Untitled

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library(data.table)  
library(dplyr)

## -------------------------------------------------------------------------

## data.table + dplyr code now lives in dtplyr.  
## Please library(dtplyr)!

## -------------------------------------------------------------------------

##   
## Attaching package: 'dplyr'

## The following objects are masked from 'package:data.table':  
##   
## between, first, last

## The following objects are masked from 'package:stats':  
##   
## filter, lag

## The following objects are masked from 'package:base':  
##   
## intersect, setdiff, setequal, union

library(ggplot2)  
  
  
# Load data   
  
post.attitude <- fread(input = "./ATTITUDES\_Q\_POST.csv",   
 header = TRUE, stringsAsFactors = TRUE)  
Pre\_post <- fread(input = "./ATTITUDES\_PRE\_POST\_QREM.csv",   
 header = TRUE, stringsAsFactors = TRUE)  
  
# merge pre\_post and post.attitude  
pre\_post.attitude <- merge(Pre\_post,post.attitude,by='BPL.BLD.ID', all.x = TRUE)  
  
# select E group   
pre\_post.attitude\_E <- pre\_post.attitude %>%   
 filter(LogCheck == "Y")

#### 

library(broom)

## Warning: package 'broom' was built under R version 3.3.3

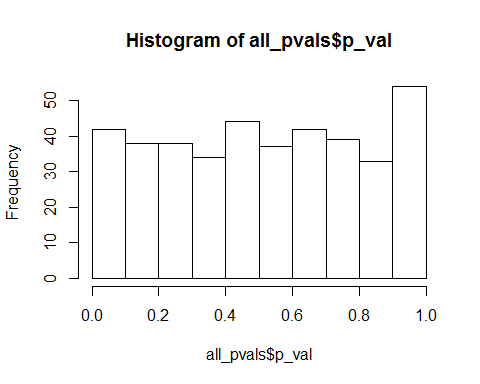
# ONE - NO TECH, NO AGE OR EXPERIENCE  
all\_pvals <- data.frame(varname=as.character(), col=as.character(), coefest=as.numeric(), p\_val=as.numeric())  
  
overall\_stats <- data.frame(col=as.character(), MultR2=as.numeric(), AdjR2=as.numeric(), p\_val=as.numeric())  
  
for (col in names(pre\_post.attitude\_E)[grep("X", names(pre\_post.attitude\_E))]) {  
 # cat(col, ":\n")  
 lmodel <- lm(paste(col, "~ A0.3 + A0.4 + A0.56 + A0.57 + A0.58 + A0.59 + Age + Experience + A0.68 + A0.69"), data = pre\_post.attitude\_E)  
 smy <- summary(lmodel)  
  
 all\_pvals <- rbind(all\_pvals, data.frame(varname = names(smy$coefficients[,4]), col = col, coefest = smy$coefficients[,1], p\_val = smy$coefficients[,4]))  
 overall\_stats <- rbind(overall\_stats, data.frame(col = col, MultR2 = glance(lmodel)$r.squared, AdjR2 = glance(lmodel)$adj.r.squared, p\_val = glance(lmodel)$p.value))  
}  
  
overall\_stats$q\_val <- p.adjust(overall\_stats$p\_val, method = "BH")  
overall\_stats

## col MultR2 AdjR2 p\_val q\_val  
## 1 X2.1 0.8372993 0.43054763 0.19109188 0.5306541  
## 2 X2.3 0.7220148 0.08661996 0.45678660 0.7730272  
## 3 X2.4 0.6427520 -0.17381470 0.67538935 0.8530319  
## 4 X3.1 0.9848104 0.89873610 0.03400957 0.4623144  
## 5 X3.2 0.5137939 -1.13930694 0.96827123 0.9824459  
## 6 X3.4 0.5824057 -0.30498231 0.77895263 0.8735027  
## 7 X3.6 0.6021675 0.03857148 0.46381632 0.7730272  
## 8 X4.1 0.8647568 0.09837886 0.53194162 0.8311588  
## 9 X4.2 0.6026572 0.14855118 0.30026095 0.6255437  
## 10 X4.3 0.7408904 0.36400363 0.12944803 0.4623144  
## 11 X4.5 0.7762385 0.41822008 0.10837127 0.4623144  
## 12 X4.6 0.7893393 0.43823805 0.11077530 0.4623144  
## 13 X4.7 0.7938314 0.42730939 0.12048999 0.4623144  
## 14 X4.8 0.8378543 0.40546577 0.21226166 0.5306541  
## 15 X5.4 0.7804036 -0.24437974 0.69060833 0.8530319  
## 16 X5.5 0.9822740 0.85819181 0.11767524 0.4623144  
## 17 X6.1 0.5183042 -0.18234425 0.71654678 0.8530319  
## 18 X6.2 0.6268099 0.08398794 0.41327547 0.7730272  
## 19 X7.1 0.7490249 0.33073314 0.18994221 0.5306541  
## 20 X7.2 0.6484252 -0.10494923 0.62082645 0.8530319  
## 21 X7.3 0.6846701 -0.49781721 0.80362246 0.8735027  
## 22 X8.1 0.9908537 0.87195122 0.26542292 0.6032339  
## 23 X8.2 0.9980585 0.97670251 0.11365263 0.4623144  
## 24 X8.3 0.9053254 -0.04142012 0.66941074 0.8530319  
## 25 X8.4 1.0000000 NaN NaN NaN  
## 26 X8.5 0.5535714 -3.91071429 0.98244586 0.9824459

all\_pvals$adjusted <- p.adjust(all\_pvals$p\_val, method = "BH")  
signif\_coefficients <- subset(all\_pvals, p\_val < 0.05)  
signif\_coefficients

