Thesis analysis

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Contents

This document will have the demographic analysis part for the MS thesis.

1. Load libraries

```
library(haven)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

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

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

```
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v forcats   1.0.0     v readr     2.1.5
## v ggplot2   3.5.1     v stringr   1.5.1
## v lubridate 1.9.3     v tibble    3.2.1
## v purrr     1.0.2     v tidyr     1.3.1

## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(psych)
```

```
##
## Attaching package: 'psych'
##
## The following objects are masked from 'package:ggplot2':
##
##     %+%, alpha
```

```
library(gtsummary)
```

2. Load the cleaned and complied dataset

```
getwd()
```

```
## [1] "/Users/rheasarma/Desktop/Rhea MS thesis/MS_thesis/code"
```

```
thesis_data<- read.csv("~/Desktop/Rhea MS thesis/MS_thesis/data/data_compiled.csv")
```

3. Changing integer variables to numeric to maintain variable consistency

```
str(thesis_data)
```

```
## 'data.frame':    179 obs. of  113 variables:
##  $ study                                  : chr  "reach" "reach" "reach" "reach" ...
##  $ participant_id                         : chr  "sub-001" "sub-002" "sub-003" "sub-004" ...
##  $ sex                                    : chr  "Female" "Male" "Male" "Female" ...
##  $ age_yr                                 : num  8.3 9.6 9.8 7.3 8.5 8.8 8.1 8 7.6 9.4 ...
##  $ risk_status_maternal                   : chr  "high-risk" "low-risk" "low-risk" "high-risk"
##  $ child_bmi_z                            : num  0.05 0.24 -0.21 -0.87 0.33 0.43 -1.16 0.03 -0.
##  $ child_bmi                              : num  16 16.9 16.1 14.3 16.5 ...
##  $ child_bmi_p                            : num  51.9 59.4 41.9 19.1 63.1 ...
##  $ parent1_sex                            : chr  "Female" "Female" "Female" "Female" ...
##  $ income                                 : int  5 5 4 5 5 4 5 5 5 5 ...
##  $ ethnicity                              : chr  "NOT Hispanic or Latino" "NOT Hispanic or Lati
##  $ race                                   : chr  "White" "White" "White" "White" ...
##  $ cebq_sr                                : num  3.4 3.6 2.4 3.8 2.6 2.6 2.6 3 3 2.8 ...
##  $ cebq_fr                                : num  3.4 2.2 3.2 2.6 2 1.8 2.4 2.6 2.2 3 ...
##  $ cebq_ff                                : num  2.83 3.83 3.33 3.83 2.67 ...
##  $ cebq_avoid                             : num  3.47 3.26 2.9 3.68 2.84 ...
##  $ cebq_eue                               : num  4 2.75 3.25 3 3.5 2.75 3 2.5 3 3 ...
##  $ cebq_se                                : num  4 2.5 2.5 4 2.75 2.5 2.5 2.5 2.25 2.25 ...
##  $ bis                                    : num  3.86 2.29 3.29 3 2.57 ...
##  $ bas                                    : num  3.62 2.85 3.08 2.62 3 ...
##  $ bas_funseeking                         : num  3.25 2.5 2.75 2.25 3.25 3.5 2.5 3 2.5 2.5 ...
##  $ bas_drive                              : num  3.5 3 2.5 2 2.5 3.25 2.5 3 3 2.5 ...
##  $ bas_rewardresp                         : num  4 3 3.8 3.4 3.2 4 3.2 3.4 3.8 3.6 ...
##  $ pre_meal_fullness                      : int  44 43 21 81 54 16 32 46 11 43 ...
##  $ pre_eah_fullness                       : num  82 78 75 143 37 115 83 73 89 82 ...
##  $ meal_grams_consumed                    : num  214.3 222.4 223.7 32.9 361.8 ...
##  $ meal_grams_consumed_inc_water          : num  315 367 476 35 449 ...
##  $ meal_kcal_consumed                     : num  518 767 674 135 845 ...
##  $ eah_grams_consumed_foodonly            : num  62.1 118.6 24.8 53.7 98.6 ...
```

```
##  $ eah_grams_consumed_inc_water           : num  62.1 118.6 24.8 53.7 98.6 ...
##  $ eah_kcal_consumed                      : num  183.3 429.6 73.4 219.2 361.3 ...
##  $ total_grams_consumed                   : num  276.4 341.1 248.4 86.6 460.4 ...
##  $ total_grams_consumed_inc_water         : num  377.3 485.3 501.1 88.7 547.3 ...
##  $ total_kcal_consumed                    : num  701 1197 748 354 1206 ...
##  $ fb_meal_consumed_applesauce_g          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_applesauce_kcal       : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_carrot_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_carrot_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_cheese_sndwch_g       : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_cheese_sndwch_kcal    : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_cookies_g             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_cookies_kcal          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_ham_sndwch_g          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_ham_sndwch_kcal       : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_milk_g                : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_milk_kcal             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_pbj_sndwch_g          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_pbj_sndwch_kcal       : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_potatochip_g          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_potatochip_kcal       : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_turkey_sndwch_g       : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_turkey_sndwch_kcal    : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_ketchup_g             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_ketchup_kcal          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_mayo_g                : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_mayo_kcal             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_mustard_g             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_mustard_kcal          : int  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_brownies_g             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_brownies_kcal          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_cornchips_g            : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_cornchips_kcal         : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_hersheys_g             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_hersheys_kcal          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_icecream_g             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_icecream_kcal          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_oreos_g                : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_oreos_kcal             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_popcorn_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_popcorn_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_pretzels_g             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_pretzels_kcal          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_skittles_g             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_skittles_kcal          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_starbursts_g           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_starbursts_kcal        : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_water_g                : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ reach_meal_grilled_cheese_grams_consumed: num  45.6 172.3 108.5 20.9 116.9 ...
##  $ reach_meal_grilled_cheese_kcal_consumed : num  153.1 583.8 366.1 72.6 392.9 ...
##  $ reach_meal_tender_grams_consumed       : num  114.58 1.54 52.9 1.22 91.97 ...
##  $ reach_meal_tender_kcal_consumed        : num  271.67 3.65 125.43 2.89 218.06 ...
##  $ reach_meal_carrot_grams_consumed       : num  0 0 31.8 0 24.3 ...
##  $ reach_meal_carrot_kcal_consumed        : num  0 0 11.23 0 8.58 ...
```

