Anxiety (4 Category) Post vs Pre HESM285 McNemar-Bowker Test

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
preAnx * postAnx	25	100.0%	0	0.0%	25	100.0%

preAnx * postAnx Crosstabulation

Count

		postAnx				Total
		High A Anxiety	Mild A Anxiety	Moderate A Anxiety	Not Anxious	
preAnx	High A Anxiety	3	0	1	0	4
	Mild A Anxiety	0	2	2	2	6
	Moderate A Anxiety	0	4	5	2	11
	Not Anxious	0	0	1	3	4
Total		3	6	9	7	25

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
McNemar-Bowker Test	4.000	4	.406
N of Valid Cases	25		

Chi-Square test indicates **insignificant differences** between counts of students in each of the four A anxiety (4 category) levels before and after students complete HESM285 at any resonable alpha-level.

Anxiety (2 Category) Post vs Pre HESM285 McNemar Test

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
preAnxBin * postAnxBin	24	100.0%	0	0.0%	24	100.0%

preAnxBin * postAnxBin Crosstabulation

Count

		postAnxBin		
		Moderate/High A Anxiety	None/Mild A Anxiety	Total
preAnxBin	Moderate/High A Anxiety	9	6	15
	None/Mild A Anxiety	2	7	9
Total		11	13	24

Chi-Square Tests

	Value	Exact Sig. (2-sided)
McNemar Test		.289[a]
N of Valid Cases	24	

a. Binomial distribution used.

Chi-square test indicates **insignificant differences** between the count of students indicating None-Mild and Moderate-High A anxiety (2 category) symptoms before and after students complete H E S M 285 at any reasonable alpha-level.

Depression Post vs Pre HESM 285 Statistical Test

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
preDep * postDep	24	100.0%	0	0.0%	24	100.0%

preDep * postDep Crosstabulation

Count

		postDep		Total
		Depressed	Not Depressed	
preDep	Depressed	4	13	17
	Not Depressed	2	5	7
Total		6	18	24

Chi-Square Tests

	Value	Exact Sig. (2-sided)
McNemar Test		.007[a]
N of Valid Cases	24	

a. Binomial distribution used.

Chi-square test indicates a **significant** difference between the count of students indicating depressive symptoms before and after completing H E S M 285 at an alpha level of .05. There is statistical evidence to show that H E S M 285 is affecting the number of students indicating depressive symptoms at an alpha-level of .05, or any reasonable alpha-level for this sample size.

NON ADJUSTED Logistic Regression for Post Depression vs Pre Anxiety (4 Category)

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	24	100.0
	Missing Cases	0	.0
	Total	24	100.0
Unselected Cases		0	.0
Total		24	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
Depresse	0
Not Depressed	1

Categorical Variables Codings

		Frequency	Parameter coding (1)	(2)	(3)
preAnx	High A A	4	1.000	.000	.000
	Mild A A	6	.000	1.000	.000
	Moderate	11	.000	.000	1.000
	Not Anxi	3	.000	.000	.000

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	preAnx			1.239	3	.744	
	preAnx(1)	-21.203	23205.425	.000	1	.999	.000
	preAnx(2)	-19.593	23205.425	.000	1	.999	.000
	preAnx(3)	-20.222	23205.425	.000	1	.999	.000
	Constant	21.203	23205.425	.000	1	.999	1615474840.0

a. Variable(s) entered on step 1: preAnx.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	23.843[a]	.123	.182

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

This logistic regression is included to **exhibit the data separation issues with the 4 categories of anxiety.** This can be seen in the parameter estimates having extremely high standard deviations, indicating issues in the model creation process. Data alterations must be made in order to see if Anxiety at all four levels have an effect on depression. This model is only included to exhibit aforementioned data separation issues.

ADJUSTED DATA Logistic Regression for Post Depression vs Pre Anxiety (4 Category)

Dependent Variable Encoding

Original Value	Internal Value
Depressed	0
Not Depressed	1

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	24	100.0
	Missing Cases	0	.0
	Total	24	100.0
Unselected Cases		0	.0
Total		24	100.0

a. If weight is in effect, see classification table for the total number of cases.

