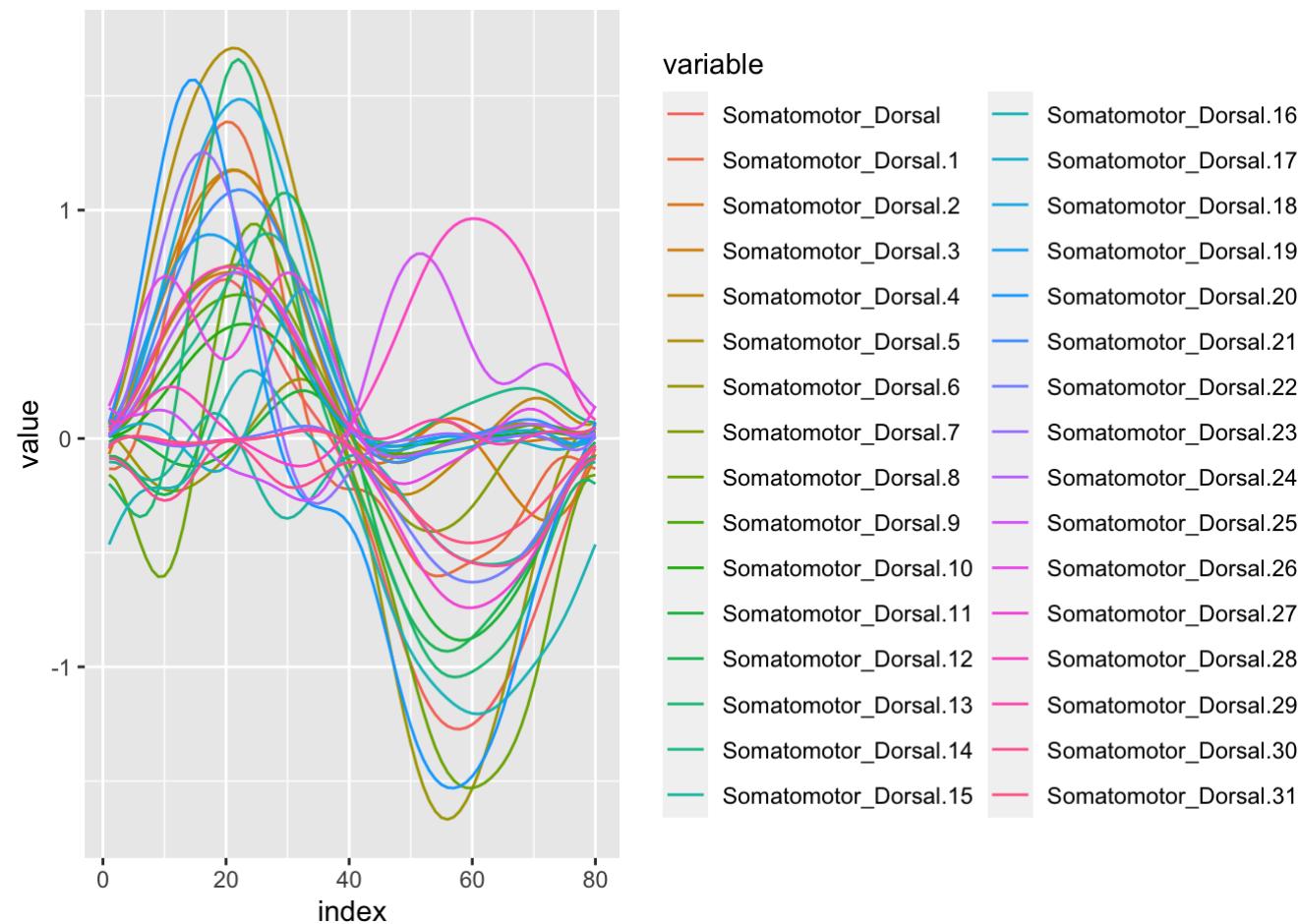
1. Parkinson Disease - Placebo Group

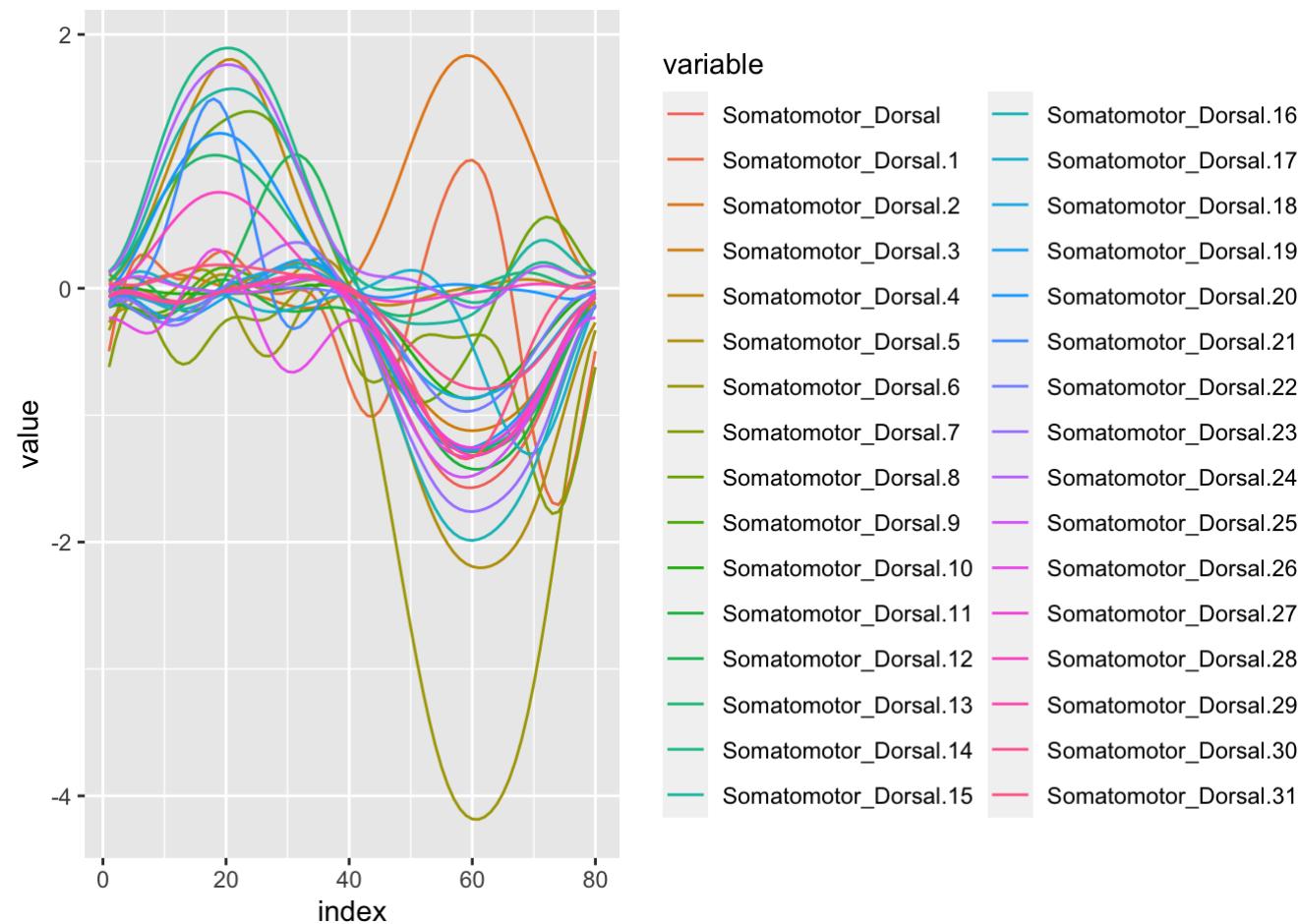
```
pd_placebo <- c(1,4,6,10,14,15,18,20,22,23,31,46,47,50,56,60,61,64,65,80,81,91,97)
for (i in pd_placebo){
  df_name <- paste("patient", i, sep = "")
  assign(df_name, ReadFile(paste('/Users/hanwang/desktop/Git_desktop/Functional_Data_Analysis/Data for Zach/Data for Zach ', i,'.csv', sep="")),
         time_subset=c(1:600), node_subset=c(1:32)))
  tmp=pc.df(ReadFile(paste('/Users/hanwang/desktop/Git_desktop/Functional_Data_Analysis/Data for Zach/Data for Zach ', i,'.csv', sep=")),
            time_subset=c(1:600), node_subset=c(1:32)))
  a =tmp$pc1
  a$index = c(1:80)
  d <- melt(data = a, id.vars = c("index"), measure.vars = colnames(patient1))
  print(ggplot(d, aes(x = index, y = value)) +
    geom_line(aes(color = variable)))+ggtitle(paste("patient", i))
}
}
```