```
##  $ reach_meal_chips_grams_consumed         : num  8.58 30.03 30.01 10.35 28.11 ...
##  $ reach_meal_chips_kcal_consumed          : num  49 171.6 171.5 59.1 160.6 ...
##  $ reach_meal_fruit_grams_consumed         : num  12.56 18.53 0.43 0.5 71.32 ...
##  $ reach_meal_fruit_kcal_consumed          : num  5.363 7.912 0.184 0.213 30.454 ...
##  $ reach_meal_water_grams_consumed         : num  100.86 144.26 252.63 2.05 86.84 ...
##  $ reach_meal_water_kcal_consumed          : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ reach_meal_ranch_grams_consumed         : num  0 0 0 0 0 ...
##  $ reach_meal_ranch_kcal_consumed          : num  0 0 0 0 0 ...
##  $ reach_meal_ketchup_grams_consumed       : num  33 0 0 0 29.2 ...
##  $ reach_meal_ketchup_kcal_consumed        : num  38.8 0 0 0 34.3 ...
##  $ reach_eah_brownie_grams_consumed        : num  0 13.58 0.09 28.32 40.64 ...
##  $ reach_eah_brownie_kcal_consumed         : num  0 59.25 0.393 123.56 177.312 ...
##  $ reach_eah_corn_chip_grams_consumed      : num  0.13 0 0 0 0 ...
##  $ reach_eah_corn_chip_kcal_consumed       : num  0.743 0 0 0 0 ...
##  $ reach_eah_kiss_grams_consumed           : num  4.56 9.29 0 4.61 0 ...
##  $ reach_eah_kiss_kcal_consumed            : num  22.8 46.5 0 23 0 ...
##   [list output truncated]
```

```
thesis_data$income<-as.numeric(thesis_data$income)
thesis_data$pre_meal_fullness<-as.numeric(thesis_data$pre_meal_fullness)
thesis_data$fb_meal_consumed_mustard_kcal<-as.numeric(thesis_data$fb_meal_consumed_mustard_kcal)
thesis_data$reach_meal_water_kcal_consumed<-as.numeric(thesis_data$reach_meal_water_kcal_consumed)
str(thesis_data)
```

```
## 'data.frame':    179 obs. of  113 variables:
##  $ study                                   : chr  "reach" "reach" "reach" "reach" ...
##  $ participant_id                          : chr  "sub-001" "sub-002" "sub-003" "sub-004" ...
##  $ sex                                     : chr  "Female" "Male" "Male" "Female" ...
##  $ age_yr                                  : num  8.3 9.6 9.8 7.3 8.5 8.8 8.1 8 7.6 9.4 ...
##  $ risk_status_maternal                    : chr  "high-risk" "low-risk" "low-risk" "high-risk"
##  $ child_bmi_z                             : num  0.05 0.24 -0.21 -0.87 0.33 0.43 -1.16 0.03 -0.
##  $ child_bmi                               : num  16 16.9 16.1 14.3 16.5 ...
##  $ child_bmi_p                             : num  51.9 59.4 41.9 19.1 63.1 ...
##  $ parent1_sex                             : chr  "Female" "Female" "Female" "Female" ...
##  $ income                                  : num  5 5 4 5 5 4 5 5 5 5 ...
##  $ ethnicity                               : chr  "NOT Hispanic or Latino" "NOT Hispanic or Lati
##  $ race                                    : chr  "White" "White" "White" "White" ...
##  $ cebq_sr                                 : num  3.4 3.6 2.4 3.8 2.6 2.6 2.6 3 3 2.8 ...
##  $ cebq_fr                                 : num  3.4 2.2 3.2 2.6 2 1.8 2.4 2.6 2.2 3 ...
##  $ cebq_ff                                 : num  2.83 3.83 3.33 3.83 2.67 ...
##  $ cebq_avoid                              : num  3.47 3.26 2.9 3.68 2.84 ...
##  $ cebq_eue                                : num  4 2.75 3.25 3 3.5 2.75 3 2.5 3 3 ...
##  $ cebq_se                                 : num  4 2.5 2.5 4 2.75 2.5 2.5 2.5 2.25 2.25 ...
##  $ bis                                     : num  3.86 2.29 3.29 3 2.57 ...
##  $ bas                                     : num  3.62 2.85 3.08 2.62 3 ...
##  $ bas_funseeking                          : num  3.25 2.5 2.75 2.25 3.25 3.5 2.5 3 2.5 2.5 ...
##  $ bas_drive                               : num  3.5 3 2.5 2 2.5 3.25 2.5 3 3 2.5 ...
##  $ bas_rewardresp                          : num  4 3 3.8 3.4 3.2 4 3.2 3.4 3.8 3.6 ...
##  $ pre_meal_fullness                       : num  44 43 21 81 54 16 32 46 11 43 ...
##  $ pre_eah_fullness                        : num  82 78 75 143 37 115 83 73 89 82 ...
##  $ meal_grams_consumed                     : num  214.3 222.4 223.7 32.9 361.8 ...
##  $ meal_grams_consumed_inc_water           : num  315 367 476 35 449 ...
##  $ meal_kcal_consumed                      : num  518 767 674 135 845 ...
##  $ eah_grams_consumed_foodonly             : num  62.1 118.6 24.8 53.7 98.6 ...
```

