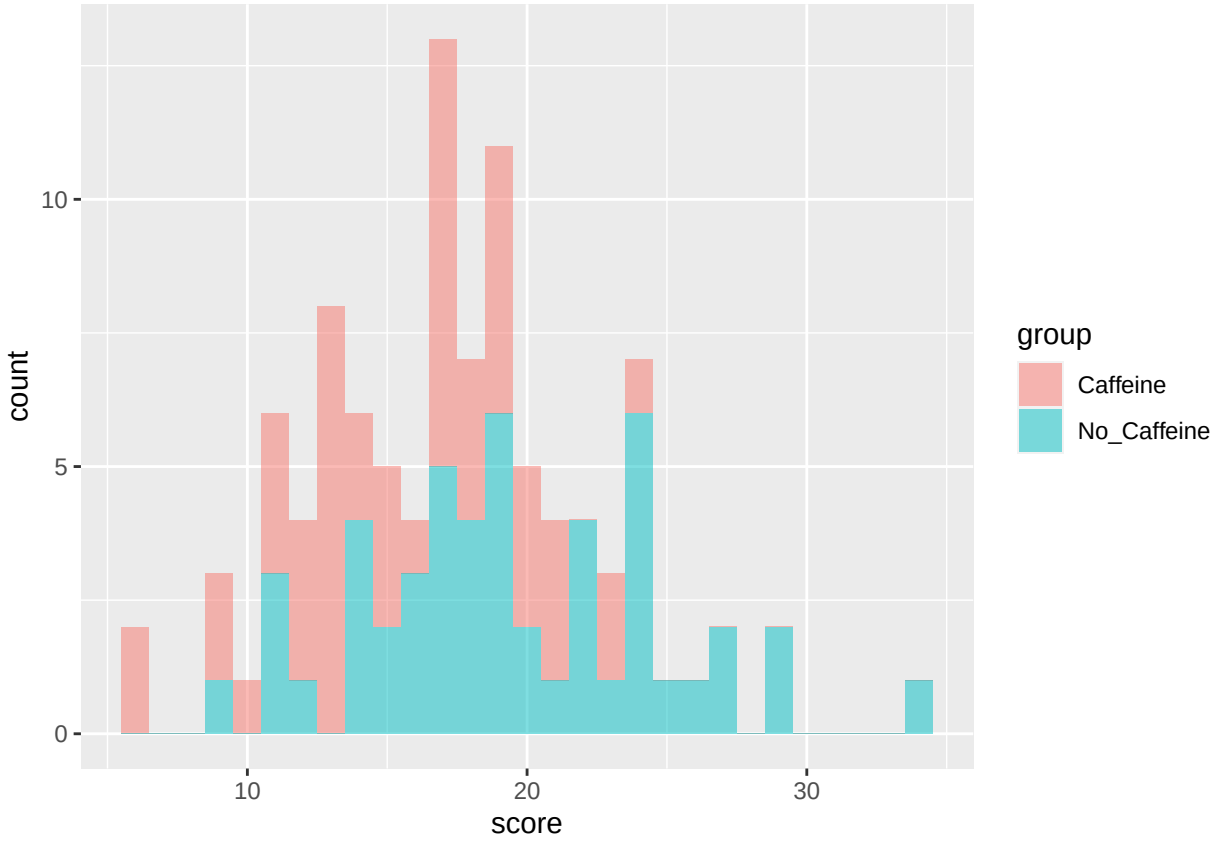
# High level overview

## Example of two groups

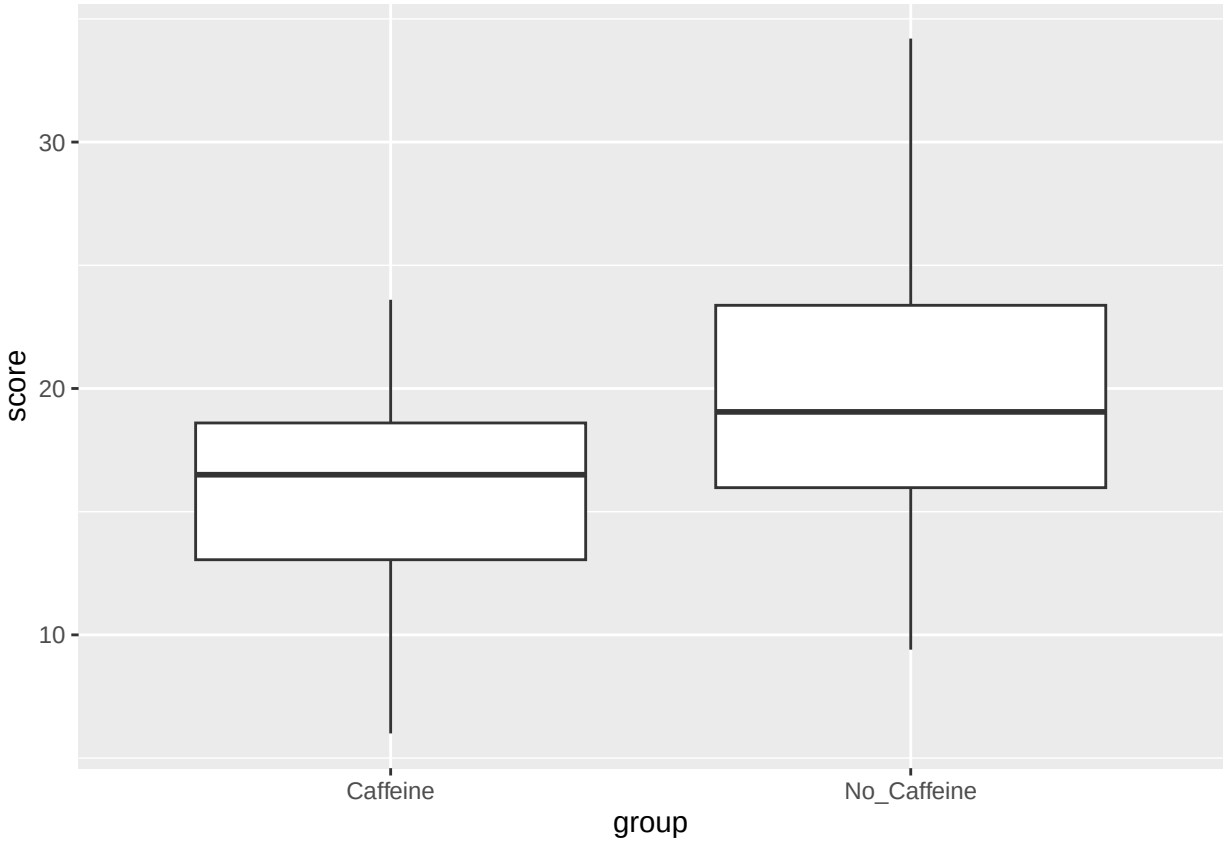
### Experimental setup

A researcher wants to test whether caffeine consumption can help you perform better on exams. Two groups of n=50 were given a general knowledge exam. The morning of the exam, one group consumed caffeine and the other consumed a placebo.

