figure\_word

setwd('C:\\Users\\rober\\Documents\\GitHub\\arestynullsubjects') # run with Ctrl + Enter  
library(tidyverse) # ggplot2, dplyr, tidyr, readr, purr, tiblle, stringr, forcats

## -- Attaching packages -------------------------------- tidyverse 1.3.0 --

## v ggplot2 3.2.1 v purrr 0.3.3  
## v tibble 2.1.3 v dplyr 0.8.3  
## v tidyr 1.0.2 v stringr 1.4.0  
## v readr 1.3.1 v forcats 0.5.0

## -- Conflicts ----------------------------------- tidyverse\_conflicts() --  
## x dplyr::filter() masks stats::filter()  
## x dplyr::lag() masks stats::lag()

# L2 speaker data  
L2 = read\_delim('aresty\_L2\_dataframe.csv', delim = ',')

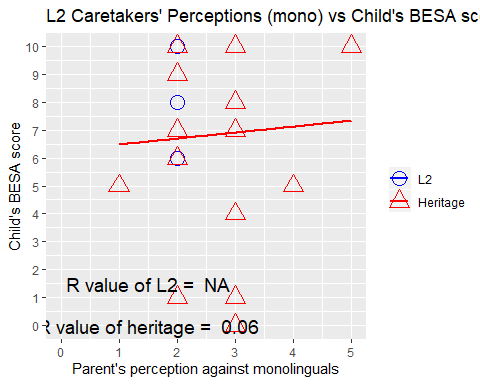
## Parsed with column specification:  
## cols(  
## participant = col\_character(),  
## item = col\_double(),  
## condition = col\_character(),  
## besasp = col\_double(),  
## mono = col\_double(),  
## bi = col\_double(),  
## besasp\_total = col\_double(),  
## heritage = col\_double(),  
## heritage\_ = col\_character()  
## )

View(L2)  
# heritage speaker data  
H = read\_delim('aresty\_heritage\_df.csv', delim = ',')

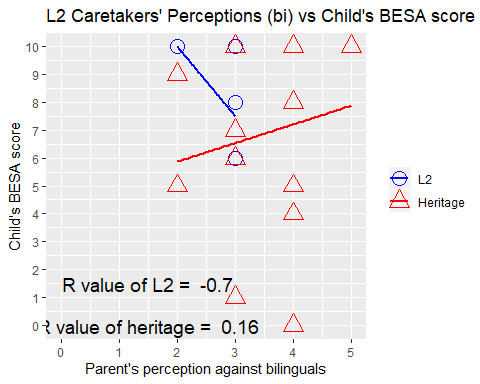
## Parsed with column specification:  
## cols(  
## participant = col\_character(),  
## item = col\_double(),  
## condition = col\_character(),  
## besasp = col\_double(),  
## mono = col\_double(),  
## bi = col\_double(),  
## heritage = col\_double(),  
## besasp\_total = col\_double(),  
## heritage\_ = col\_character()  
## )

View(H)  
# L2 + heritage  
L2H = rbind(L2, H)  
view(L2H)  
  
  
###  
  
library(ggplot2)  
library(grid)  
  
#monolingual data graphed for heritage & L2 speakers  
mono = ggplot(data=L2H, aes(x=mono, y=besasp\_total, color=heritage\_, shape=heritage\_)) +  
 geom\_smooth(method="lm", se=FALSE) +  
 geom\_point(size=5) +  
 labs(title="L2 Caretakers' Perceptions (mono) vs Child's BESA score", x="Parent's perception against monolinguals", y="Child's BESA score", shape="heritage?") +   
 scale\_y\_continuous(breaks = round(seq(min(0), max(10), by = 1),1)) +  
 xlim(0,5) +  
 scale\_color\_manual(name=NULL,  
 labels = c("L2", "Heritage"),  
 values = c("blue", "red")) +  
 scale\_shape\_manual(name=NULL,  
 labels = c("L2", "Heritage"),  
 values = c(1,2))  
  
mono + annotate(x=1.5, y=1.5,   
 label=paste("R value of L2 = ", round(cor(L2$mono, L2$besasp\_total),2)),   
 geom="text", size=5) +  
 annotate(x=1.5, y=0,   
 label=paste("R value of heritage = ", round(cor(H$mono, H$besasp\_total),2)),   
 geom="text", size=5)