```
##  $ eah_grams_consumed_inc_water            : num  62.1 118.6 24.8 53.7 98.6 ...
##  $ eah_kcal_consumed                       : num  183.3 429.6 73.4 219.2 361.3 ...
##  $ total_grams_consumed                    : num  276.4 341.1 248.4 86.6 460.4 ...
##  $ total_grams_consumed_inc_water          : num  377.3 485.3 501.1 88.7 547.3 ...
##  $ total_kcal_consumed                     : num  701 1197 748 354 1206 ...
##  $ fb_meal_consumed_applesauce_g           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_applesauce_kcal        : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_carrot_g               : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_carrot_kcal            : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_cheese_sndwch_g        : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_cheese_sndwch_kcal     : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_cookies_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_cookies_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_ham_sndwch_g           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_ham_sndwch_kcal        : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_milk_g                 : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_milk_kcal              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_pbj_sndwch_g           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_pbj_sndwch_kcal        : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_potatochip_g           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_potatochip_kcal        : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_turkey_sndwch_g        : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_turkey_sndwch_kcal     : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_ketchup_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_ketchup_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_mayo_g                 : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_mayo_kcal              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_mustard_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_meal_consumed_mustard_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_brownies_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_brownies_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_cornchips_g             : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_cornchips_kcal          : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_hersheys_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_hersheys_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_icecream_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_icecream_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_oreos_g                 : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_oreos_kcal              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_popcorn_g               : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_popcorn_kcal            : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_pretzels_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_pretzels_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_skittles_g              : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_skittles_kcal           : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_starbursts_g            : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_starbursts_kcal         : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ fb_eah_consumed_water_g                 : num  NA NA NA NA NA NA NA NA NA NA ...
##  $ reach_meal_grilled_cheese_grams_consumed: num  45.6 172.3 108.5 20.9 116.9 ...
##  $ reach_meal_grilled_cheese_kcal_consumed : num  153.1 583.8 366.1 72.6 392.9 ...
##  $ reach_meal_tender_grams_consumed        : num  114.58 1.54 52.9 1.22 91.97 ...
##  $ reach_meal_tender_kcal_consumed         : num  271.67 3.65 125.43 2.89 218.06 ...
##  $ reach_meal_carrot_grams_consumed        : num  0 0 31.8 0 24.3 ...
##  $ reach_meal_carrot_kcal_consumed         : num  0 0 11.23 0 8.58 ...
```

```
##  $ reach_meal_chips_grams_consumed         : num  8.58 30.03 30.01 10.35 28.11 ...
##  $ reach_meal_chips_kcal_consumed          : num  49 171.6 171.5 59.1 160.6 ...
##  $ reach_meal_fruit_grams_consumed         : num  12.56 18.53 0.43 0.5 71.32 ...
##  $ reach_meal_fruit_kcal_consumed          : num  5.363 7.912 0.184 0.213 30.454 ...
##  $ reach_meal_water_grams_consumed         : num  100.86 144.26 252.63 2.05 86.84 ...
##  $ reach_meal_water_kcal_consumed          : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ reach_meal_ranch_grams_consumed         : num  0 0 0 0 0 ...
##  $ reach_meal_ranch_kcal_consumed          : num  0 0 0 0 0 ...
##  $ reach_meal_ketchup_grams_consumed       : num  33 0 0 0 29.2 ...
##  $ reach_meal_ketchup_kcal_consumed        : num  38.8 0 0 0 34.3 ...
##  $ reach_eah_brownie_grams_consumed        : num  0 13.58 0.09 28.32 40.64 ...
##  $ reach_eah_brownie_kcal_consumed         : num  0 59.25 0.393 123.56 177.312 ...
##  $ reach_eah_corn_chip_grams_consumed      : num  0.13 0 0 0 0 ...
##  $ reach_eah_corn_chip_kcal_consumed       : num  0.743 0 0 0 0 ...
##  $ reach_eah_kiss_grams_consumed           : num  4.56 9.29 0 4.61 0 ...
##  $ reach_eah_kiss_kcal_consumed            : num  22.8 46.5 0 23 0 ...
##   [list output truncated]
```