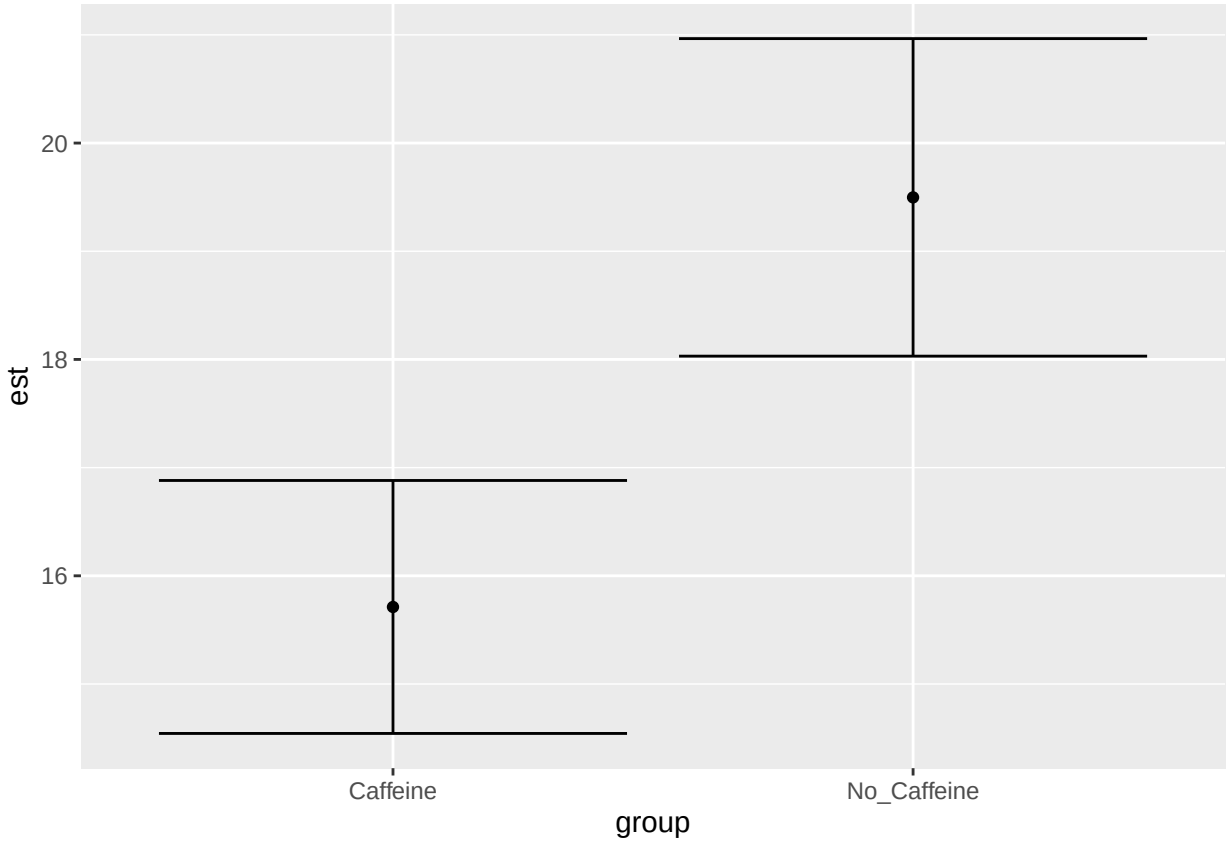
### Data summary 1: histograms



**Data summary 2: Boxplots**



### Inferential summary: Confidence interval plot



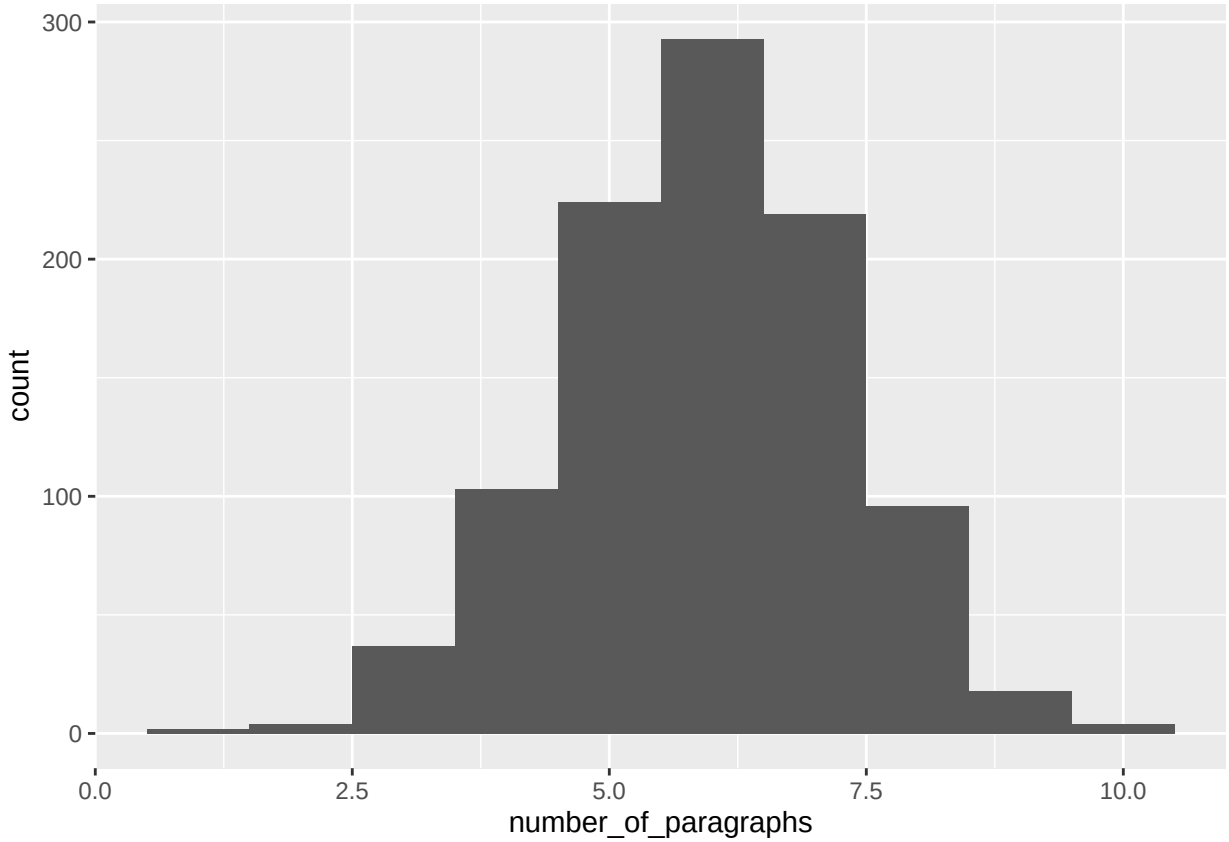

Looks like the caffeine may actually be harmful to performance!