## varname col coefest p\_val  
## A0.57Yes A0.57Yes X2.1 0.6811061 0.030605236  
## (Intercept)3 (Intercept) X3.1 0.8825758 0.041709267  
## Age44-543 Age44-54 X3.1 0.9053030 0.004290497  
## Age55+3 Age55+ X3.1 0.8181818 0.011591706  
## Experience15-20Y3 Experience15-20Y X3.1 -0.9318182 0.006519213  
## Experience20+3 Experience20+ X3.1 -0.8825758 0.011001949  
## Experience20+Y3 Experience20+Y X3.1 -0.9696970 0.002421040  
## Experience5-10Y3 Experience5-10Y X3.1 -1.2500000 0.003974522  
## A0.56Yes6 A0.56Yes X3.6 -0.3051970 0.040277584  
## A0.56Yes10 A0.56Yes X4.5 -0.4677369 0.029526885  
## A0.58Yes10 A0.58Yes X4.5 -1.2566718 0.048757364  
## Age44-5410 Age44-54 X4.5 1.6126820 0.009357408  
## Age55+10 Age55+ X4.5 1.0796286 0.035390824  
## Experience15-20Y10 Experience15-20Y X4.5 -1.5908717 0.008122051  
## Experience20+Y10 Experience20+Y X4.5 -1.1206199 0.018161658  
## A0.69Yes13 A0.69Yes X4.8 -0.9572223 0.023024443  
## A0.57Yes17 A0.57Yes X6.2 -0.9031802 0.038793549  
## A0.3Very involved18 A0.3Very involved X7.1 2.8854442 0.035656837  
## A0.56Yes18 A0.56Yes X7.1 0.4217391 0.049678794  
## Age55+18 Age55+ X7.1 1.4075614 0.013745740  
## Experience15-20Y18 Experience15-20Y X7.1 -1.0893195 0.029065456  
## Experience20+11 Experience20+ X7.1 -1.4919660 0.030921403  
## Experience20+Y18 Experience20+Y X7.1 -1.1052930 0.013113864  
## adjusted  
## A0.57Yes 0.7749677  
## (Intercept)3 0.7964484  
## Age44-543 0.5512042  
## Age55+3 0.5512042  
## Experience15-20Y3 0.5512042  
## Experience20+3 0.5512042  
## Experience20+Y3 0.5512042  
## Experience5-10Y3 0.5512042  
## A0.56Yes6 0.7964484  
## A0.56Yes10 0.7749677  
## A0.58Yes10 0.8262175  
## Age44-5410 0.5512042  
## Age55+10 0.7943551  
## Experience15-20Y10 0.5512042  
## Experience20+Y10 0.6620750  
## A0.69Yes13 0.7694001  
## A0.57Yes17 0.7964484  
## A0.3Very involved18 0.7943551  
## A0.56Yes18 0.8262175  
## Age55+18 0.5512042  
## Experience15-20Y18 0.7749677  
## Experience20+11 0.7749677  
## Experience20+Y18 0.5512042

hist(all\_pvals$p\_val)



all\_pvals %>% filter(p\_val < .05)

## varname col coefest p\_val adjusted  
## 1 A0.57Yes X2.1 0.6811061 0.030605236 0.7749677  
## 2 (Intercept) X3.1 0.8825758 0.041709267 0.7964484  
## 3 Age44-54 X3.1 0.9053030 0.004290497 0.5512042  
## 4 Age55+ X3.1 0.8181818 0.011591706 0.5512042  
## 5 Experience15-20Y X3.1 -0.9318182 0.006519213 0.5512042  
## 6 Experience20+ X3.1 -0.8825758 0.011001949 0.5512042  
## 7 Experience20+Y X3.1 -0.9696970 0.002421040 0.5512042  
## 8 Experience5-10Y X3.1 -1.2500000 0.003974522 0.5512042  
## 9 A0.56Yes X3.6 -0.3051970 0.040277584 0.7964484  
## 10 A0.56Yes X4.5 -0.4677369 0.029526885 0.7749677  
## 11 A0.58Yes X4.5 -1.2566718 0.048757364 0.8262175  
## 12 Age44-54 X4.5 1.6126820 0.009357408 0.5512042  
## 13 Age55+ X4.5 1.0796286 0.035390824 0.7943551  
## 14 Experience15-20Y X4.5 -1.5908717 0.008122051 0.5512042  
## 15 Experience20+Y X4.5 -1.1206199 0.018161658 0.6620750  
## 16 A0.69Yes X4.8 -0.9572223 0.023024443 0.7694001  
## 17 A0.57Yes X6.2 -0.9031802 0.038793549 0.7964484  
## 18 A0.3Very involved X7.1 2.8854442 0.035656837 0.7943551  
## 19 A0.56Yes X7.1 0.4217391 0.049678794 0.8262175  
## 20 Age55+ X7.1 1.4075614 0.013745740 0.5512042  
## 21 Experience15-20Y X7.1 -1.0893195 0.029065456 0.7749677  
## 22 Experience20+ X7.1 -1.4919660 0.030921403 0.7749677  
## 23 Experience20+Y X7.1 -1.1052930 0.013113864 0.5512042