```
# Making the dataset presentable
colnames(thesis_data)[colnames(thesis_data) == "parent1_sex"] <- "Measured Parent"
colnames(thesis_data)[colnames(thesis_data) == "study"] <- "Study"
thesis_data$Study<-toupper(thesis_data$Study)
colnames(thesis_data)[colnames(thesis_data) == "age_yr"] <- "Age in years"
colnames(thesis_data)[colnames(thesis_data) == "risk_status_maternal"] <- "Maternal risk status"
colnames(thesis_data)[colnames(thesis_data) == "sex"] <- "Sex"
colnames(thesis_data)[colnames(thesis_data) == "child_bmi"] <- "Child BMI"
colnames(thesis_data)[colnames(thesis_data) == "child_bmi_z"] <- "Child BMI z-score"
colnames(thesis_data)[colnames(thesis_data) == "child_bmi_p"] <- "Child BMI percentile"
colnames(thesis_data)[colnames(thesis_data) == "ethnicity"] <- "Ethinicity"
colnames(thesis_data)[colnames(thesis_data) == "race"] <- "Race"
colnames(thesis_data)[colnames(thesis_data) == "income"] <- "Income"

# replace factor values with labels that match food and brain
thesis_data$Income<-factor(thesis_data$Income,levels=0:5,labels = c("<$20,000","$20,000-$35,000","$

#### Export data. This is the dataset we will be using for all the analysis ####
write.csv(thesis_data,"~/Desktop/Rhea MS thesis/MS_thesis/data/thesis_data.csv", row.names = FALSE)
```

4. Inspecting dataset

```
head(thesis_data)
```

```
##   Study participant_id    Sex Age in years Maternal risk status
## 1 REACH        sub-001 Female          8.3            high-risk
## 2 REACH        sub-002   Male          9.6             low-risk
## 3 REACH        sub-003   Male          9.8             low-risk
## 4 REACH        sub-004 Female          7.3            high-risk
## 5 REACH        sub-005   Male          8.5             low-risk
## 6 REACH        sub-006   Male          8.8             low-risk
##   Child BMI z-score Child BMI Child BMI percentile Measured Parent
## 1              0.05     16.03                51.85          Female
## 2              0.24     16.85                59.43          Female
## 3             -0.21     16.09                41.85          Female
```

```
## 4             -0.87     14.27               19.12          Female
## 5              0.33     16.51               63.08          Female
## 6              0.43     16.90               66.70            Male
##              Income             Ethinicity  Race cebq_sr cebq_fr cebq_ff
## 1        >$100,000 NOT Hispanic or Latino White     3.4     3.4   2.833
## 2        >$100,000 NOT Hispanic or Latino White     3.6     2.2   3.833
## 3 $76,000-$100,000 NOT Hispanic or Latino White     2.4     3.2   3.333
## 4        >$100,000 NOT Hispanic or Latino White     3.8     2.6   3.833
## 5        >$100,000 NOT Hispanic or Latino White     2.6     2.0   2.667
## 6 $76,000-$100,000 NOT Hispanic or Latino Asian     2.6     1.8   3.000
##   cebq_avoid cebq_eue cebq_se   bis   bas bas_funseeking bas_drive
## 1      3.474     4.00    4.00 3.857 3.615           3.25      3.50
## 2      3.263     2.75    2.50 2.286 2.846           2.50      3.00
## 3      2.895     3.25    2.50 3.286 3.077           2.75      2.50
## 4      3.684     3.00    4.00 3.000 2.615           2.25      2.00
## 5      2.842     3.50    2.75 2.571 3.000           3.25      2.50
## 6      2.737     2.75    2.50 2.714 3.615           3.50      3.25
##   bas_rewardresp pre_meal_fullness pre_eah_fullness meal_grams_consumed
## 1            4.0                44               82              214.31
## 2            3.0                43               78              222.42
## 3            3.8                21               75              223.65
## 4            3.4                81              143               32.94
## 5            3.2                54               37              361.84
## 6            4.0                16              115              523.76
##   meal_grams_consumed_inc_water meal_kcal_consumed eah_grams_consumed_foodonly
## 1                        315.17           517.9896                       62.10
## 2                        366.68           767.0027                      118.63
## 3                        476.28           674.4526                       24.77
## 4                         34.99           134.8385                       53.70
## 5                        448.68           844.9049                       98.60
## 6                        763.92          1044.0396                       18.92
##   eah_grams_consumed_inc_water eah_kcal_consumed total_grams_consumed
## 1                        62.10         183.28277               276.41
## 2                       118.63         429.64616               341.05
## 3                        24.77          73.40790               248.42
## 4                        53.70         219.15900                86.64
## 5                        98.60         361.29768               460.44
## 6                        18.92          85.36805               542.68
##   total_grams_consumed_inc_water total_kcal_consumed
## 1                         377.27            701.2724
## 2                         485.31           1196.6489
## 3                         501.05            747.8605
## 4                          88.69            353.9975
## 5                         547.28           1206.2026
## 6                         782.84           1129.4077
##   fb_meal_consumed_applesauce_g fb_meal_consumed_applesauce_kcal
## 1                            NA                               NA
## 2                            NA                               NA
## 3                            NA                               NA
## 4                            NA                               NA
## 5                            NA                               NA
## 6                            NA                               NA
##   fb_meal_consumed_carrot_g fb_meal_consumed_carrot_kcal
## 1                        NA                          NA
```

