

```

#load package
library(dplyr)
library(tidyr)
library(gtsummary)
library(labelled)
library(MASS)
library(stats)
library(ggplot2)
#library(effects)
library(car)
library(tibble)

```

```

#Load preprocessed data
data_filter_full <- readRDS(file = "../output/data_preprocessed_mergeethnic.rds") # merge the myanmar

```

```

# Ordered logistic regression
column_to_excludes <- c("WeightofPatient", "HeightofPatient",
                        "phq9_1", "phq9_2", "phq9_3", "phq9_4", "phq9_5", "phq9_6", "phq9_7", "phq9_8", "phq9_9")

result_model <- list()
index <- numeric()
for (i in 1:nrow(data_filter_full)) {
  data_filter <- data_filter_full[-i, ]

  ordered_logistic_model <- polr(phq_9_cat ~ ., data = data_filter[, !colnames(data_filter) %in% column_to_excludes])

  broom <- broom.helpers::tidy_parameters(ordered_logistic_model)

  broom.sig <- sum(broom$term == "NumberofHospitalization" & broom$p.value < 0.05)

  if (broom.sig == 1) {
    result_model[[paste0("omit_row_", i)]] <- broom
    index[paste0("omit_row_", i)] <- i
  }
}

```

```

index

```

```

## omit_row_66 omit_row_69 omit_row_84 omit_row_87 omit_row_121 omit_row_130
##          66          69          84          87          121          130
## omit_row_158 omit_row_176 omit_row_183 omit_row_196 omit_row_211 omit_row_228
##          158          176          183          196          211          228
## omit_row_229 omit_row_245 omit_row_247 omit_row_257 omit_row_260 omit_row_261
##          229          245          247          257          260          261

```

```

# Multiple linear regression
column_to_excludes <- c("WeightofPatient", "HeightofPatient",
                        "phq9_1", "phq9_2", "phq9_3", "phq9_4", "phq9_5", "phq9_6", "phq9_7", "phq9_8", "phq9_9")

```

```

result_model_2 <- list()
index_2 <- numeric()
for (i in index) {
  data_filter <- data_filter_full[-i, ]

  lm_model <- lm(phq_9_score ~ ., data = data_filter[,!colnames(data_filter) %in% column_to_excludes])

  # Print the summary of the model
  lm_model.sum <- summary(lm_model)

  hos_sig <- sum(rownames(lm_model.sum$coefficients) == "NumberofHospitalization" & lm_model.sum$coefficients[,1] == 1)

  if (hos_sig == 1) {
    result_model_2[[paste0("omit_row_", i)]] <- lm_model.sum
    index_2[paste0("omit_row_", i)] <- i
  }
}

}

setdiff(index,index_2)

## numeric(0)

```