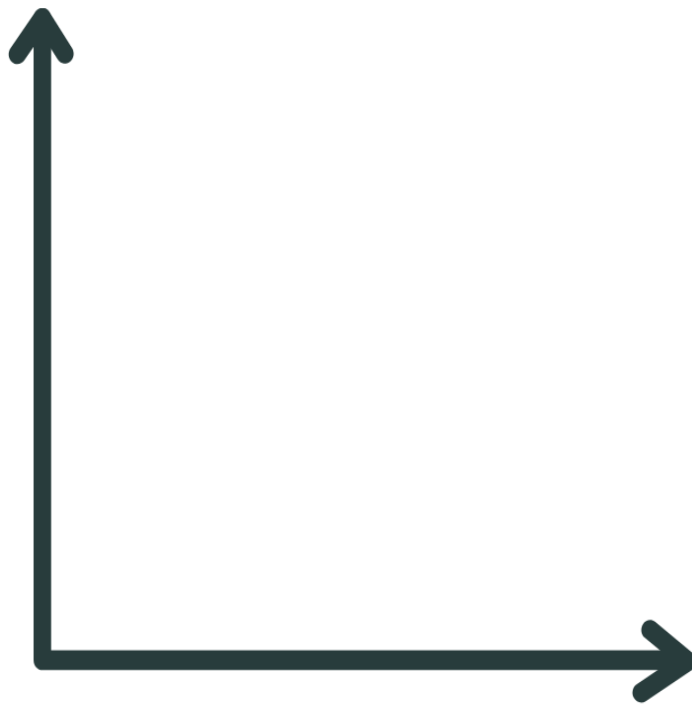


Correlation Practice

Part I: Read the following scenarios and graph the data to determine what type of correlation is represented, the strength of that relationship, and identify possible third variables.

A study conducted on a group of adolescents investigated the impact of smartphone use on sleep quality. The results revealed that teenagers who spent more time on their smartphones before bedtime tended to experience poorer sleep quality and shorter sleep durations, as expressed on a scale of 1-5, with 1 being poor sleep quality and 5 being good sleep quality.



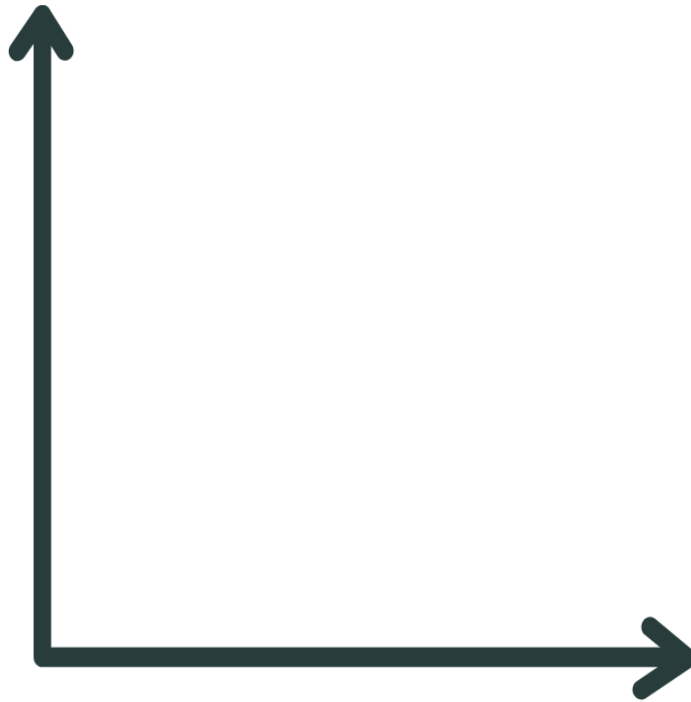
Hours of Phone Use	Sleep Quality Rating
1	5
3	2.5
5	1.5
2	4
4	2.5
3.5	3
1	4.5
2.5	3.5
4.5	2
4	2
5	1
2	4.5
1.5	4
3	3

What type of correlation is this? (*Positive, Negative, No Correlation*)

What is the strength of this correlation? (*Weak, Moderate, Strong*)

What could be a potential third variable influencing this relationship?

