Homework Problem Set 3

JP

9/8/2021

- Calculate the standard deviation using either formula discussed in class.
- SPSS Practice

Calculate the standard deviation using either formula discussed in class.

```
set.seed(890821)

test_scores = c(81, 78, 91, 88, 95, 97, 99, 79, 73, 74)

N = 10
```

```
test_scores
```

```
##  [1] 81 78 91 88 95 97 99 79 73 74
```

```
81^2 + 78^2 + 91^2 + 88^2 + 95^2 + 97^2 + 99^2 + 79^2 + 73^2 + 74^2
```

```
## [1] 73951
```

```
# 73951 is sum of squared Xs

81 + 78 + 91 + 88 + 95 + 97 + 99 + 79 + 73 + 74
```

```
## [1] 855
```

```
# sum of Xs is 855

855^2
```

```
## [1] 731025
```

```
# squared sum of Xs is 731025

731025/10
```

```
## [1] 73102.5
```

```
# 73102.5 is the right side of the numerator

73951.0 - 73102.5
```

```
## [1] 848.5
```

```
# numerator is 848.5

10 - 1
```

```
## [1] 9
```

```
# denominator is 9

848.5/9
```

```
## [1] 94.27778
```

```
# variance is 94.28

sqrt(94.27778)
```

```
## [1] 9.709675
```

```
# sd is 9.71

sd(test_scores)
```

```
## [1] 9.709674
```

Answer

SPSS Practice

For SPSS Answers, please see the syntax file in the `Answer Key` folder.

1. Gather descriptive statistics using the `descriptives` tab in SPSS for the following variables. (Get a screenshot of this table and put it on this word document.)

- ffq_sausage
- ffq_pizza_portion
- dass_stress_q1
- dass_depress_q7

Picture Answer

2. Get the z-transformed variables from problem 1. (Screenshot the variables in either the `Data View` or the `Variable View`.)

Picture Answer

3. Get the descriptive statistics and the histograms for the z-transformed variables from problem 2. Use the `frequencies` tab for the descriptive statistics (Screenshot the table and one variable histogram and put it on this word document.)

Picture Answer

4. Also, get either the bar graph of each variable from the previous problem using the `frequencies` tab. I do not need the descriptive statistics for this section. (Get a screenshot of one of the variables and put it on this word document.)

Picture Answer

5. Reverse score the `ffq_sausage` variable. To show that you did it correctly, get the frequencies of both the original variable and the new variable you created. (Get a screenshot the frequency tables and put it on this word document.)

Picture Answer

6. Dummy code the `ccc_class_standing` variable. Rename the variables in the `Variable View` to the names that correspond to the numbers. For example, 1 = Freshmen, 2 = Sophomore, 3 = Junior, 4 = Senior, 5 = Senior_plus. (Get a screenshot of the variables in the data or variable view and put it on this word document.)

Picture Answer

7. Create a composite score of the variables that start with `cpaq`. There should be 4 questions. Then get the descriptive statistics and histogram for the new variable you created. (Screenshot the table and the histogram and put it on this word document.)

Picture Answer