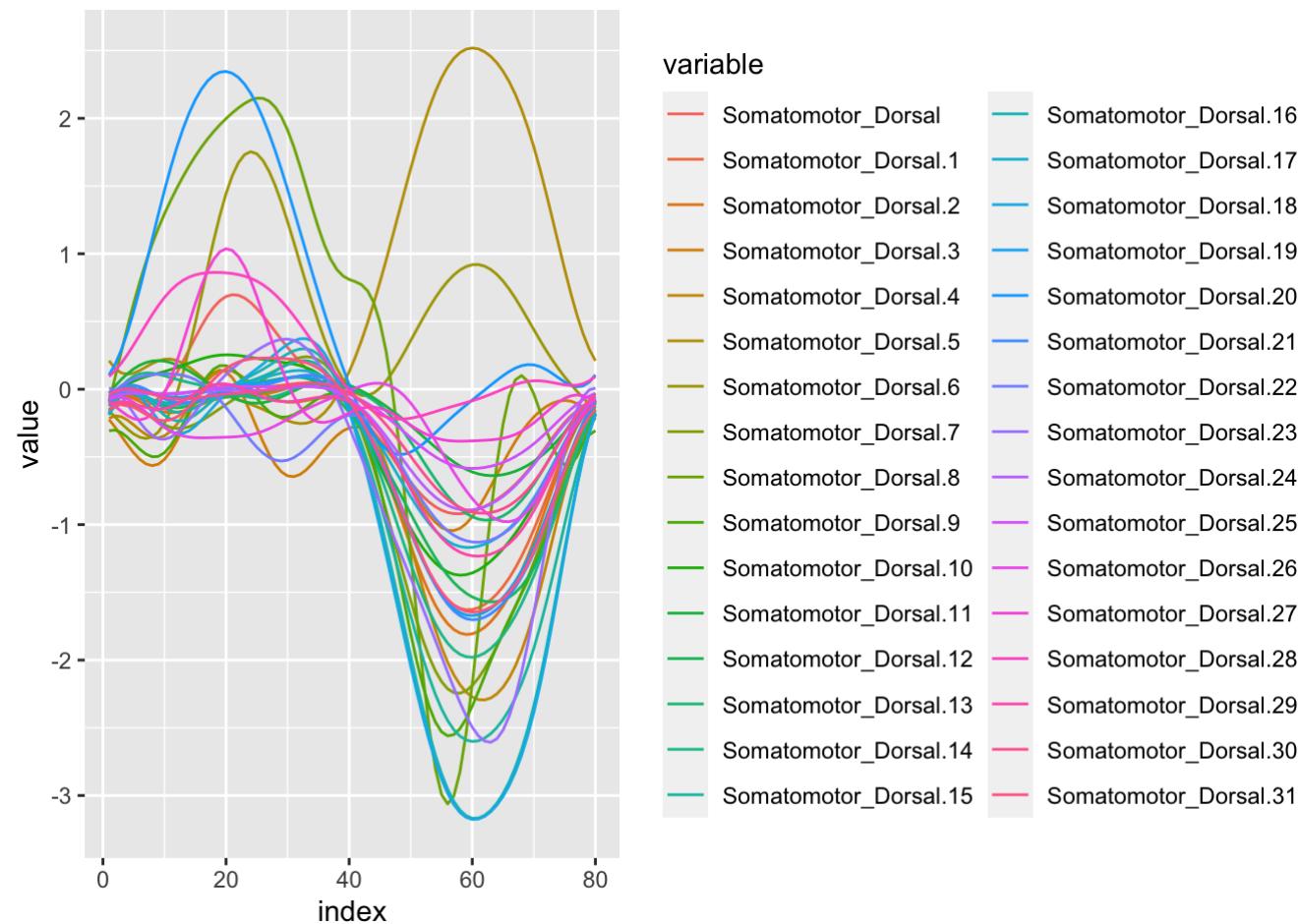



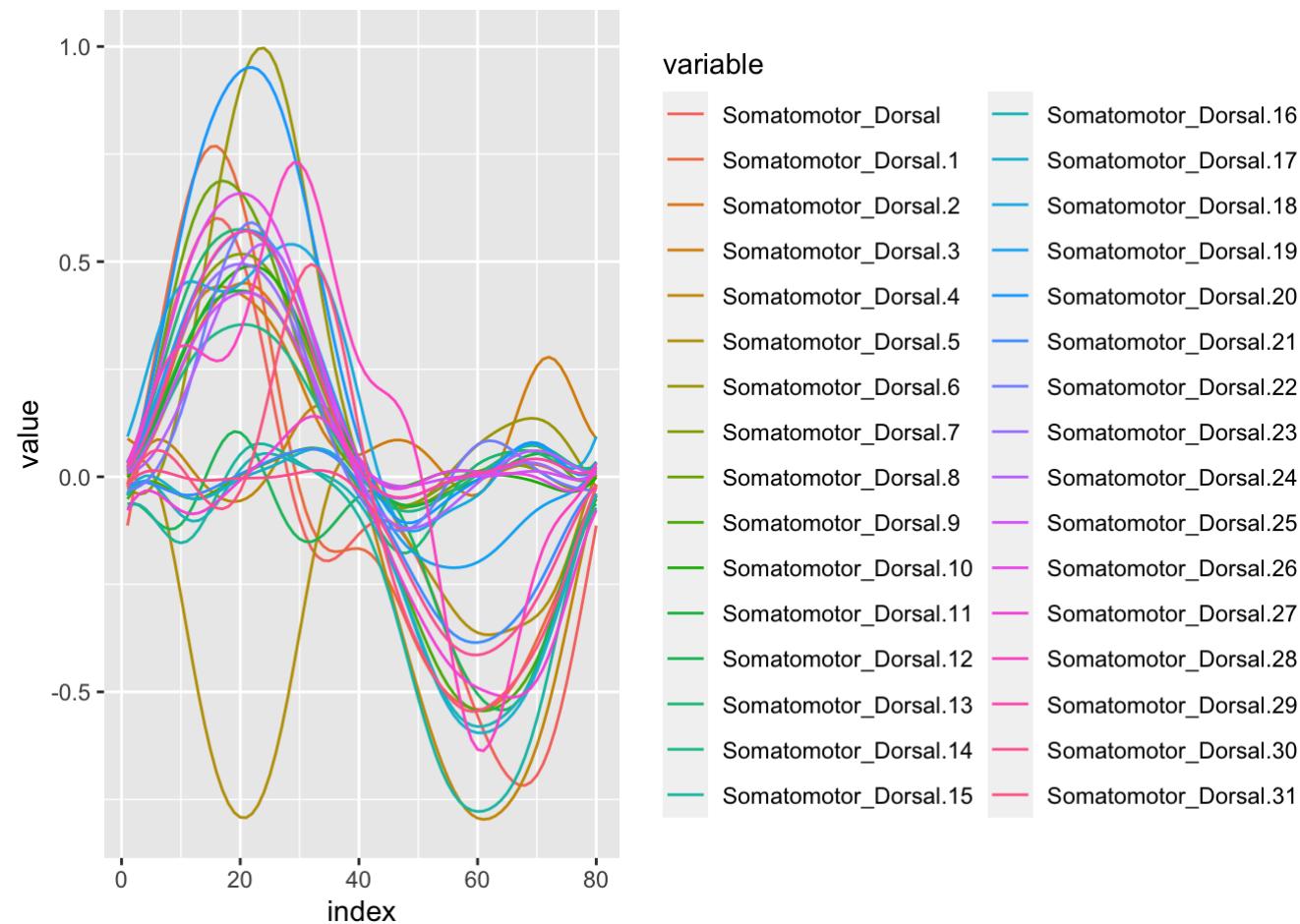


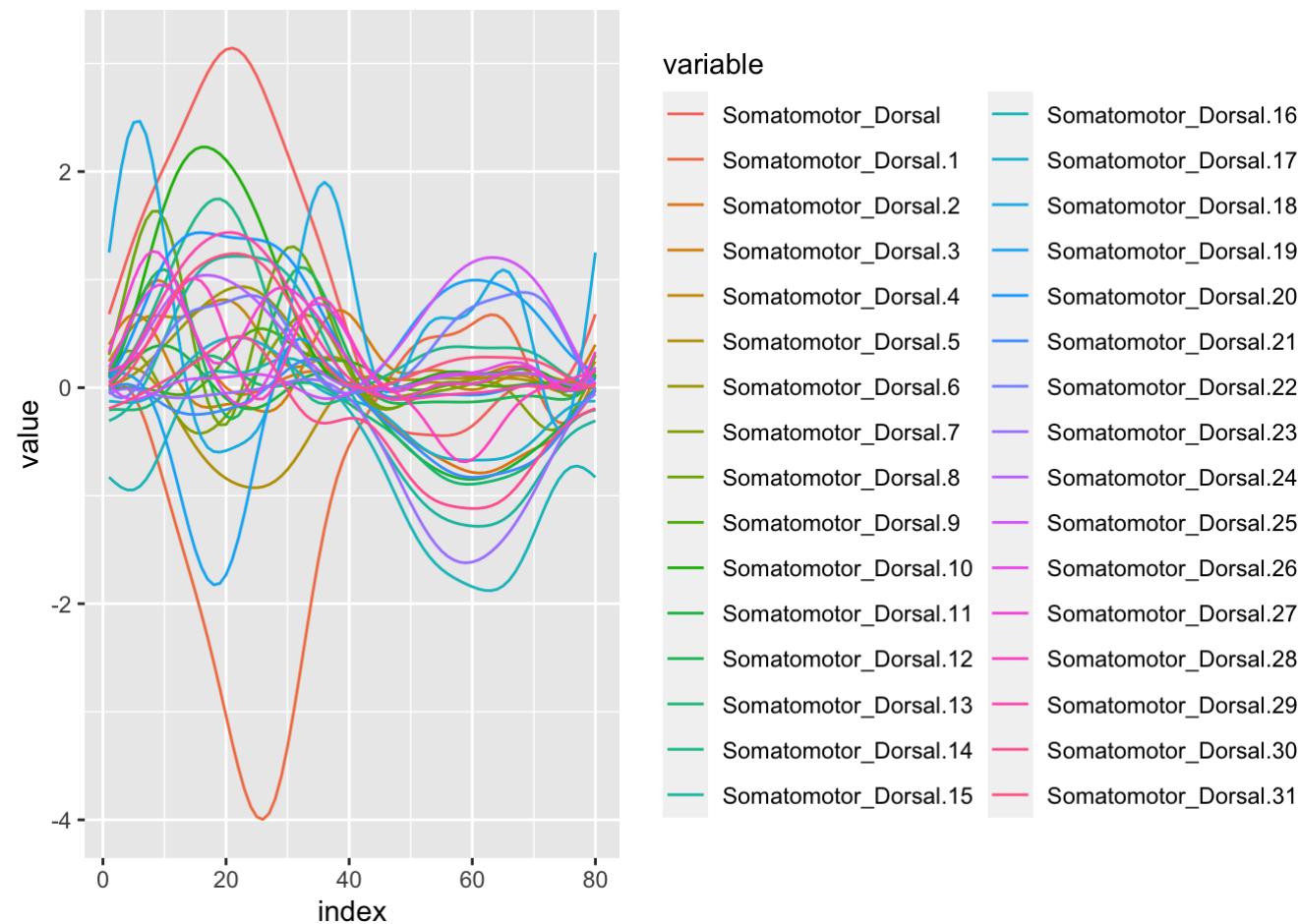


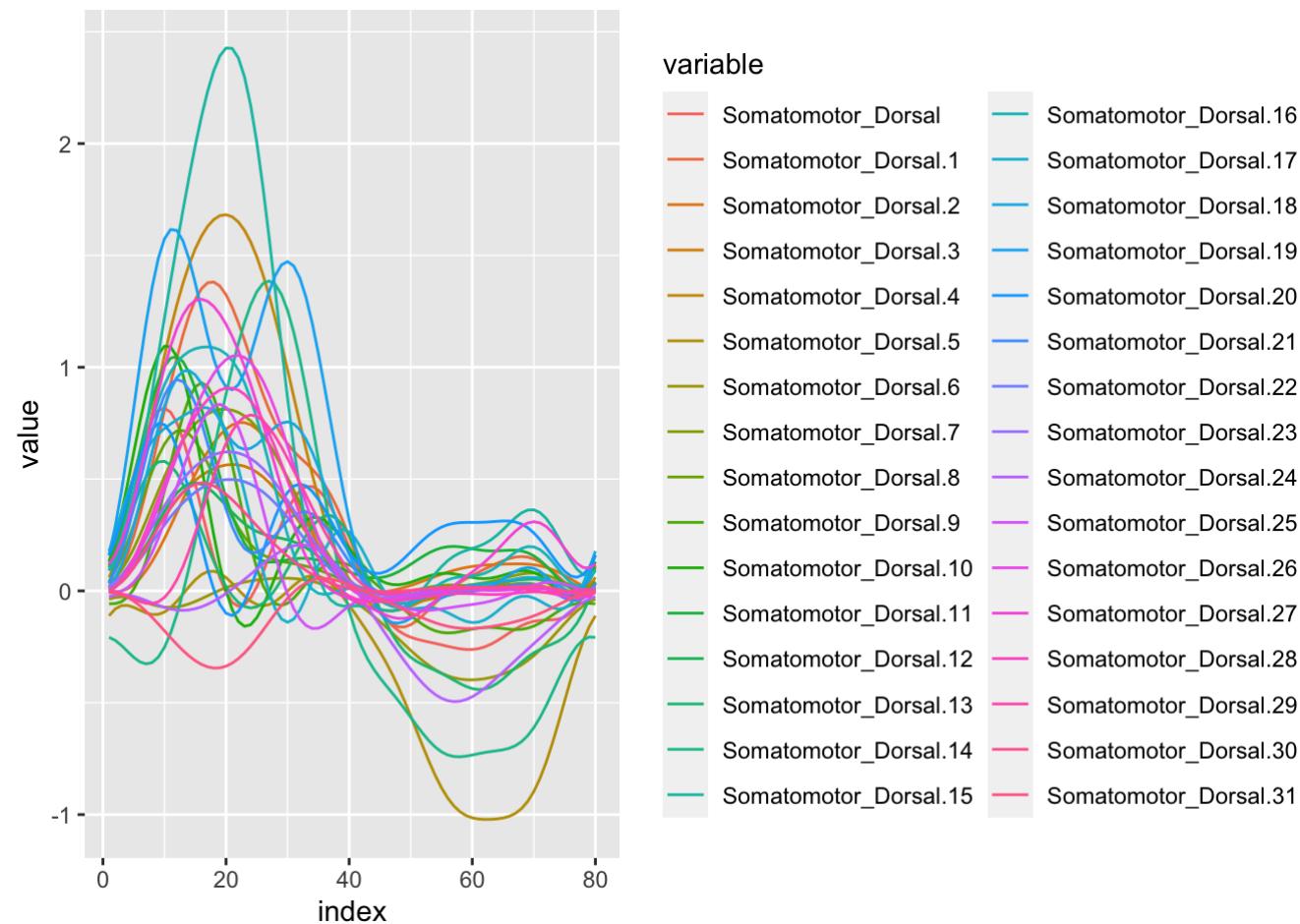


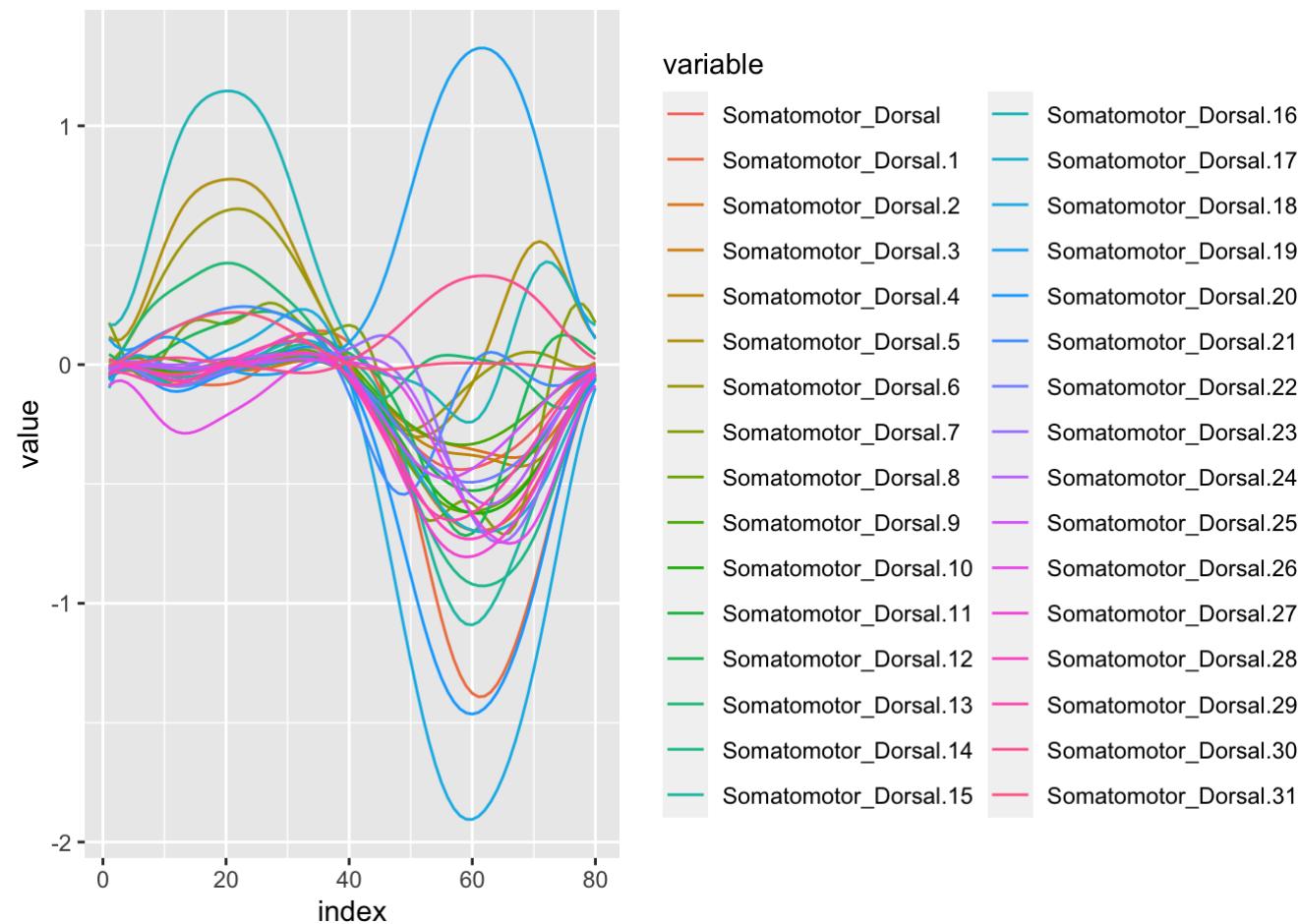