```
## 2                        NA                           NA
## 3                        NA                           NA
## 4                        NA                           NA
## 5                        NA                           NA
## 6                        NA                           NA
##   fb_meal_consumed_cheese_sndwch_g fb_meal_consumed_cheese_sndwch_kcal
## 1                               NA                                   NA
## 2                               NA                                   NA
## 3                               NA                                   NA
## 4                               NA                                   NA
## 5                               NA                                   NA
## 6                               NA                                   NA
##   fb_meal_consumed_cookies_g fb_meal_consumed_cookies_kcal
## 1                         NA                           NA
## 2                         NA                           NA
## 3                         NA                           NA
## 4                         NA                           NA
## 5                         NA                           NA
## 6                         NA                           NA
##   fb_meal_consumed_ham_sndwch_g fb_meal_consumed_ham_sndwch_kcal
## 1                            NA                                NA
## 2                            NA                                NA
## 3                            NA                                NA
## 4                            NA                                NA
## 5                            NA                                NA
## 6                            NA                                NA
##   fb_meal_consumed_milk_g fb_meal_consumed_milk_kcal
## 1                      NA                        NA
## 2                      NA                        NA
## 3                      NA                        NA
## 4                      NA                        NA
## 5                      NA                        NA
## 6                      NA                        NA
##   fb_meal_consumed_pbj_sndwch_g fb_meal_consumed_pbj_sndwch_kcal
## 1                            NA                                NA
## 2                            NA                                NA
## 3                            NA                                NA
## 4                            NA                                NA
## 5                            NA                                NA
## 6                            NA                                NA
##   fb_meal_consumed_potatochip_g fb_meal_consumed_potatochip_kcal
## 1                            NA                                NA
## 2                            NA                                NA
## 3                            NA                                NA
## 4                            NA                                NA
## 5                            NA                                NA
## 6                            NA                                NA
##   fb_meal_consumed_turkey_sndwch_g fb_meal_consumed_turkey_sndwch_kcal
## 1                               NA                                   NA
## 2                               NA                                   NA
## 3                               NA                                   NA
## 4                               NA                                   NA
## 5                               NA                                   NA
## 6                               NA                                   NA
```

```
##   fb_meal_consumed_ketchup_g fb_meal_consumed_ketchup_kcal
## 1                         NA                           NA
## 2                         NA                           NA
## 3                         NA                           NA
## 4                         NA                           NA
## 5                         NA                           NA
## 6                         NA                           NA
##   fb_meal_consumed_mayo_g fb_meal_consumed_mayo_kcal fb_meal_consumed_mustard_g
## 1                      NA                         NA                          NA
## 2                      NA                         NA                          NA
## 3                      NA                         NA                          NA
## 4                      NA                         NA                          NA
## 5                      NA                         NA                          NA
## 6                      NA                         NA                          NA
##   fb_meal_consumed_mustard_kcal fb_eah_consumed_brownies_g
## 1                            NA                         NA
## 2                            NA                         NA
## 3                            NA                         NA
## 4                            NA                         NA
## 5                            NA                         NA
## 6                            NA                         NA
##   fb_eah_consumed_brownies_kcal fb_eah_consumed_cornchips_g
## 1                            NA                          NA
## 2                            NA                          NA
## 3                            NA                          NA
## 4                            NA                          NA
## 5                            NA                          NA
## 6                            NA                          NA
##   fb_eah_consumed_cornchips_kcal fb_eah_consumed_hersheys_g
## 1                             NA                         NA
## 2                             NA                         NA
## 3                             NA                         NA
## 4                             NA                         NA
## 5                             NA                         NA
## 6                             NA                         NA
##   fb_eah_consumed_hersheys_kcal fb_eah_consumed_icecream_g
## 1                            NA                         NA
## 2                            NA                         NA
## 3                            NA                         NA
## 4                            NA                         NA
## 5                            NA                         NA
## 6                            NA                         NA
##   fb_eah_consumed_icecream_kcal fb_eah_consumed_oreos_g
## 1                            NA                      NA
## 2                            NA                      NA
## 3                            NA                      NA
## 4                            NA                      NA
## 5                            NA                      NA
## 6                            NA                      NA
##   fb_eah_consumed_oreos_kcal fb_eah_consumed_popcorn_g
## 1                         NA                       NA
## 2                         NA                       NA
## 3                         NA                       NA
## 4                         NA                       NA
```

```
## 5                          NA                          NA
## 6                          NA                          NA
##   fb_eah_consumed_popcorn_kcal fb_eah_consumed_pretzels_g
## 1                           NA                         NA
## 2                           NA                         NA
## 3                           NA                         NA
## 4                           NA                         NA
## 5                           NA                         NA
## 6                           NA                         NA
##   fb_eah_consumed_pretzels_kcal fb_eah_consumed_skittles_g
## 1                            NA                          NA
## 2                            NA                          NA
## 3                            NA                          NA
## 4                            NA                          NA
## 5                            NA                          NA
## 6                            NA                          NA
##   fb_eah_consumed_skittles_kcal fb_eah_consumed_starbursts_g
## 1                            NA                           NA
## 2                            NA                           NA
## 3                            NA                           NA
## 4                            NA                           NA
## 5                            NA                           NA
## 6                            NA                           NA
##   fb_eah_consumed_starbursts_kcal fb_eah_consumed_water_g
## 1                              NA                     NA
## 2                              NA                     NA
## 3                              NA                     NA
## 4                              NA                     NA
## 5                              NA                     NA
## 6                              NA                     NA
##   reach_meal_grilled_cheese_grams_consumed
## 1                                    45.56
## 2                                   172.32
## 3                                   108.50
## 4                                    20.87
## 5                                   116.93
## 6                                   106.16
##   reach_meal_grilled_cheese_kcal_consumed reach_meal_tender_grams_consumed
## 1                               153.08795                            114.58
## 2                               583.84768                              1.54
## 3                               366.13702                             52.90
## 4                                72.59245                              1.22
## 5                               392.85748                             91.97
## 6                               361.71109                            103.12
##   reach_meal_tender_kcal_consumed reach_meal_carrot_grams_consumed
## 1                       271.66918                             0.00
## 2                         3.65134                             0.00
## 3                       125.42590                            31.81
## 4                         2.89262                             0.00
## 5                       218.06087                            24.32
## 6                       244.49752                           101.14
##   reach_meal_carrot_kcal_consumed reach_meal_chips_grams_consumed
## 1                         0.00000                            8.58
## 2                         0.00000                           30.03
```

