

Final StatCrunch Project



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Research Question: How Does Screen Time Affect a Student's GPA?

Population: College Students

Variables:

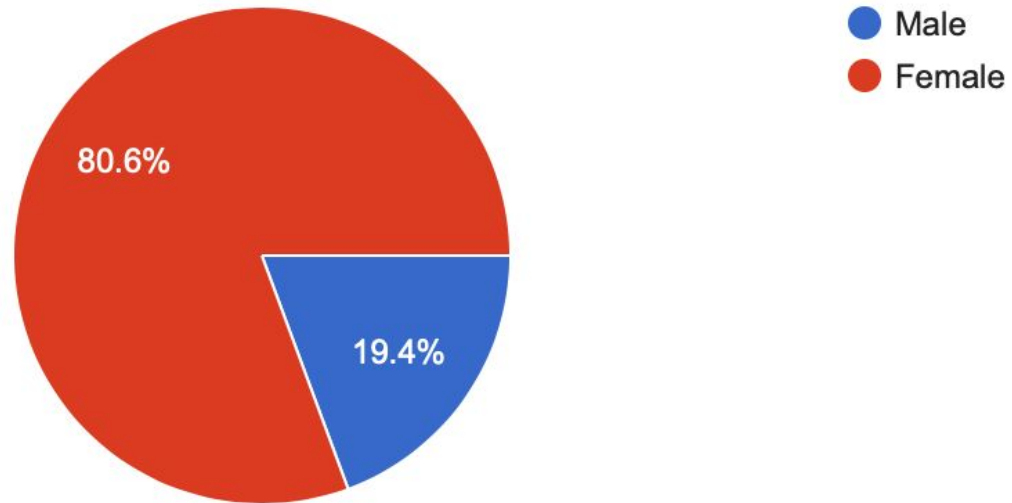
- Amount of screen time per week
- Grade Point Average
- Amount of studying time per week
- Gender

Sampling Strategy: Online survey- iPhones allow people to see their weekly screen time average (these people will get an exact number), people with other types of devices can estimate; send the survey out via canvas. This is obviously a convenience sample, and will clearly lead to bias. But it would be very difficult to get a truly random sample in our circumstance