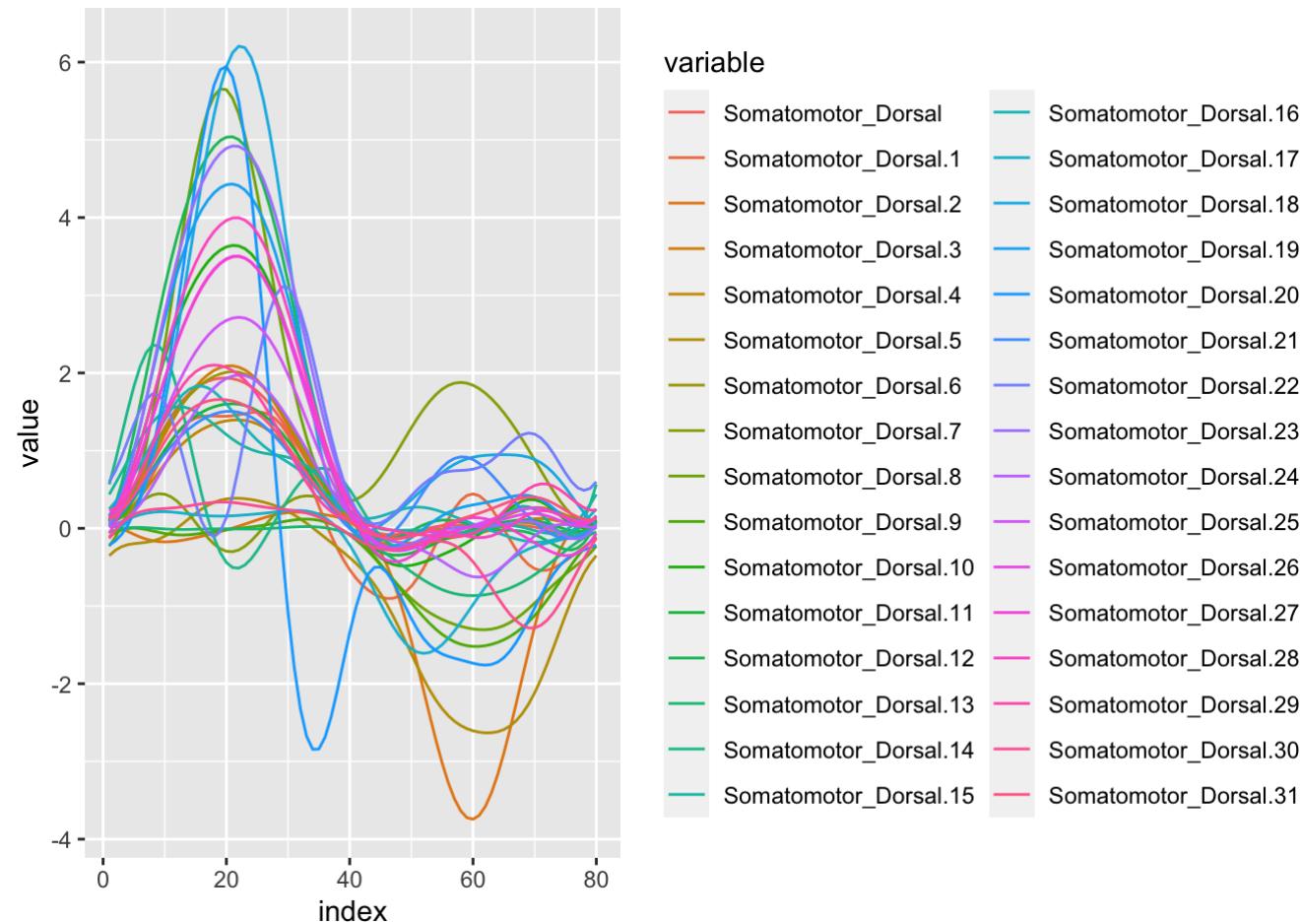


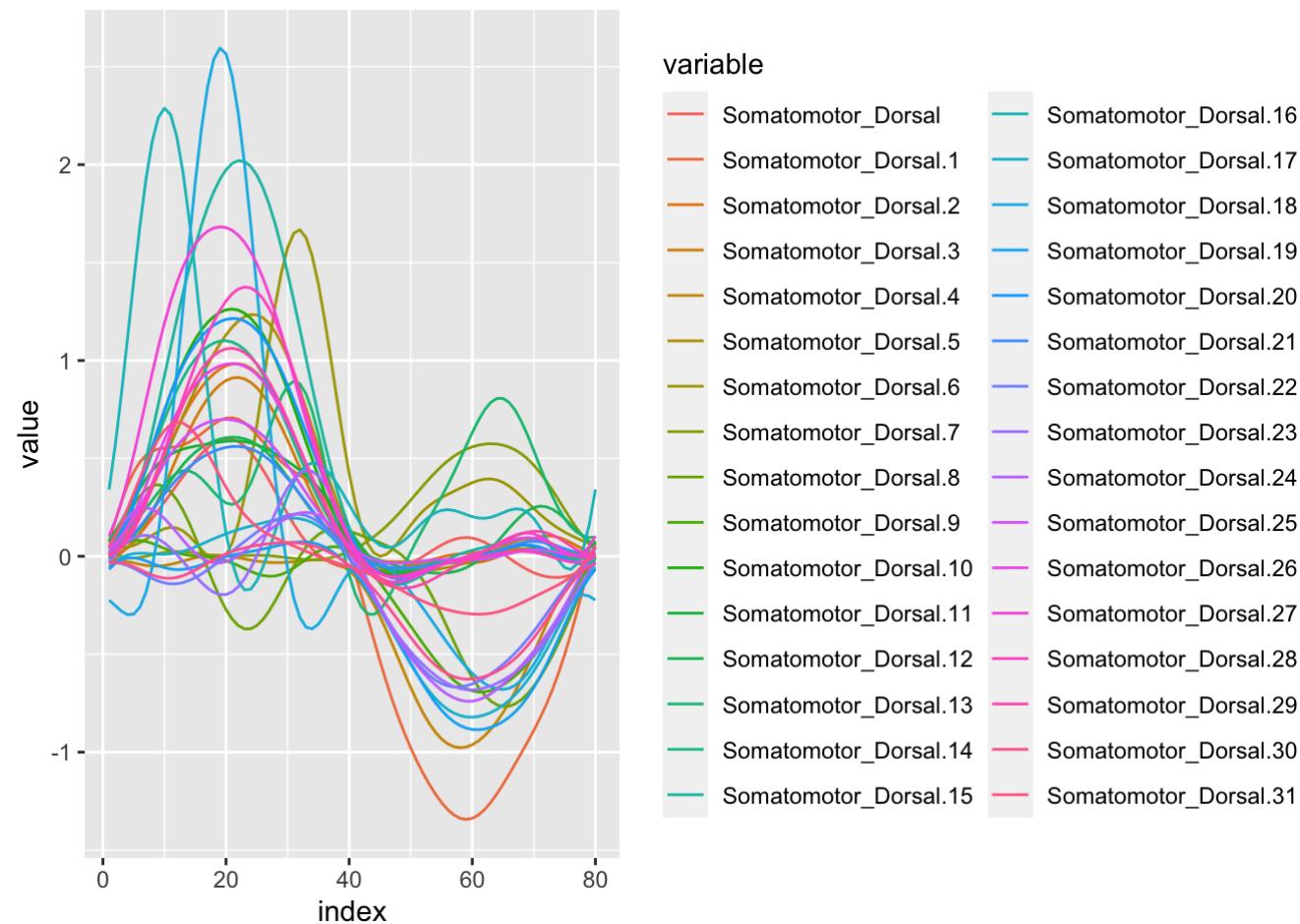


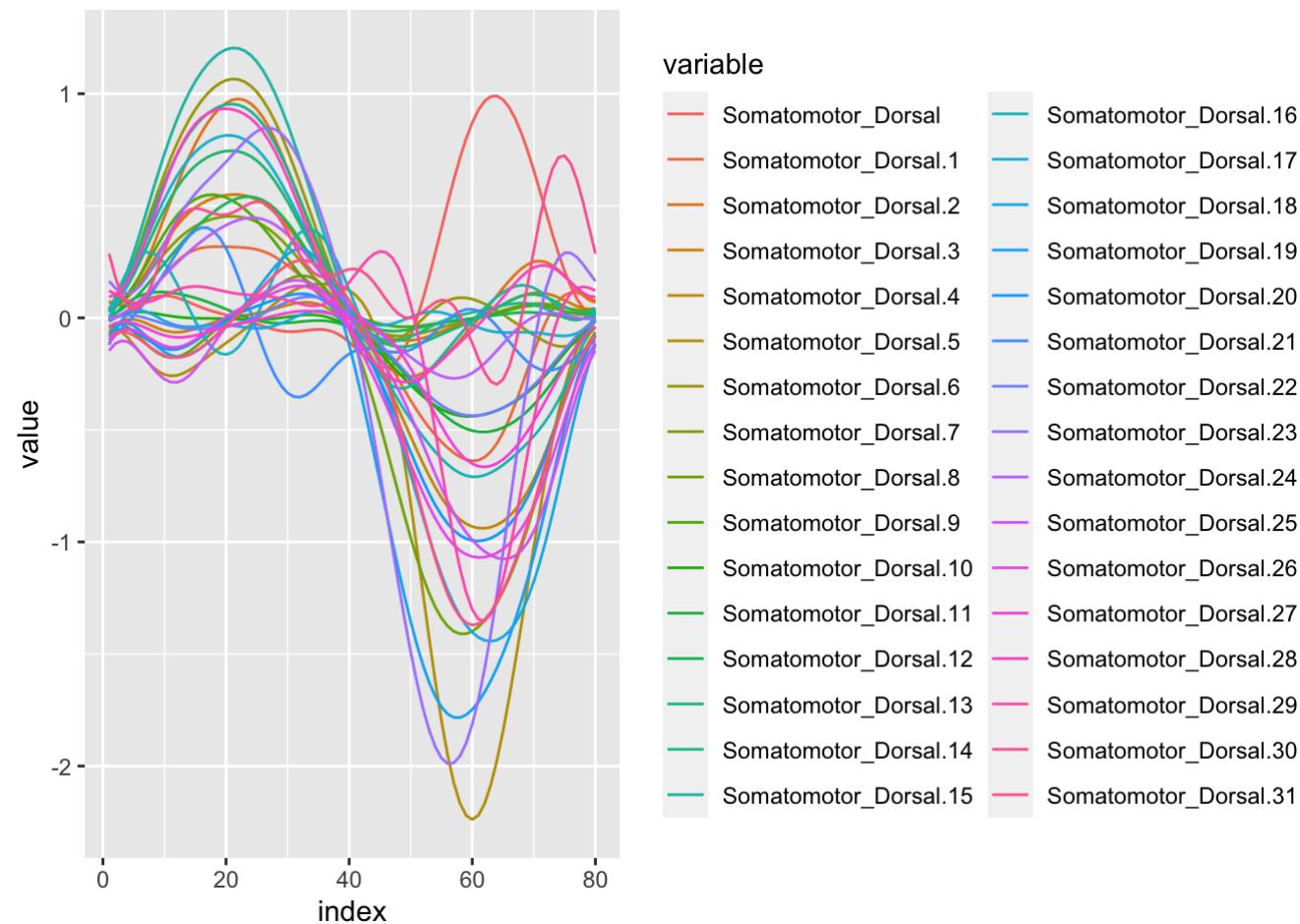


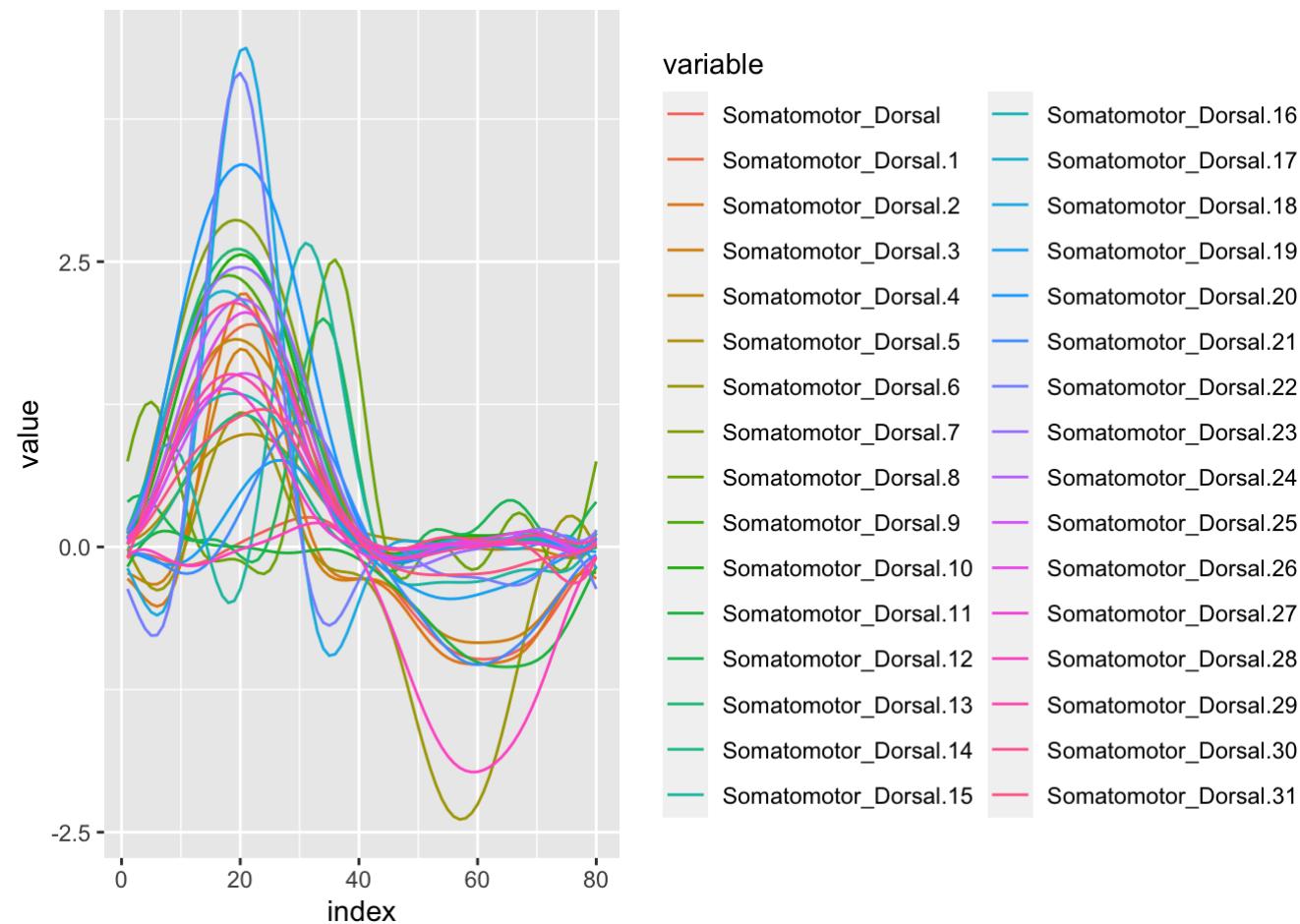


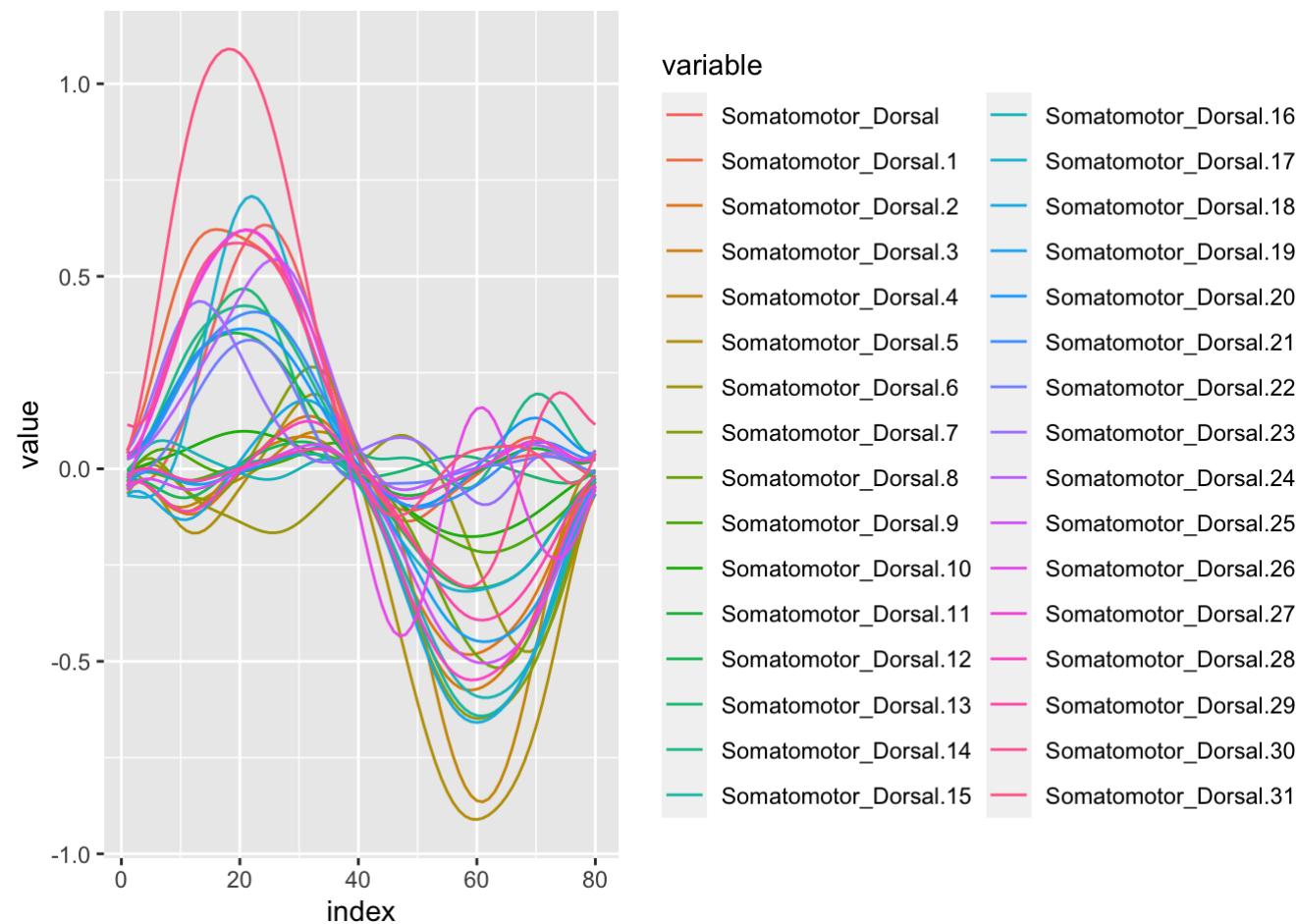