```
## 3                       11.22893                           30.01
## 4                        0.00000                           10.35
## 5                        8.58496                           28.11
## 6                       35.70242                           30.23
##   reach_meal_chips_kcal_consumed reach_meal_fruit_grams_consumed
## 1                       49.02612                           12.56
## 2                      171.59142                           18.53
## 3                      171.47714                            0.43
## 4                       59.13990                            0.50
## 5                      160.62054                           71.32
## 6                      172.73422                          134.30
##   reach_meal_fruit_kcal_consumed reach_meal_water_grams_consumed
## 1                        5.36312                          100.86
## 2                        7.91231                          144.26
## 3                        0.18361                          252.63
## 4                        0.21350                            2.05
## 5                       30.45364                           86.84
## 6                       57.34610                          240.16
##   reach_meal_water_kcal_consumed reach_meal_ranch_grams_consumed
## 1                              0                            0.00
## 2                              0                            0.00
## 3                              0                            0.00
## 4                              0                            0.00
## 5                              0                            0.00
## 6                              0                           33.71
##   reach_meal_ranch_kcal_consumed reach_meal_ketchup_grams_consumed
## 1                         0.0000                            33.03
## 2                         0.0000                             0.00
## 3                         0.0000                             0.00
## 4                         0.0000                             0.00
## 5                         0.0000                            29.19
## 6                       154.2907                            15.10
##   reach_meal_ketchup_kcal_consumed reach_eah_brownie_grams_consumed
## 1                         38.84328                             0.00
## 2                          0.00000                            13.58
## 3                          0.00000                             0.09
## 4                          0.00000                            28.32
## 5                         34.32744                            40.64
## 6                         17.75760                            13.93
##   reach_eah_brownie_kcal_consumed reach_eah_corn_chip_grams_consumed
## 1                         0.00000                              0.13
## 2                        59.24954                              0.00
## 3                         0.39267                              0.00
## 4                       123.56016                              0.00
## 5                       177.31232                              0.00
## 6                        60.77659                              0.05
##   reach_eah_corn_chip_kcal_consumed reach_eah_kiss_grams_consumed
## 1                           0.74282                           4.56
## 2                           0.00000                           9.29
## 3                           0.00000                           0.00
## 4                           0.00000                           4.61
## 5                           0.00000                           0.00
## 6                           0.28570                           4.62
##   reach_eah_kiss_kcal_consumed reach_eah_ice_cream_grams_consumed
```

```
## 1                       22.80                             38.90
## 2                       46.45                             40.29
## 3                        0.00                             14.33
## 4                       23.05                              9.99
## 5                        0.00                             35.20
## 6                       23.10                              0.14
##   reach_eah_ice_cream_kcal_consumed reach_eah_oreo_grams_consumed
## 1                          84.95760                           0.00
## 2                          87.99336                          11.30
## 3                          31.29672                           0.00
## 4                          21.81816                          10.78
## 5                          76.87680                          22.76
## 6                           0.30576                           0.00
##   reach_eah_oreo_kcal_consumed reach_eah_popcorn_grams_consumed
## 1                      0.00000                              0.00
## 2                     53.17780                              0.00
## 3                      0.00000                              0.00
## 4                     50.73068                              0.00
## 5                    107.10856                              0.00
## 6                      0.00000                              0.18
##   reach_eah_popcorn_kcal_consumed reach_eah_pretzel_grams_consumed
## 1                             0.0                                 0
## 2                             0.0                                 0
## 3                             0.0                                 0
## 4                             0.0                                 0
## 5                             0.0                                 0
## 6                             0.9                                 0
##   reach_eah_pretzel_kcal_consumed reach_eah_skittle_grams_consumed
## 1                               0                              8.67
## 2                               0                              0.00
## 3                               0                              5.31
## 4                               0                              0.00
## 5                               0                              0.00
## 6                               0                              0.00
##   reach_eah_skittle_kcal_consumed reach_eah_starburst_grams_consumed
## 1                        34.06443                               9.84
## 2                         0.00000                              44.17
## 3                        20.86299                               5.04
## 4                         0.00000                               0.00
## 5                         0.00000                               0.00
## 6                         0.00000                               0.00
##   reach_eah_starburst_kcal_consumed reach_eah_water_eah_grams_consumed
## 1                          40.71792                                   0
## 2                         182.77546                                   0
## 3                          20.85552                                   0
## 4                           0.00000                                   0
## 5                           0.00000                                   0
## 6                           0.00000                                   0
##   reach_eah_water_eah_kcal_consumed
## 1                                 0
## 2                                 0
## 3                                 0
## 4                                 0
## 5                                 0
```

