## Sum of Squares Practice

You are training rats to remember light combinations and push levers in the right order (like the game Simon). Each rat group gets a different treat for the correct combinations. Numbers indicate the number of light combinations the rat got correct.

|  |  |  |
| --- | --- | --- |
| CheeseWhiz | Whipped Cream | Granola Chunks |
| 2 | 6 | 7 |
| 4 | 1 | 2 |
| 3 | 6 | 8 |
| 2 | 4 | 8 |
| 5 | 5 | 9 |

Paste the histograms of each group:

Calculate the different types of sum of squares filling in the following tables:

Deviational Table (aka the long way):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Score | Value | Total | Between | Within |
| Each person’s score |  | Individual score minus grade mean | Group average minus grand mean | Individual score minus group mean |
| … |  |  |  |  |
| … |  |  |  |  |
| … |  |  |  |  |
|  |  |  |  |  |
| Last row |  | All scores squared, summed | All scores squared, summed | All scores squared, summed |

You can do this chart in excel and cut and paste.

Computational table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CheeseWhiz | Whipped Cream | Granola Chunks |  |
|  | 2 | 6 | 7 |  |
|  | 4 | 1 | 2 |  |
|  | 3 | 6 | 8 |  |
|  | 2 | 4 | 8 |  |
|  | 5 | 5 | 9 |  |
| Sums |  |  |  | T = |
| n |  |  |  | an = |
| Means |  |  |  | Yt = |

[Y] =

[A] =

[T] =

SST =

SSA (between) =

SSS/A (within) =

Do your two tables match?