

## Appendix G

### Result of logarithmic transformation of Price variable

The logarithmic transformation applied to the "price" variable resulted in a distribution that approached normality, as indicated by the histogram, density plot, and QQ plot. This transformation effectively reduced the skewness observed in the original data, leading to a more symmetrical distribution. The box plot shows a balanced distribution of data points, with relatively few outliers, especially compared to the original data. Overall, the transformation helped mitigate the skewness and improved the distributional properties of the variable.

```
```{r}
# transforming the variable to log
sephora$log_price <- log(sephora$price + 2)

# Skewness and kurtosis
skewness(sephora$log_price)

kurtosis(sephora$log_price)
```
```

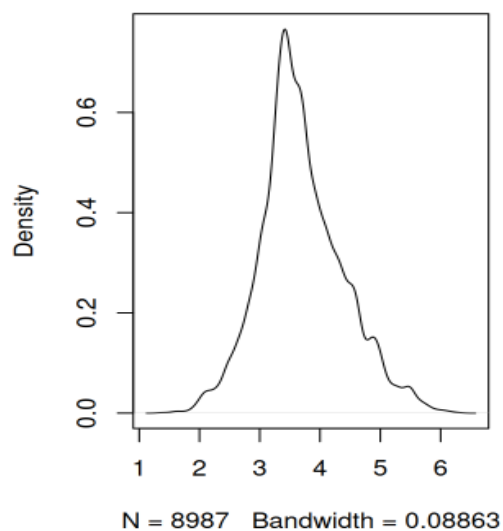
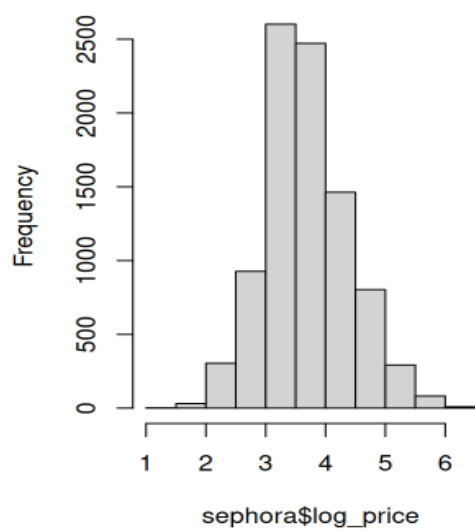
**Skewness:** 0.398      **Kurtosis:** 3.354

### Histogram and density for value log price variable

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

# Plot histogram and density
hist(sephora$log_price)

plot(density(sephora$log_price))
```
```



### QQ and box plots for log price variable

```

```{r}
# QQ plot and boxplot
qqnorm(sephora$log_price, main = "QQ Plot for log_price variable")
qqline(sephora$log_price)

boxplot(sephora$log_price, horizontal = TRUE)
```

```

