The three types of correlation are:

Causation means that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The \_\_\_\_\_\_\_\_\_\_ of the statement is important.

Example:

|  |  |
| --- | --- |
| \*Umbrella sells increase, chance of rain increasesThis relationship is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \*Chance of rain increases, umbrella sells increaseThis relationship is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

You also want to rule out the possibility of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ contributing to the causation.

Example:

\*Time spent dancing and hearing loss

 This relationship is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Justify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Steps to determining correlation or correlation with causation**:

**Is there a correlation between the variables?**

No

Yes

No

Yes

No

Yes

**Decide if each of the following relationships only a correlation or correlation with causation.**

|  |  |
| --- | --- |
| 1. As a person’s correct vision improves, his reading ability improves.
 |  |
| 1. The more umbrellas are in use, the greener the grass becomes.
 |  |
| 1. The more a person types, the more likely the person is to experience carpal tunnel syndrome.
 |  |
| 1. The more skiers are on the slopes, the more school days are cancelled.
 |  |
| 1. As a person sits down more, he becomes more intelligent.
 |  |
| 1. The windier it is, the more people are flying kites.
 |  |
| 1. As the number of bicycles sold increases, the number of hybrid cars sold increases.
 |  |
| 1. The noisier it is in a basketball area, the more hot dogs are sold in the arena.
 |  |
| 1. As a person’s income increases, the amount she pays in taxes increases.
 |  |
| 1. The more hours studying for an exam, the higher the score on the exam.
 |  |
| 1. Eating less calories makes you lose weight
 |  |
| 1. The faster a car goes, the less time it takes to get to the destination.
 |  |
| 1. The age of a car and its resale price.
 |  |
| 1. The amount of money you spend and the amount of money left in your wallet (you carry cash only).
 |  |
| 1. You hit your little sister, your little sister cries.
 |  |
| 1. The number of pets you own vs. the amount you spend on pet food.
 |  |
| 1. How much you pay for a house vs. how much you pay for a car.
 |  |
| 1. How much you study vs. your GPA.
 |  |
| 1. The number of policeman that are visible on a stretch of road vs. the speed you travel.
 |  |
| 1. The number of video games sold and the number of pigs in your backyard.
 |  |
| 1. The number of people who smoke cigarettes vs the number of people who get lung cancer.
 |  |
| 1. The number of problems on a math test vs. the amount of time it takes students to complete the exam.
 |  |
| 1. The height of a woman and her score on an algebra test.
 |  |
| 1. The number of wins the Braves have and the total amount of money spent on concessions at Braves games.
 |  |