

Final Report

due November 16, 2021 by 11:59 PM

Your names and team name here

Load Packages

Load Data

T-test

```
##
## One Sample t-test
##
## data:  STAT_198_Food_Security_Dataset$'2019-2021 FI Percent Change'
## t = 33.847, df = 99, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##   9.12195 10.25805
## sample estimates:
## mean of x
##      9.69
```

```
##
## One Sample t-test
##
## data:  STAT_198_Food_Security_Dataset$FI_Diff
## t = 34.486, df = 99, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##   0.01333585 0.01496415
## sample estimates:
## mean of x
##   0.01415
```

Linear Regression Investigation- 2021

Table 1: Main Linear Regression of Food Security in North Carolina Using Cost of Meal, Urban/Rural County Status, and Percent of County Residents with Less than a High School Diploma

term	estimate	std.error	statistic	p.value
(Intercept)	0.1968006	0.0272384	7.225106	0.0000000
2019 Cost per Meal	-0.0191990	0.0071497	-2.685283	0.0085386
Urban_catUrban	-0.0070343	0.0033282	-2.113525	0.0371487
Less than HS Diploma, 2015-9, Percent	0.0018844	0.0004746	3.970117	0.0001387

[1] 0.4702632

Table 2: Interaction Linear Regression of Food Security in North Carolina Using Cost of Meal and Urban/Rural County Status to Percent of County Residents with a High School Diploma

term	estimate	std.error	statistic	p.value
(Intercept)	0.1715796	0.0313620	5.470934	0.0000004
2019 Cost per Meal	-0.0111008	0.0087422	-1.269794	0.2072598
Urban_catUrban	0.0480913	0.0349328	1.376680	0.1718471
Less than HS Diploma, 2015-9, Percent	0.0019346	0.0004720	4.098687	0.0000875
2019 Cost per Meal:Urban_catUrban	-0.0178164	0.0112396	-1.585145	0.1162567

[1] 0.4784809

Table 3: Main Linear Regression of Food Security in North Carolina Using Cost of Meal, Urban/Rural County Status, and Percent of County Residents with a High School Diploma

term	estimate	std.error	statistic	p.value
(Intercept)	0.2041753	0.0314433	6.493441	0.0000000
2019 Cost per Meal	-0.0234294	0.0073522	-3.186705	0.0019422
Urban_catUrban	-0.0097856	0.0032731	-2.989673	0.0035473
Only HS Diploma, 2015-9, Percent	0.0011429	0.0003863	2.958248	0.0038956

[1] 0.43481

Table 4: Interaction Linear Regression of Food Security in North Carolina Using Cost of Meal and Urban/Rural County Status to Percent of County Residents with a High School Diploma

term	estimate	std.error	statistic	p.value
(Intercept)	0.1974935	0.0330708	5.9718327	0.0000000
2019 Cost per Meal	-0.0206333	0.0084708	-2.4358074	0.0167232
Urban_catUrban	0.0148626	0.0369048	0.4027283	0.6880529
Only HS Diploma, 2015-9, Percent	0.0010888	0.0003958	2.7512455	0.0071101
2019 Cost per Meal:Urban_catUrban	-0.0080189	0.0119588	-0.6705436	0.5041382

[1] 0.4315511