
L11: Describing a Distribution Lab

Work in your small group to solve the following questions. No computer will be needed, as we are just interpreting the outputs in this lab.

1. Answer the following questions regarding the center stats of our data:

```
> center_stats(heart$MaxHR)
  mean  median trim25 trim10 est_mode
149.61  153.00  152.27  150.93  159.70
```

- (a) Based on how the mean, median, and mode are related to each other, what information do we gain about the distribution (in terms of symmetry and skew)?
- (b) Based on how the trimmed mean changes, what information do we gain about the distribution (in terms of symmetry and skew)?

2. Answer the following questions regarding the position stats of our data:

```
> position_stats(county_data$mean_household_income)
$quart
      0%      25%      50%      75%     100%
35819.00 59213.75 66875.00 76951.00 181261.00
```

- (a) Using “Quartile-Analysis”, what information do we gain about the distribution (in terms of symmetry and skew)?

3. Answer the following questions regarding the spread stats of our data:

```
> spread_stats(mlb_teams$earned_run_average)
      sd   iqr  minz  maxz diffz  pct1  pct2  pct3
0.74  0.93 -3.57  3.86  7.43 69.43 94.58 99.64
```

- (a) How can we interpret “sd” and “iqr” for our dataset in relation to it’s spread?
- (b) How can we interpret “minz” and “maxz” for our dataset in relation to it’s spread?
- (c) How can we interpret the “pct” variables for our dataset in relation to it’s spread?

4. Answer the following questions regarding the shape stats of our data:

```
> shape_stats(college_data$PhD)
      skew  kurt
-0.77  0.54
```

- (a) How can we interpret “skew” to describe our distribution’s shape?
- (b) How can we interpret “kurt” to describe our distribution’s shape?