A survey conducted among college students investigated the relationship between regular exercise habits and academic performance. The results showed that students who engaged in regular physical activity tended to have higher GPAs compared to those who lead sedentary lifestyles.



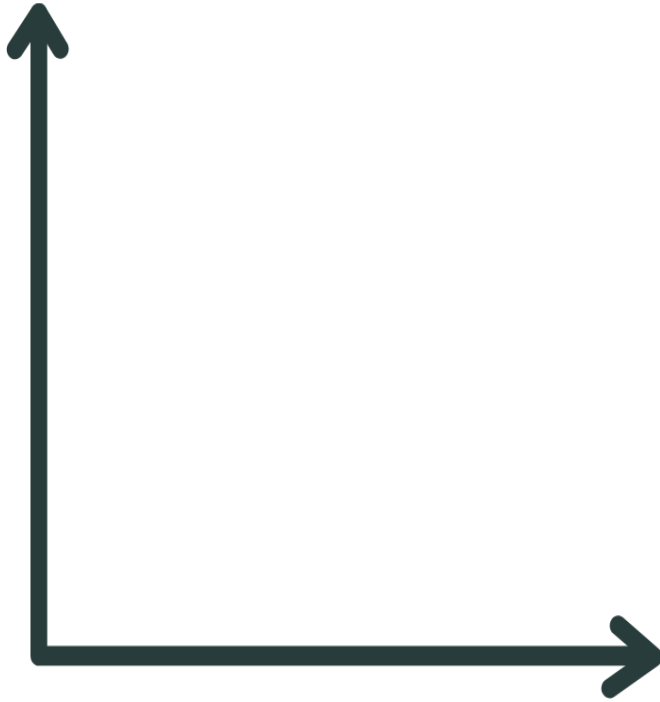
Hours of Exercise a Week	GPA
5	3.2
1	2.0
2	3.5
0	1.0
4	4.0
1	2.5
3	3.2
5	4.0
1.5	3.0
4	3.8
0	2.5
3.5	3.0
.5	2.7
2.5	2.5
2	2.0
4.5	3.5
3	2.1

What type of correlation is this? (*Positive, Negative, No Correlation*)

What is the strength of this correlation? (*Weak, Moderate, Strong*)

What could be a potential third variable influencing this relationship?

A researcher investigated the relationship between music and mood. He had his class record the amount of music they listened to that day as well as rate their mood on a scale of 1-5, with 1 being unhappy and 5 being happy.



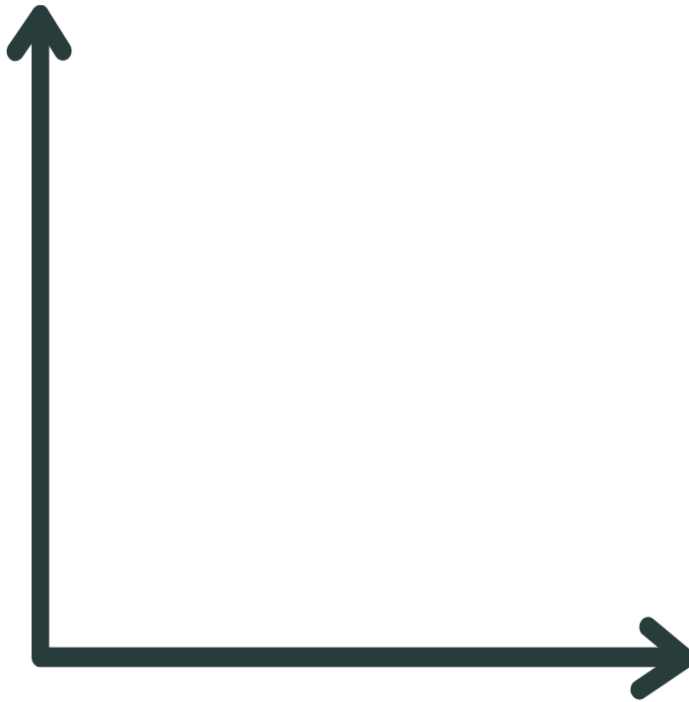
Hours Listening to Music	Mood Rating (on a scale of 1-5)
5	1
2	3
0	4
5	5
4	2
2.5	3
3	5
1	2
1.5	4
2	1
4.5	4
3	1
3.5	2
4	3

