Appendix B

Exploration of “love” variable

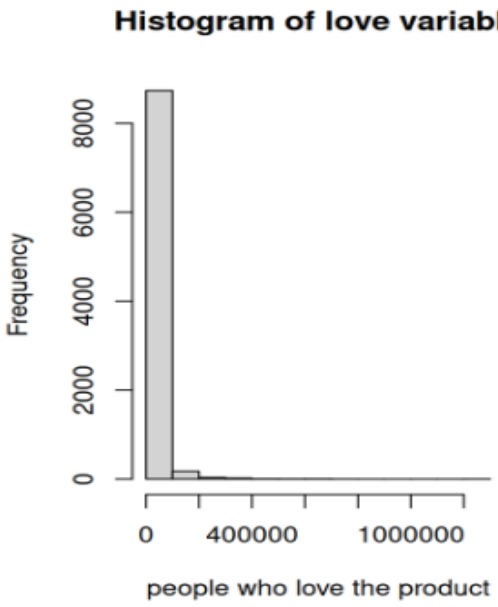
The histogram and density plots of the love variable exhibit a pronounced right skewness. The kurtosis value of 162.13 indicates heavy-tailedness. The skewness value is 9.63, suggesting a substantial deviation from the normal distribution. The QQ plot displays an inverted "L" shape, indicating deviations from normality, while the boxplot showcases a thin box with numerous outliers to the left. A logarithmic transformation could normalize the distribution, making the data more suitable for analysis.

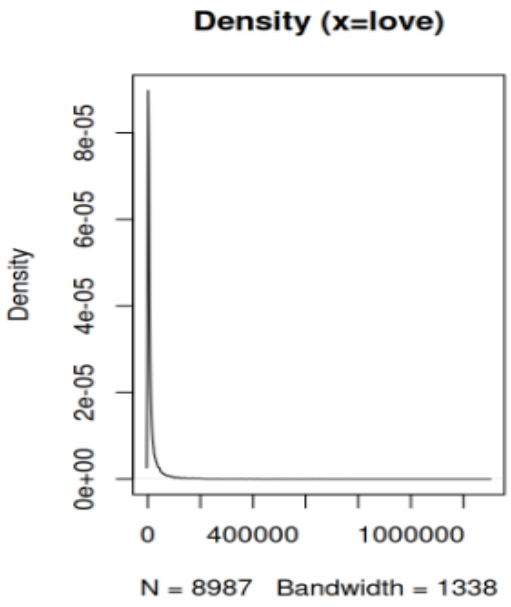
```{r}
# Skewness and kurtosis
skewness(sephora$love)
kurtosis(sephora$love)
```

Skewness: 9.63 **Kurtosis:** 162.13

```{r}
# Exploration love varaible
# Set up the plotting layout
 par(mfrow = c(1, 2))

# Plot histogram and density
hist(sephora$love, xlab = "people who love the product", main = "Histogram of love variable")
plot(density(sephora$love), main = "Density (x=love)")
```






```{r}
# QQ plot and boxplot
qqnorm(sephora$love, main = "QQ Plot of love varible")
qqline(sephora$love)

boxplot(sephora$love, horizontal = TRUE, main = "box plot of love
varible")

```