```
## 6                                0
```

```
table(thesis_data$study)
```

```
## < table of extent 0 >
```

5. Generating demographics table. `Unknown` indicates missing data

```
thesis_data %>% select (!c(participant_id,pre_meal_fullness,pre_eah_fullness, meal_grams_consumed, meal
```

6. Generating demographics table by `study` with medians. `Unknown` indicates missing data

```
thesis_data %>% select (!c(participant_id,pre_meal_fullness,pre_eah_fullness, meal_grams_consumed, meal
```

7. Generating demographics table by `study` with means and SD. `Unknown` indicates missing data

```
thesis_data %>%
  select(!c(participant_id, pre_meal_fullness, pre_eah_fullness, meal_grams_consumed,
            meal_kcal_consumed, eah_grams_consumed_foodonly, bis, bas, bas_funseeking,
            bas_drive, bas_rewardresp, eah_kcal_consumed, fb_meal_consumed_applesauce_kcal,
            fb_meal_consumed_applesauce_g, fb_meal_consumed_carrot_g,
            fb_meal_consumed_carrot_kcal, fb_meal_consumed_cheese_sndwch_g,
            fb_meal_consumed_cheese_sndwch_kcal, fb_meal_consumed_cookies_g,
            fb_meal_consumed_cookies_kcal, fb_meal_consumed_ham_sndwch_g,
            fb_meal_consumed_ham_sndwch_kcal, fb_meal_consumed_milk_g,
            fb_meal_consumed_milk_kcal, fb_meal_consumed_pbj_sndwch_g,
            fb_meal_consumed_pbj_sndwch_kcal, fb_meal_consumed_potatochip_g,
            fb_meal_consumed_potatochip_kcal, fb_meal_consumed_turkey_sndwch_g,
            fb_meal_consumed_turkey_sndwch_kcal, fb_meal_consumed_ketchup_g,
            fb_meal_consumed_ketchup_kcal, fb_meal_consumed_mayo_g, fb_meal_consumed_mayo_kcal,
            fb_meal_consumed_mustard_g, fb_meal_consumed_mustard_kcal,
            fb_eah_consumed_brownies_g, fb_eah_consumed_brownies_kcal,
            fb_eah_consumed_cornchips_g, fb_eah_consumed_cornchips_kcal,
            fb_eah_consumed_hersheys_g, fb_eah_consumed_hersheys_kcal,
            fb_eah_consumed_icecream_g, fb_eah_consumed_icecream_kcal,
            fb_eah_consumed_oreos_g, fb_eah_consumed_oreos_kcal, fb_eah_consumed_popcorn_g,
            fb_eah_consumed_popcorn_kcal, fb_eah_consumed_pretzels_g,
            fb_eah_consumed_pretzels_kcal, fb_eah_consumed_skittles_g,
            fb_eah_consumed_skittles_kcal, fb_eah_consumed_starbursts_g,
            fb_eah_consumed_starbursts_kcal, fb_eah_consumed_water_g,
            reach_eah_brownie_grams_consumed, reach_eah_brownie_kcal_consumed,
            reach_eah_corn_chip_grams_consumed, reach_eah_corn_chip_kcal_consumed,
            reach_eah_ice_cream_grams_consumed, reach_eah_ice_cream_kcal_consumed,
            reach_eah_kiss_grams_consumed, reach_eah_kiss_kcal_consumed,
            reach_eah_oreo_grams_consumed, reach_eah_oreo_kcal_consumed,
            reach_eah_popcorn_grams_consumed, reach_eah_popcorn_kcal_consumed,
            reach_eah_pretzel_grams_consumed, reach_eah_pretzel_kcal_consumed,
            reach_eah_skittle_grams_consumed, reach_eah_skittle_kcal_consumed,
            reach_eah_starburst_grams_consumed, reach_eah_starburst_kcal_consumed,
            reach_eah_water_eah_grams_consumed, reach_eah_water_eah_kcal_consumed,
```

Characteristic	**N = 179**[1]
Study	
FOOD_BRAIN	95 (53%)
REACH	84 (47%)
Sex	
Female	87 (49%)
Male	92 (51%)
Age in years	8.00 (7.40, 8.60)
Unknown	1
Maternal risk status	
high-risk	83 (47%)
low-risk	95 (53%)
Unknown	1
Child BMI z-score	0.01 (-0.57, 0.53)
Child BMI	15.77 (14.73, 17.00)
Child BMI percentile	50 (28, 70)
Measured Parent	
Female	160 (89%)
Male	19 (11%)
Income	
<$20,000	2 (1.1%)
$20,000-$35,000	7 (4.0%)
$36,000-$50,000	12 (6.8%)
$51,000-$75,000	29 (16%)
$76,000-$100,000	49 (28%)
>$100,000	77 (44%)
Unknown	3
Ethinicity	
Hispanic or Latino	4 (2.2%)
NOT Hispanic or Latino	174 (98%)
Unknown	1
Race	
Asian	10 (5.6%)
Black or African American	2 (1.1%)
Other	1 (0.6%)
White	165 (93%)
Unknown	1

[1] n (%); Median (Q1, Q3)