What type of correlation is this? (*Positive, Negative, No Correlation*)

What is the strength of this correlation? (*Weak, Moderate, Strong*)

What could be a potential third variable influencing this relationship?

Researchers examined the relationship between part-time employment and academic performance among high school students, in regards to a recent Chemistry test. The findings showed that students who worked part-time jobs during the school year tended to have lower grades than those who did not.



Hours Worked	Test Grade
0	92
8	100
15	80
5	96
18	76
12	90
15	90
18	72
5	100
10	85
20	68
0	100
12	82
20	65
8	85
18	74
0	97
10	88

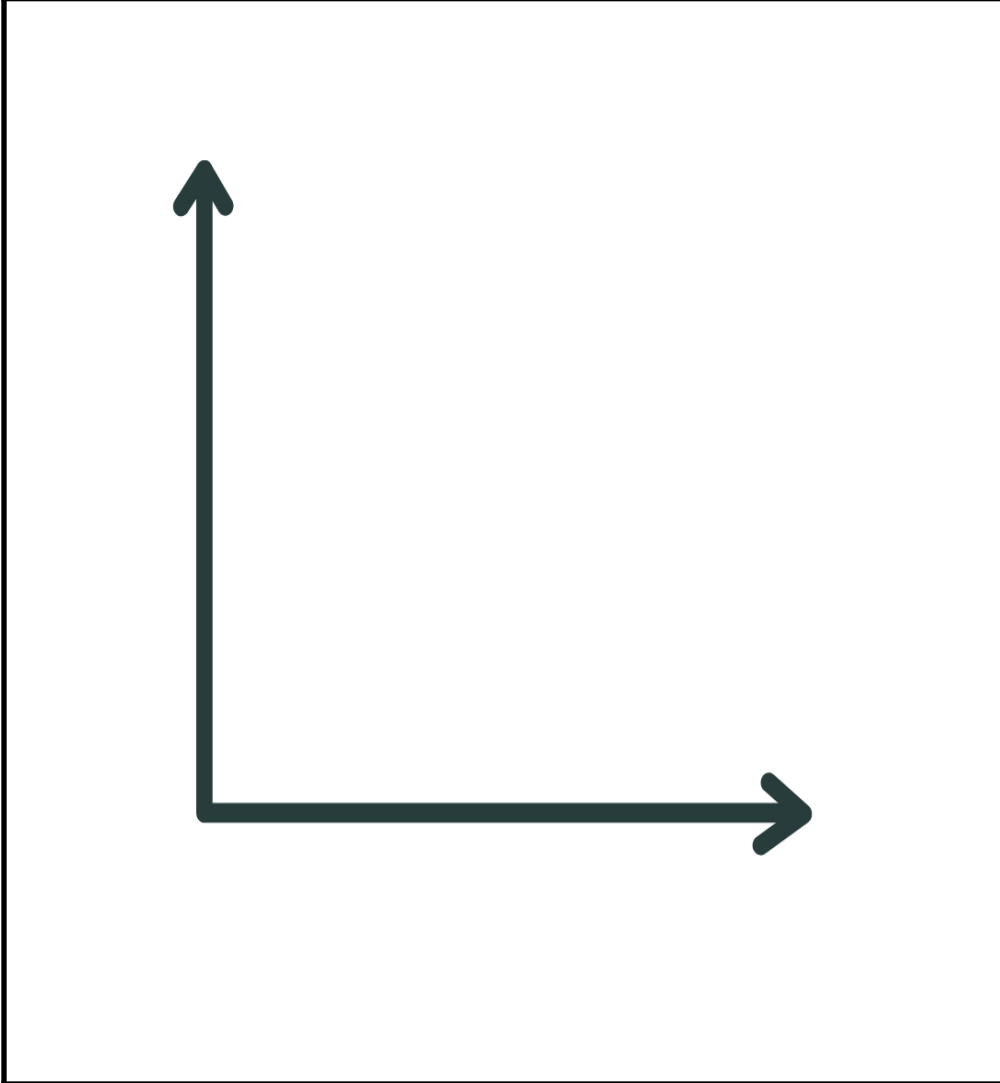
What type of correlation is this? (*Positive, Negative, No Correlation*)