## Warning in cor(L2$mono, L2$besasp\_total): the standard deviation is zero



#bilingual data graphed for heritage & L2 speakers  
bi = ggplot(data=L2H, aes(x=bi, y=besasp\_total, color=heritage\_, shape=heritage\_)) +  
 geom\_smooth(method="lm", se=FALSE) +  
 geom\_point(size=5) +  
 labs(title="L2 Caretakers' Perceptions (bi) vs Child's BESA score", x="Parent's perception against bilinguals", y="Child's BESA score", shape="heritage?") +   
 scale\_y\_continuous(breaks = round(seq(min(0), max(10), by = 1),1)) +  
 xlim(0,5) +  
 scale\_color\_manual(name=NULL,  
 labels = c("L2", "Heritage"),  
 values = c("blue", "red")) +  
 scale\_shape\_manual(name=NULL,  
 labels = c("L2", "Heritage"),  
 values = c(1,2))  
  
bi + annotate(x=1.5, y=1.5,   
 label=paste("R value of L2 = ", round(cor(L2$bi, L2$besasp\_total),2)),   
 geom="text", size=5) +  
 annotate(x=1.5, y=0,   
 label=paste("R value of heritage = ", round(cor(H$bi, H$besasp\_total),2)),   
 geom="text", size=5)



###  
  
#t tests comparing heritage&L2 caretaker ratings  
  
#L2 df without duplications  
L2\_undup = L2[ !duplicated(L2$participant),]  
view(L2\_undup)  
  
#heritage df without duplications  
H\_undup = H[ !duplicated(H$participant),]  
view(H\_undup)  
  
#do the heritage parents & L2 parents differ in how they rate their children compared to monolinguals?  
ttest = t.test(H\_undup$mono,L2\_undup$mono)  
ttest

##   
## Welch Two Sample t-test  
##   
## data: H\_undup$mono and L2\_undup$mono  
## t = 3.1168, df = 17, p-value = 0.006275  
## alternative hypothesis: true difference in means is not equal to 0  
## 95 percent confidence interval:  
## 0.2153849 1.1179484  
## sample estimates:  
## mean of x mean of y   
## 2.666667 2.000000

#do the heritage & L2 parents differ in how they rate their childrne compared to bilinguals?  
ttest2 = t.test(H\_undup$bi, L2\_undup$bi)  
ttest2

##   
## Welch Two Sample t-test  
##   
## data: H\_undup$bi and L2\_undup$bi  
## t = 3.0583, df = 17.708, p-value = 0.006864  
## alternative hypothesis: true difference in means is not equal to 0  
## 95 percent confidence interval:  
## 0.2725886 1.4734432  
## sample estimates:  
## mean of x mean of y   
## 3.444444 2.571429

###  
  
#unduplicated L2 + H dataframe  
  
L2H\_undup = rbind(L2\_undup, H\_undup)  
view(L2H\_undup)  
  
#histogram plot for heritage vs L2 parent scores monolingual  
  
histo\_mono = ggplot(L2H\_undup, aes(x=mono, fill=heritage\_)) +  
 geom\_histogram() +  
 labs(fill="heritage?", x="proficiency compared to monolingual", title="Heritage vs L2 Children's proficiency scores compared to monolinguals")  
  
#histogram plot for heritage vs L2 parent scores bilingual  
  
histo\_bi = ggplot(L2H\_undup, aes(x=bi, fill=heritage\_)) +  
 geom\_histogram() +  
 labs(fill="heritage?", x="proficiency compared to bilingual", title="Heritage vs L2 Children's proficiency scores compared to monolinguals")

mono bi

histo\_bi histo\_mono