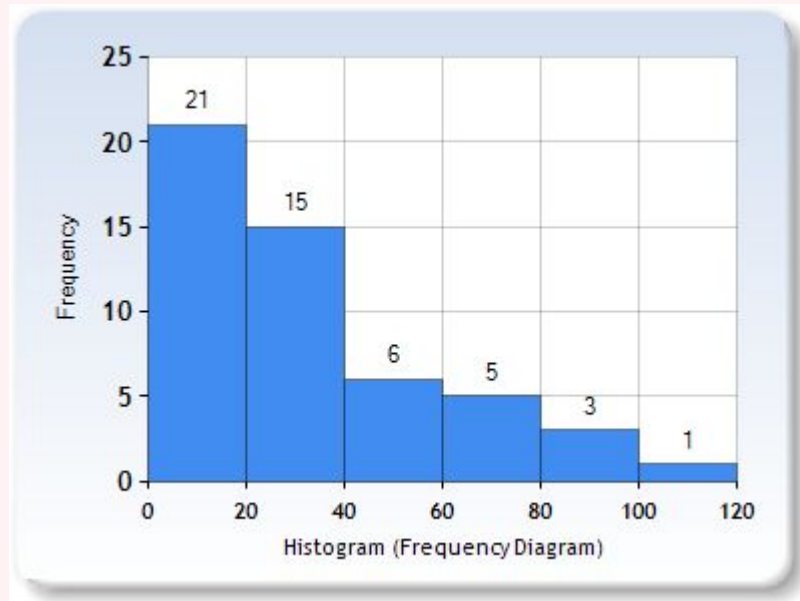
What is your gender?	How much time do you spend?	How much time do you spend?	What is your current GPA?	What is your gender?	How much time do you spend?	How much time do you spend?	What is your current GPA?
Female	12 to 14 hours a week	around 40 hours a week	4.2	Female	25 hours or more	~ 6 hours	3
Female	10 hours about 30 mins	4 hours	2	Female	63 hr	10 hr	3.5
Female	10 hours	5 hours	3.01	Male	4hrs	8hrs	3.3
Female	30	20	3.4	Female	10 hours	5 hours 30 minutes	3.31
Female	20 hours	7	3.6	Female	20	30	4
Female	76 hours 54 minutes	3 hours	4	Female	13 hours - This is an estimate	3 hours	3.79
Female	15 hours	20 hours	3.5	Female	3 hours	3 hours	3.2
Female	105	12	3.4	Male	42 hours	3 hours	3.85
Female	probably more than 8 hours	Probably around 8 hours.	3.25	Female	36 hours possibly	0	3.5
Female	70ish hours	18 hours	3.6	Female	17h 23 min	10 hours	3.2
Male	18 hours 4 minutes	14 hours 28 minutes	4	Female	7	3	3.5
Female	75	40	3.1	Female	30 hours	16 hours	3.6
Female	39hrs 43mins	4-5 hrs	3.2	Male	20 hours	10 hours	4
Male	80 hours	2 hours	3	Male	85	2	2.8
Female	35 hours	28	3.1	Female	8	30 hours	4
Female	20 hours	7 hours	3.8	Female	10	5	3.2
Female	30 hours	25 hours	4	Female	20	10	3.4
Female	46 hours & 53 minutes (thru phone)	35 (+ some of my phone time)	3.1	Female	50 hours	40	3.8
Female	50 hours	10 hours	3.76	Female	91 hours (7 days)	35 hours	3.86
Female	40 hours	4 hours	3.3	Female	7 hours	5	3.15
Female	50 hours	5 hours	4	Female	20 hrs	10 hrs	3.3
Female	40 hours	20 hours	3.8	Female	18? Roughly	8	3.6
Female	7 hours	4 hours	4	Female	25-30 hours	10-12 hours	4
Female	9	15	3.4	Female	14	7	3.7
Female	20 hours	5 max	3.9	Female	20 hours	14 hours	92
Female	About 5 hours/day	About 2 hours and 30 min	3.99	Female	10	4	2
Female	20 hours	10 hours	3.5	Female	70	27	3.5
Male	26h 36min	10 h	4	Male	8 hours	2 hours	2.9

Female	24 hrs	4	3.1
Female	24hrs	5hrs	3
Male	4 hours	0	3
Male	4 hours and 15 mins	6 hours	4
Male	12 hours	6 hours	2.8
Male	7	3	3

What is Your Gender?

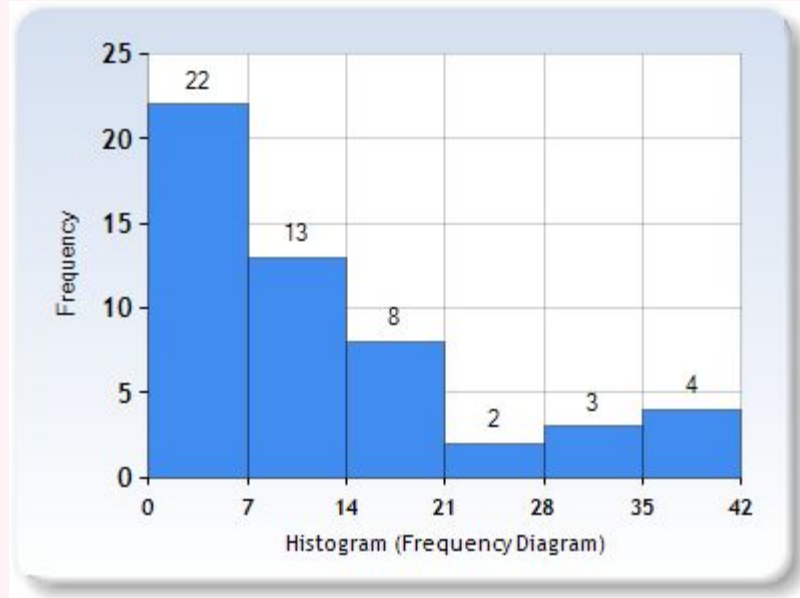


How Much Time Do You Spend in Front of a Screen Per Week (in Hours)?



