Two Sample Means Computer Lab

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```
library(readr)
Spring2023Dataset <- read_csv("~/CSVs/Spring2023Dataset.csv")
```

```
## Rows: 69 Columns: 18

## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr (10): ToppingPref, GiveUp, TextOften, Active, Generous, Gender, CoffeeFr...
## dbl  (8): SpendOnYou, LongestRun, PizzaToppings, TextsSent, TextsReceived, G...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
head(Spring2023Dataset)
```

```
## # A tibble: 6 x 18
##   SpendOnYou LongestRun PizzaToppings ToppingPref GiveUp TextsSent TextsReceived
##        <dbl>      <dbl>         <dbl> <chr>       <chr>      <dbl>         <dbl>
## 1        400          1             3 Mostly veg~ Meat          50            50
## 2        850          7             4 Mostly veg~ Caffe~        20            25
## 3        550        2.5             4 Mostly mea~ <NA>          23            24
## 4       1000        0.5             2 Mostly veg~ Meat          20            20
## 5        400         10             2 Mostly mea~ Desse~        15            20
## 6        300          1             2 Mostly mea~ Caffe~         0             1
## # ... with 11 more variables: GroupText <dbl>, TextOften <chr>, Active <chr>,
## #   Generous <chr>, Gender <chr>, HighwayAlone <dbl>, HighwayPassenger <dbl>,
## #   CoffeeFreq <chr>, StudyLocationOriginal <chr>, Personality <chr>,
## #   StudyLocation <chr>
```

```
gf_boxplot(TextsSent~Personality,data=na.omit(Spring2023Dataset), fill=~Personality)
```
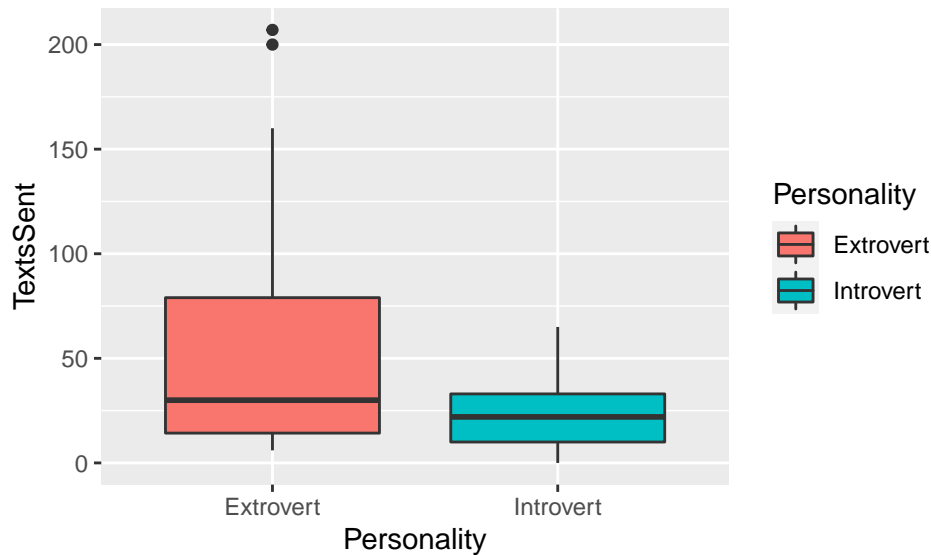
According to the boxplot expressing the relationship between **personalities** and **texts sent**, people who are extroverted on average send more texts than those that are introverted.

```
favstats(TextsSent~Personality,data=na.omit(Spring2023Dataset))
```

```
##   Personality min    Q1 median Q3 max     mean       sd  n missing
## 1   Extrovert   6 14.25     30 79 207 54.60714 56.85286 28       0
## 2   Introvert   0 10.00     22 33  65 24.36364 16.83155 33       0
```

On average people who are extroverted send 30.2 more texts than those who are introverted.

```
t.test(TextsSent~Personality, data=Spring2023Dataset, conf.level=0.9)
```

```
##
##  Welch Two Sample t-test
##
## data:  TextsSent by Personality
## t = 2.6859, df = 31.039, p-value = 0.01151
## alternative hypothesis: true difference in means is not equal to 0
## 90 percent confidence interval:
##  11.03023 48.79517
## sample estimates:
## mean in group Extrovert mean in group Introvert
##                54.60714                 24.69444
```

I am 90% confident that the difference between texts sent based on personality is between 11 and 49.

We can conclude that on average extroverts send more texts given that 0 is not in the 90% confidence interval.