```
            reach_meal_grilled_cheese_grams_consumed, reach_meal_grilled_cheese_kcal_consumed,
            reach_meal_carrot_grams_consumed, reach_meal_carrot_kcal_consumed,
            reach_meal_chips_grams_consumed, reach_meal_chips_kcal_consumed,
            reach_meal_fruit_grams_consumed, reach_meal_fruit_kcal_consumed,
```

Characteristic	**FOOD_BRAIN** N = 95[1]	**REACH** N = 84[1]
Sex		
Female	45 (47%)	42 (50%)
Male	50 (53%)	42 (50%)
Age in years	7.79 (7.33, 8.41)	8.30 (7.70, 8.90)
Unknown	0	1
Maternal risk status		
high-risk	42 (44%)	41 (49%)
low-risk	53 (56%)	42 (51%)
Unknown	0	1
Child BMI z-score	0.00 (-0.57, 0.53)	0.03 (-0.64, 0.55)
Child BMI	15.71 (14.73, 16.65)	15.93 (14.72, 17.23)
Child BMI percentile	50 (28, 70)	51 (26, 71)
Measured Parent		
Female	83 (87%)	77 (92%)
Male	12 (13%)	7 (8.3%)
Income		
<$20,000	1 (1.1%)	1 (1.2%)
$20,000-$35,000	4 (4.3%)	3 (3.6%)
$36,000-$50,000	7 (7.6%)	5 (6.0%)
$51,000-$75,000	22 (24%)	7 (8.3%)
$76,000-$100,000	23 (25%)	26 (31%)
>$100,000	35 (38%)	42 (50%)
Unknown	3	0
Ethinicity		
Hispanic or Latino	0 (0%)	4 (4.8%)
NOT Hispanic or Latino	95 (100%)	79 (95%)
Unknown	0	1
Race		
Asian	3 (3.2%)	7 (8.4%)
Black or African American	0 (0%)	2 (2.4%)
Other	0 (0%)	1 (1.2%)
White	92 (97%)	73 (88%)
Unknown	0	1

[1] n (%); Median (Q1, Q3)

```
            reach_meal_ketchup_grams_consumed, reach_meal_ketchup_kcal_consumed,
            reach_meal_ranch_grams_consumed, reach_meal_ranch_kcal_consumed,
            reach_meal_water_grams_consumed, reach_meal_water_kcal_consumed,
            cebq_sr, cebq_avoid, cebq_eue, cebq_ff, cebq_fr, cebq_se,
            meal_grams_consumed_inc_water, eah_grams_consumed_inc_water,
            total_grams_consumed_inc_water, total_kcal_consumed, reach_meal_tender_grams_consumed,
            reach_meal_tender_kcal_consumed, total_grams_consumed)) %>%
  tbl_summary(by = Study,
```

Characteristic	Overall N = 179[1]	Participant's demographics by study	
		FOOD_BRAIN N = 95[1]	REACH N = 84[1]
Sex			
Female	87 / 179 (49%)	45 / 95 (47%)	42 / 84 (50%)
Male	92 / 179 (51%)	50 / 95 (53%)	42 / 84 (50%)
Age in years	8.08 (0.75)	7.85 (0.60)	8.34 (0.81)
Unknown	1	0	1
Maternal risk status			
high-risk	83 / 178 (47%)	42 / 95 (44%)	41 / 83 (49%)
low-risk	95 / 178 (53%)	53 / 95 (56%)	42 / 83 (51%)
Unknown	1	0	1
Child BMI z-score	-0.06 (0.77)	-0.07 (0.74)	-0.04 (0.82)
Child BMI	15.97 (1.51)	15.81 (1.28)	16.15 (1.72)
Child BMI percentile	48.44 (25.57)	48.01 (24.64)	48.93 (26.71)
Measured Parent			
Female	160 / 179 (89%)	83 / 95 (87%)	77 / 84 (92%)
Male	19 / 179 (11%)	12 / 95 (13%)	7 / 84 (8.3%)
Income			
<$20,000	2 / 176 (1.1%)	1 / 92 (1.1%)	1 / 84 (1.2%)
$20,000-$35,000	7 / 176 (4.0%)	4 / 92 (4.3%)	3 / 84 (3.6%)
$36,000-$50,000	12 / 176 (6.8%)	7 / 92 (7.6%)	5 / 84 (6.0%)
$51,000-$75,000	29 / 176 (16%)	22 / 92 (24%)	7 / 84 (8.3%)
$76,000-$100,000	49 / 176 (28%)	23 / 92 (25%)	26 / 84 (31%)
>$100,000	77 / 176 (44%)	35 / 92 (38%)	42 / 84 (50%)
Unknown	3	3	0
Ethinicity			
Hispanic or Latino	4 / 178 (2.2%)	0 / 95 (0%)	4 / 83 (4.8%)
NOT Hispanic or Latino	174 / 178 (98%)	95 / 95 (100%)	79 / 83 (95%)
Unknown	1	0	1
Race			
Asian	10 / 178 (5.6%)	3 / 95 (3.2%)	7 / 83 (8.4%)
Black or African American	2 / 178 (1.1%)	0 / 95 (0%)	2 / 83 (2.4%)
Other	1 / 178 (0.6%)	0 / 95 (0%)	1 / 83 (1.2%)
White	165 / 178 (93%)	92 / 95 (97%)	73 / 83 (88%)
Unknown	1	0	1

[1] n / N (%); Mean (SD)

```
            statistic = list(all_continuous() ~ "{mean} ({sd})",
                             all_categorical() ~ "{n} / {N} ({p}%)"),
            digits = all_continuous() ~ 2) %>%
  add_overall() %>%
  modify_spanning_header(c("stat_1", "stat_2") ~ "**Participant's demographics by study**")
```