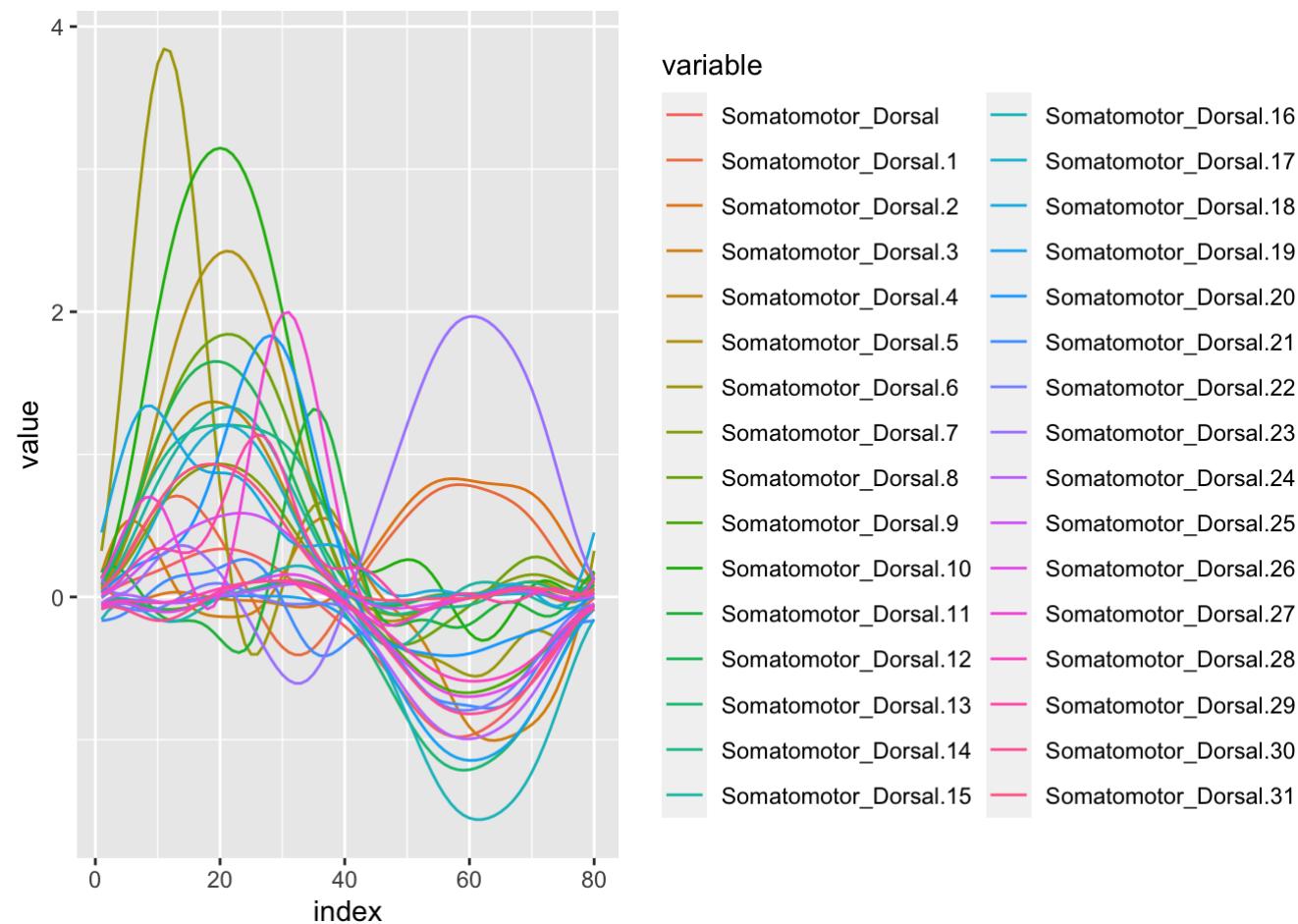


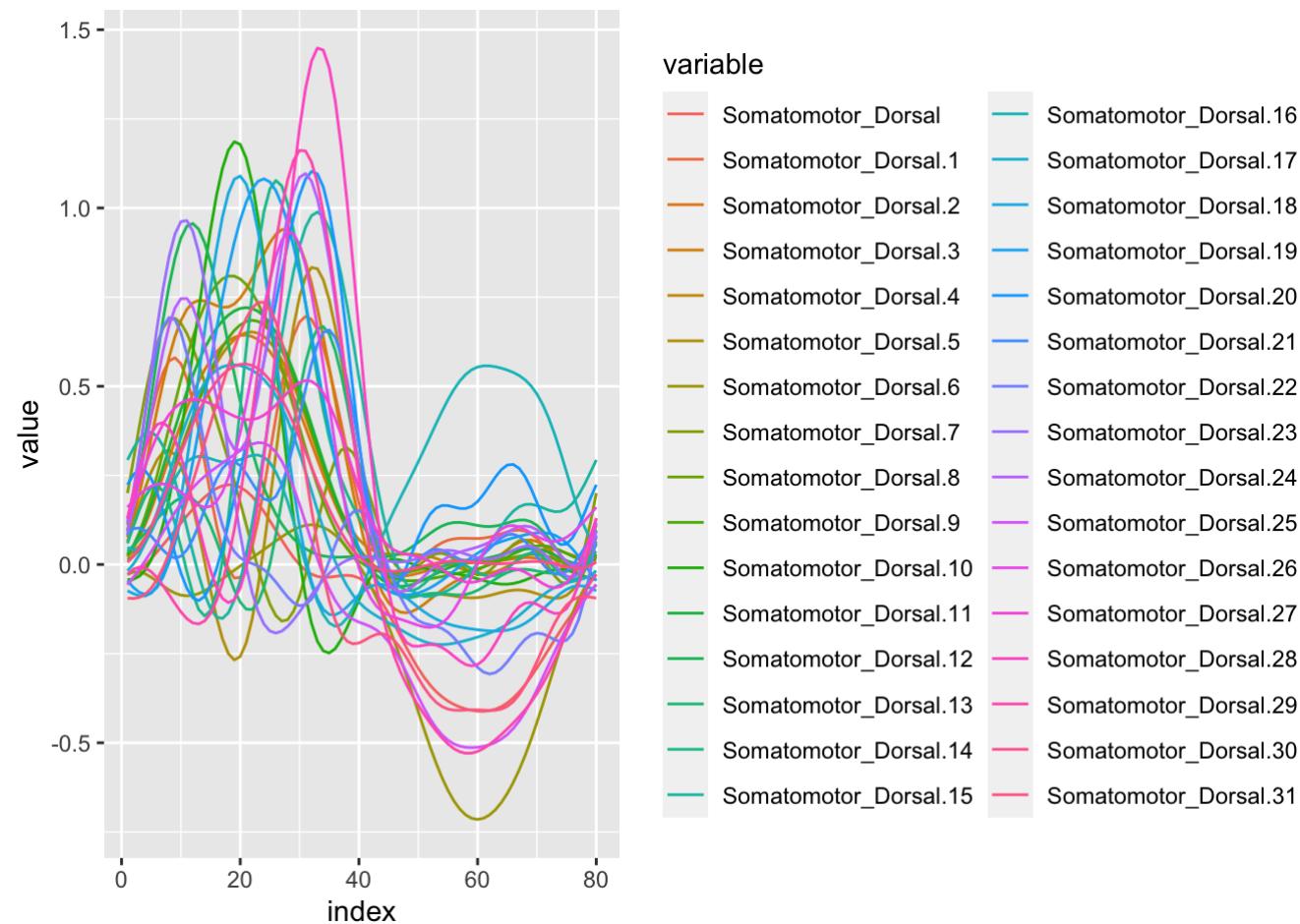


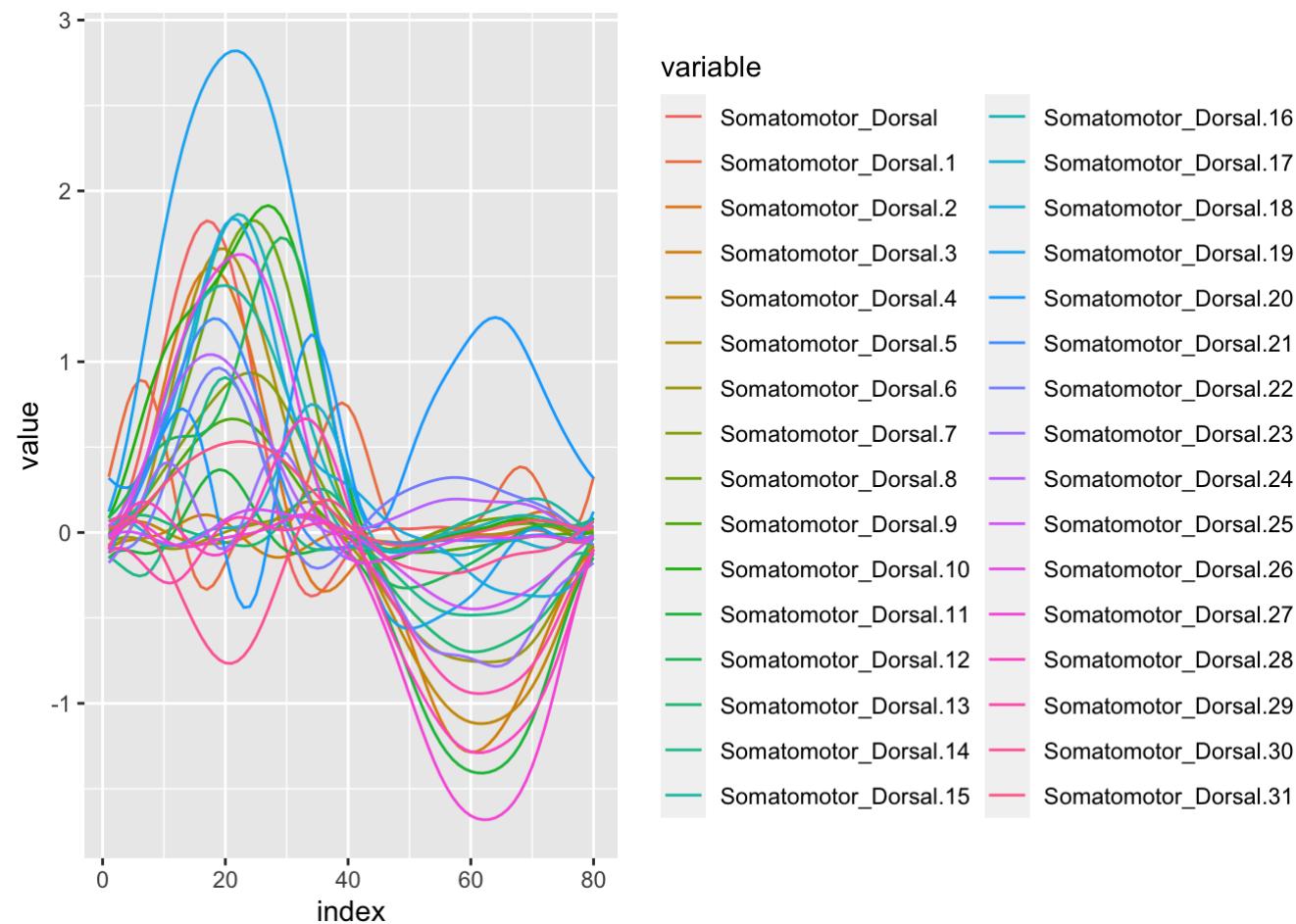


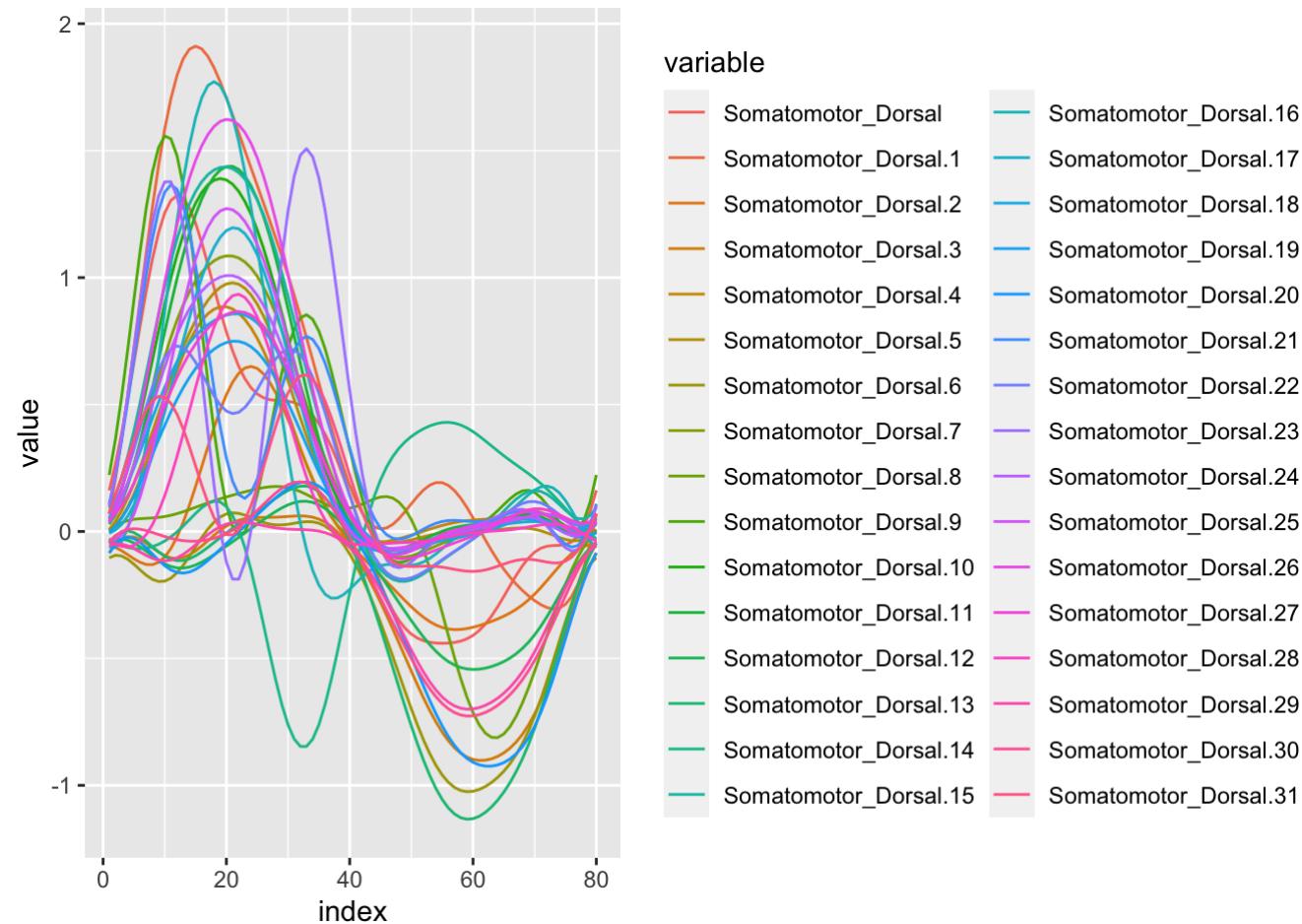


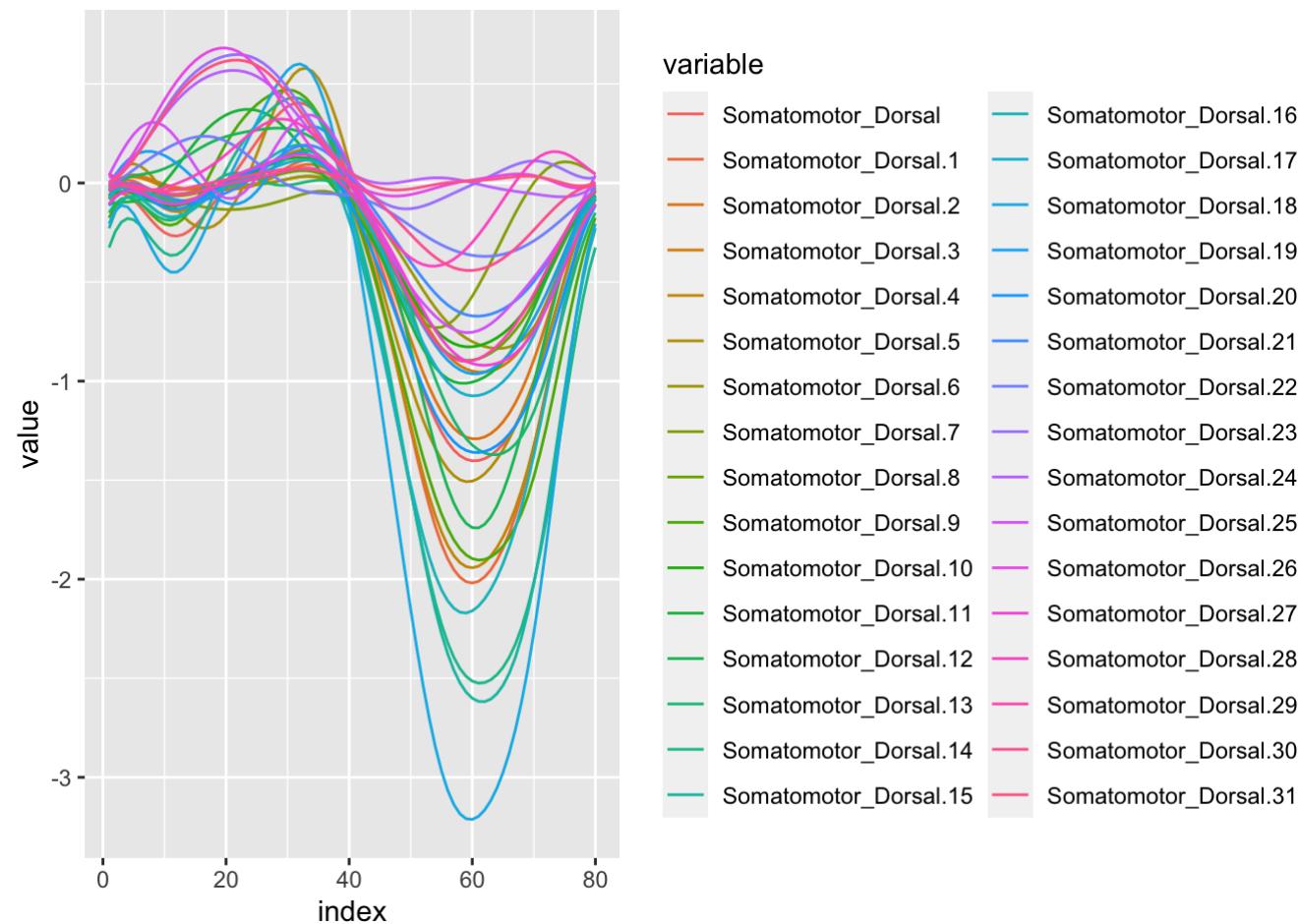