What is the strength of this correlation? (*Weak, Moderate, Strong*)

What could be a potential third variable influencing this relationship?

Part II: Read the following scenarios and come up with your own data to use to graph and determine what type of correlation is represented, the strength of that relationship, and identify possible third variables.

Researchers investigated the association between video game playing and aggressive behavior among adolescents. Parents rated the child aggression level on a scale of The study revealed that teenagers who spent more time playing to 5, with 1 being less aggressive and 5 being more aggressive.



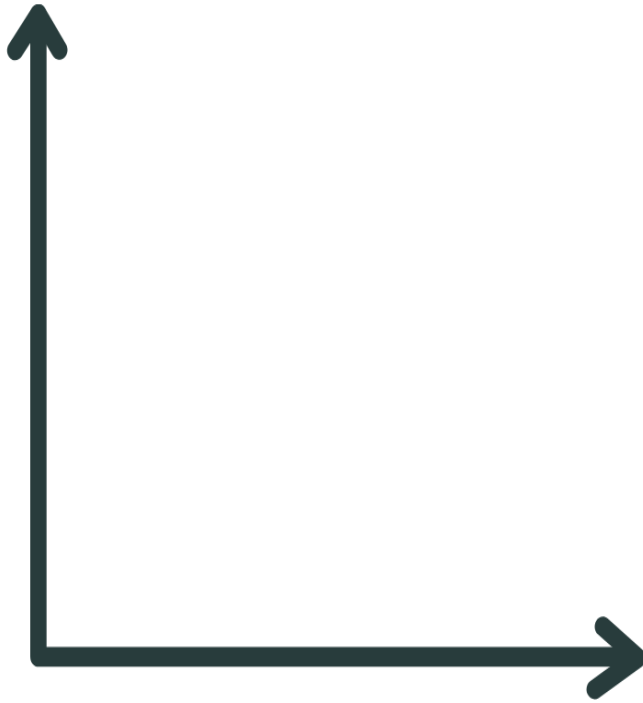
Hours Playing Violent Video Games	Level of Aggression (rating on a scale of 1-5)

What type of correlation is this? (*Positive, Negative, No Correlation*)

What is the strength of this correlation? (*Weak, Moderate, Strong*)

What could be a potential third variable influencing this relationship?

A group of teenagers participated in a study examining the relationship between stress levels and acne severity. Students had to rate their stress level on a scale of 1-5, with 1 being less stressed and 5 being more stressed. Students also had to rate their acne on a scale of 1-5, with 1 being less severe and 5 being more severe.



Stress Level (rating on a scale of 1-5)	Acne Severity (rating on a scale of 1-5)

What type of correlation is this? (*Positive, Negative, No Correlation*)

What is the strength of this correlation? (*Weak, Moderate, Strong*)

What could be a potential third variable influencing this relationship?