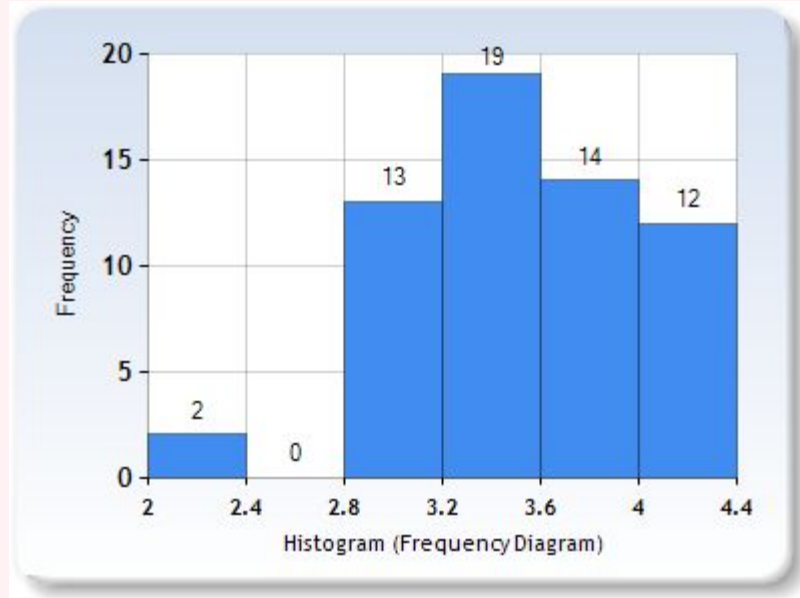
Your Histogram	
Mean	31.51961
Standard Deviation (s)	26.14019
Skewness	1.13468
Kurtosis	0.41329
Lowest Score	3
Highest Score	105
Distribution Range	102
Total Number of Scores	51
Number of Distinct Scores	34
Lowest Class Value	0
Highest Class Value	119.9
Number of Classes	6
Class Range	20

How Much Time Do You Spend Studying Per Week (in Hours)?



Your Histogram	
Mean	12.14423
Standard Deviation (s)	10.73127
Skewness	1.22617
Kurtosis	0.5549
Lowest Score	0
Highest Score	40
Distribution Range	40
Total Number of Scores	52
Number of Distinct Scores	26
Lowest Class Value	0
Highest Class Value	41.9
Number of Classes	6
Class Range	7

What is your current GPA?



Your Histogram	
Mean	3.46033
Standard Deviation (s)	0.46738
Skewness	-0.88402
Kurtosis	1.32094
Lowest Score	2
Highest Score	4.2
Distribution Range	2.2
Total Number of Scores	60
Number of Distinct Scores	23
Lowest Class Value	2
Highest Class Value	4.39
Number of Classes	6
Class Range	0.4