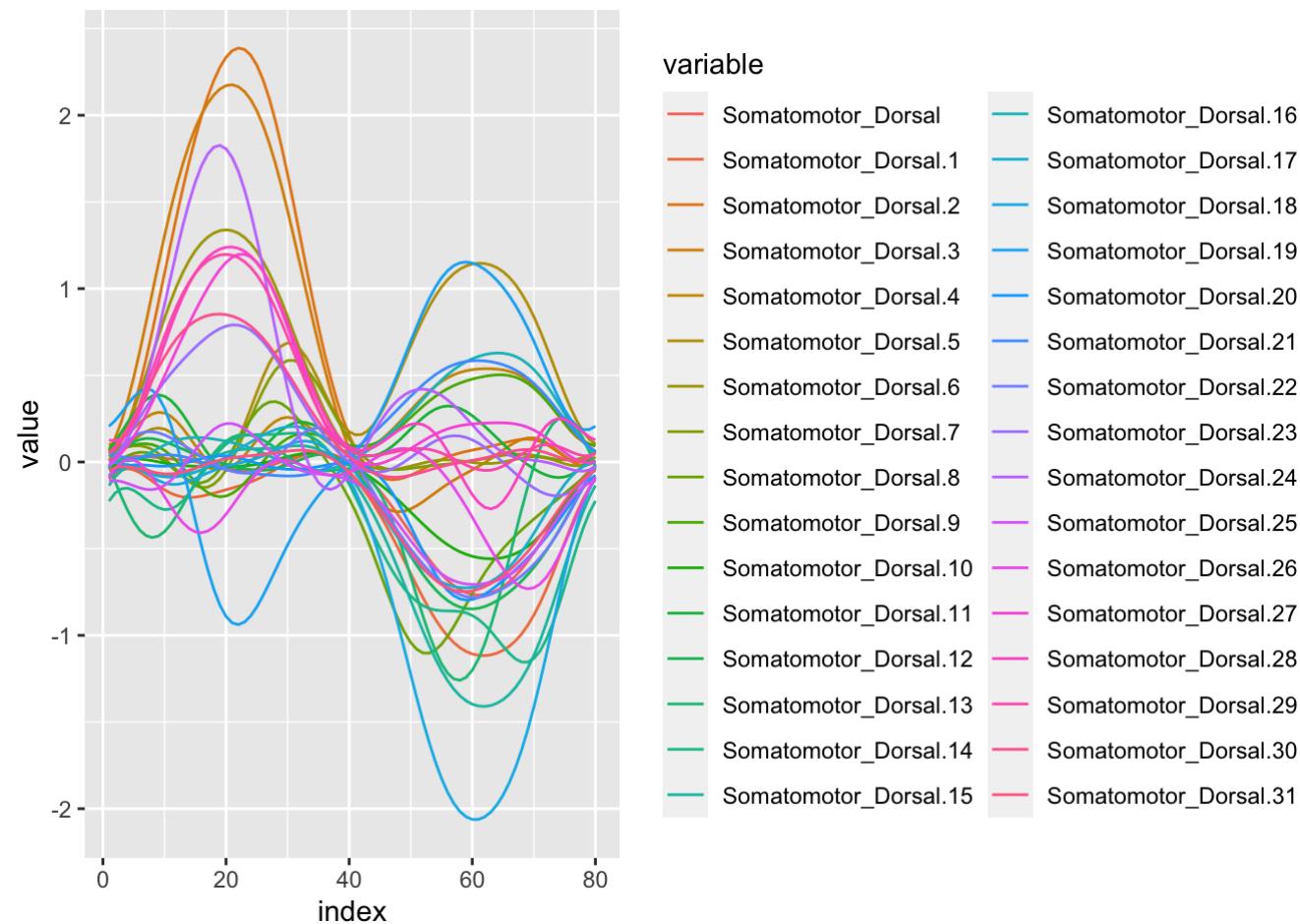


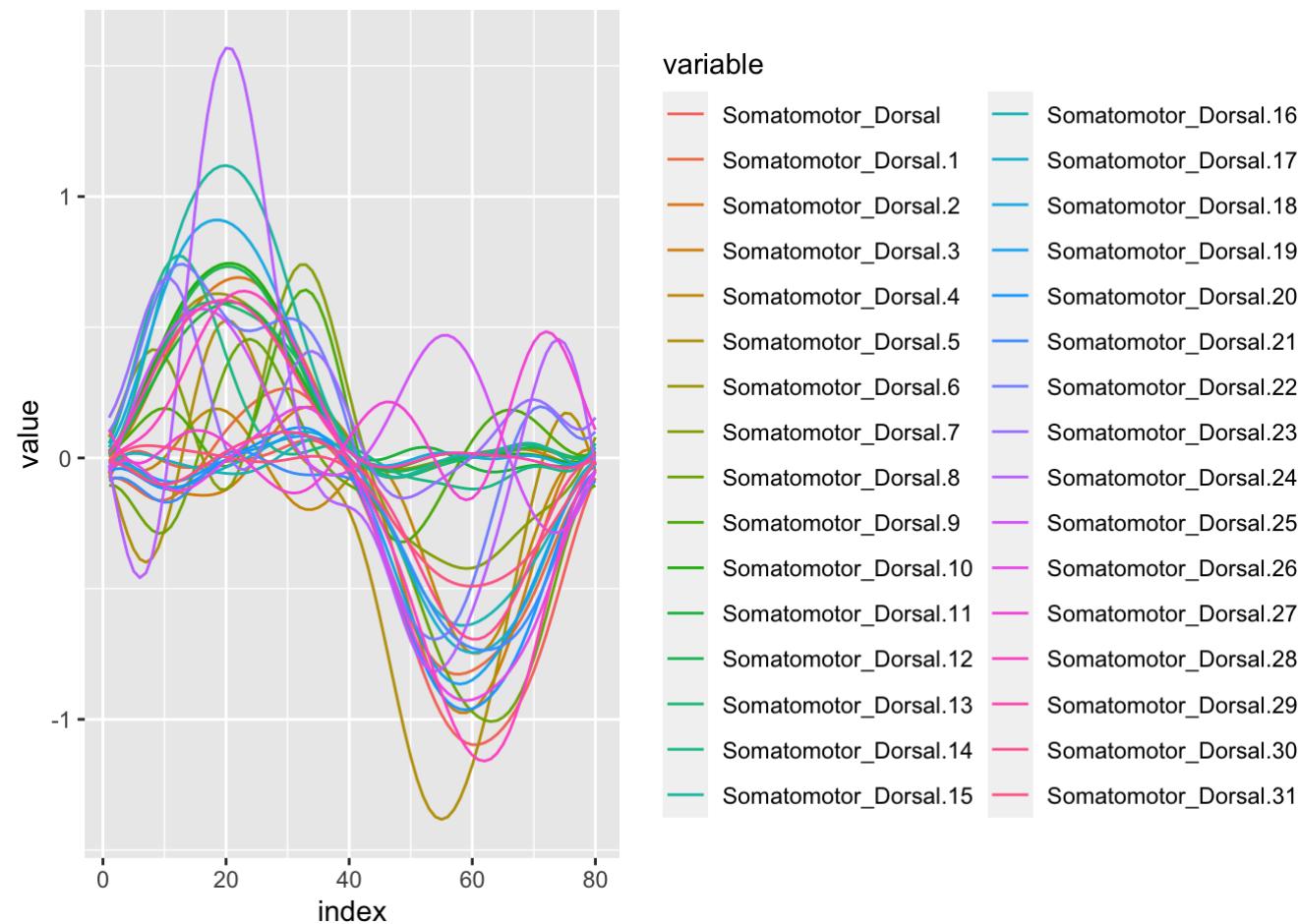












2. Healthy Control - Placebo Group

```
hc_placebo <- c(11,25,29,33,38,40,41,43,51,58,67,70,71,73,86,90,94,96,100)
for (i in hc_placebo){
  df_name <- paste("patient", i, sep = "")
  assign(df_name, ReadFile(paste('/Users/hanwang/desktop/Git_desktop/Functional_Data_Analysis/Data for Zach/Data for Zach ', i,'.csv', sep="")),
         time_subset=c(1:600), node_subset=c(1:32)))
  tmp=pc.df(ReadFile(paste('/Users/hanwang/desktop/Git_desktop/Functional_Data_Analysis/Data for Zach/Data for Zach ', i,'.csv', sep=")),
            time_subset=c(1:600), node_subset=c(1:32)))
  a =tmp$pc1
  a$index = c(1:80)
  d <- melt(data = a, id.vars = c("index"), measure.vars = colnames(patient1))
  print(ggplot(d, aes(x = index, y = value)) +
    geom_line(aes(color = variable)))+ggtitle(paste("patient", i))
}
}
```