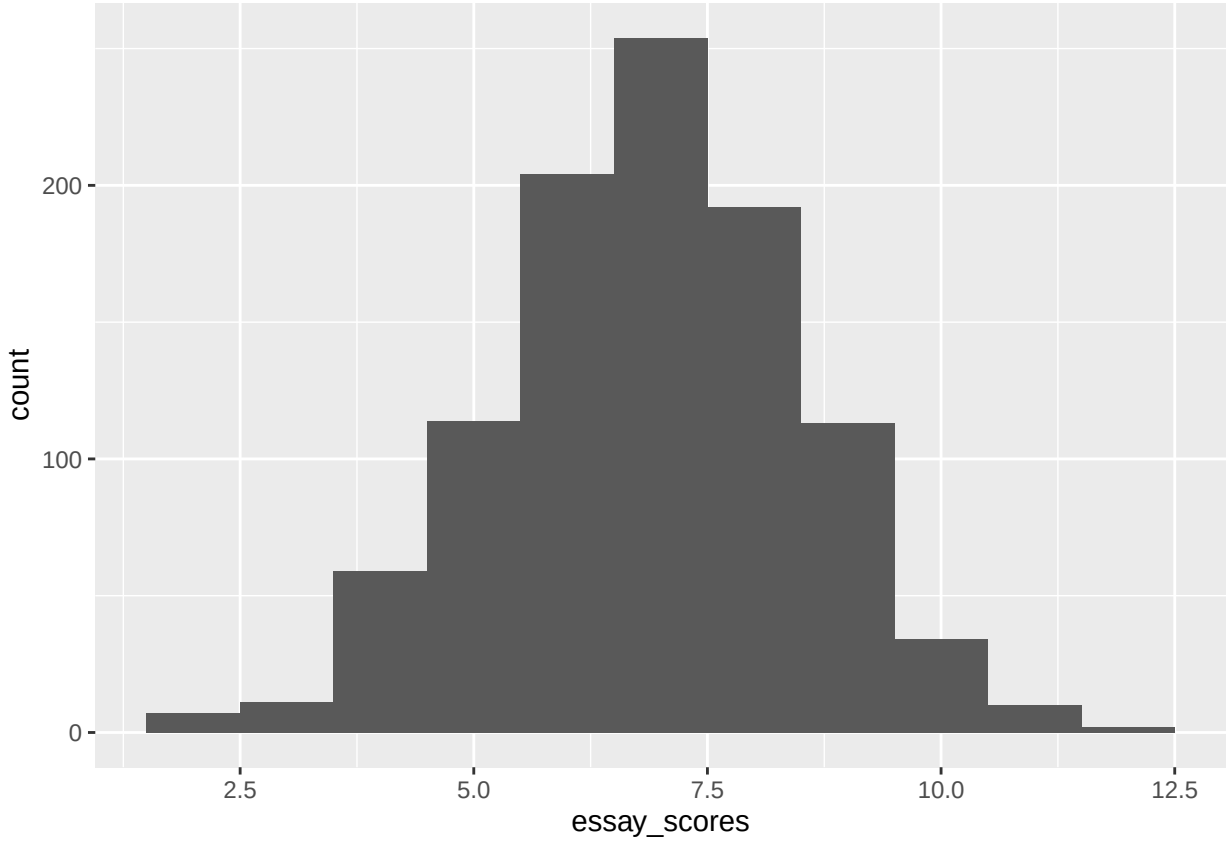
## Example of X vs Y

### Experimental setup

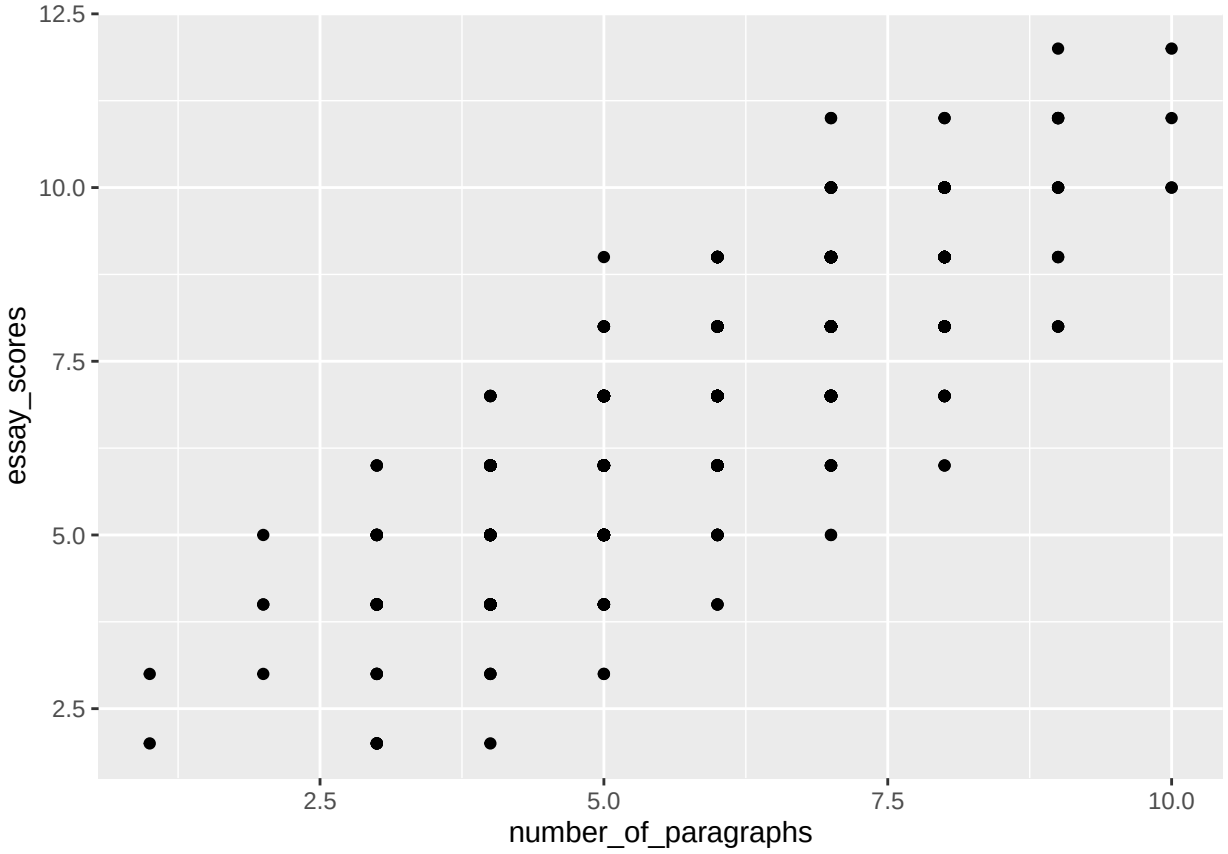
A researcher wants to test whether longer essays written for a standardized test lead to better scores. The researcher obtains records of past exams. Each exam is scored from 2 to 12 points, and length is measured as the number of paragraphs.