Linear Regression Test

$$y = a + bx$$

$$a = 3.40$$

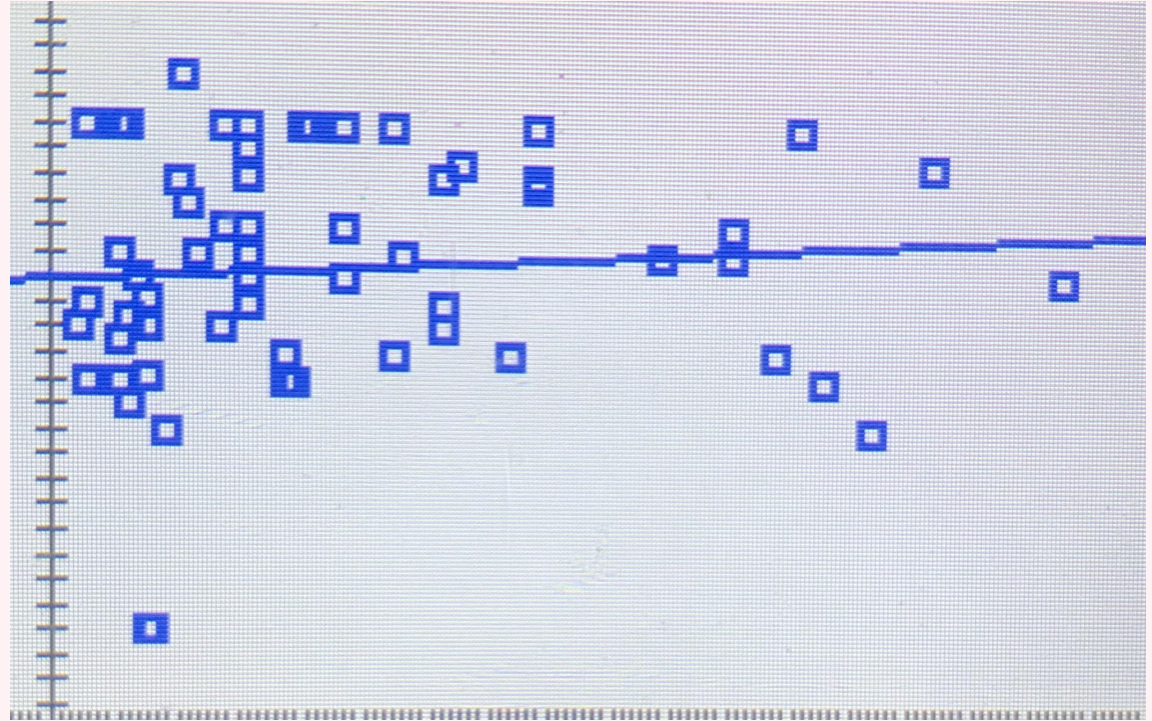
$$b = 0.0018$$

$$y = 3.40 + 0.0018x$$

$$r^2 = 0.0087$$

$$r = 0.0935$$

GPA



Time Spent In Front of a Screen Per Week

Hypothesis Testing

College students spend more than 35 hours in front of a screen per week

$$H_0: \mu = 35$$

$$n = 62$$

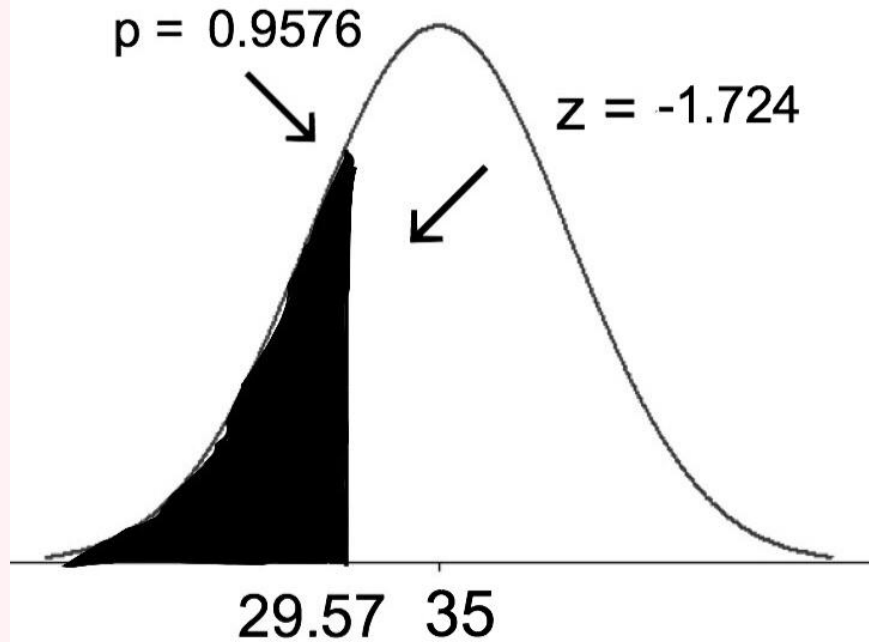
$$H_1: \mu > 35 \text{ claim}$$

$$\bar{x} = 29.57$$

$$s = 24.8$$

$$z = -1.724$$

$$p = 0.9576$$



Reject the Null: The sample data support the claim that college students spend more than 35 hours in front of a screen per week