**Data summary 1: Descriptives of each variable**



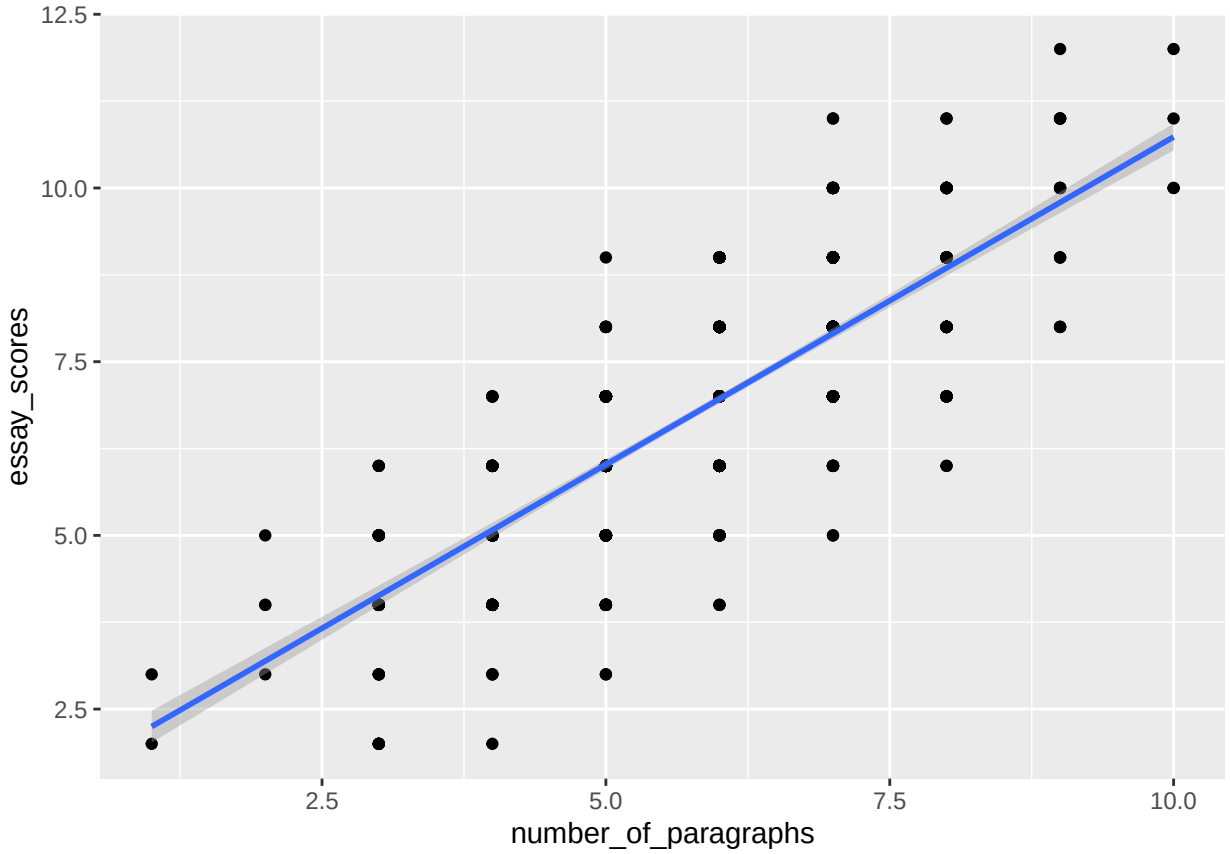



### Scatterplot of the variables




### Add trend line(s)

```
## `geom_smooth()` using formula = 'y ~ x'
```


12.5
10.0
7.5
5.0
2.5
essay_scores
2.5
5.0
7.5
10.0
number_of_paragraphs