Categorical Variables Codings

		Frequency	Parameter coding		
			(1)	(2)	(3)
preAnx	High A A	4	1.000	.000	.000
	Mild A A	6	.000	1.000	.000
	Moderate	11	.000	.000	1.000
	Not Anxi	3	.000	.000	.000

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	preAnx			1.257	3	.739	
	preAnx(1)	-.693	1.581	.192	1	.661	.500
	preAnx(2)	.916	1.643	.311	1	.577	2.500
	preAnx(3)	.288	1.399	.042	1	.837	1.333
	Constant	.693	1.225	.320	1	.571	2.000

a. Variable(s) entered on step 1: preAnx.

This logistic regression is a test with post depression score as the dependent variable and pre anxiety results with all four categories as the predictor variable. Data alterations were made to ensure separation issues were addressed. Pre anxiety does **not have any impact** on post depression when anxiety is divided into four categories at any reasonable alpha level for this sample size.

Dependent Variable Encoding

Original Value	Internal Value
Depressed	0
Not Depressed	1

Categorical Variables Codings

		Frequency	Parameter coding (1)
preAnxBin	Mod/High	15	1.000
	None/Mild	9	.000

Logistic Regression for Pre Depression vs Pre Anxiety (2 Category)

Dependent Variable Encoding

Original Value	Internal Value
Depressed	0
Not Depressed	1

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	24	100.0
	Missing Cases	0	.0
	Total	24	100.0
Unselected Cases		0	.0
Total		24	100.0

a. If weight is in effect, see classification table for the total number of cases.

Categorical Variables Codings

		Frequency	Parameter coding (1)
preAnxBin	Mod/High	15	1.000
	None/Mild	9	.000

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	preAnx Mod/High	-2.095	1.013	4.274	1	.039	.123
	Constant	.223	.671	.111	1	.739	1.250

a. Variable(s) entered on step 1: preAnxBin.

This logistic regression is a test of the affects of Pre anxiety on Pre depression scores. Pre anxiety scores **show significant impact** on pre depression scores at an alpha level of .05 or for any reas onable alpha level at this sample size. Students indicating high/moderate anxiety are 12.3% as likel y to be *not depressed* as compared to students who indicate none-mild anxiety, as indicated by the output of the model. In other words, students who indicate **high/moderate anxiety pre HESM 28 5 are 8.13 times as likely to indicate depression pre HESM 285 than students who indicat e a none-mild anxiety score pre HESM285.**

Logistic Regression for Post Depression vs Post Anxiety (2 Category)

Dependent Variable Encoding

Original Value	Internal Value
Depressed	0
Not Depressed	1

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	24	100.0
	Missing Cases	0	.0
	Total	24	100.0
Unselected Cases		0	.0
Total		24	100.0

a. If weight is in effect, see classification table for the total number of cases.

Categorical Variables Codings

		Frequency	Parameter coding (1)
postAnxBin	Mod/High	11	1.000
	None/Mil	13	.000

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	postAnx Mod/High	-2.303	1.204	3.656	1	.056	.100
	Constant	2.485	1.041	5.700	1	.017	12.000

a. Variable(s) entered on step 1: postAnxBin.

This logistic regression is a test of the affects of Post anxiety on post depression scores. While the p-value for the coefficient is not lower than .05, ti is exceptionally close. This fact coupled with the previous test showing significance, as well as the knowledge that there are far fewer students indicating depression on the post test summary, ti is fair to say that post anxiety scores are having an impact on post depression scores. Therefore, Students indicating high/moderate anxiety are 10.0% as likely to be *not depressed* as compared to students who indicate none-mild anxiety, as indicated by the output of the model. In other words, **students who indicate high/moderate anxiet y post H E S M 285 are 10 times as likely to indicate depression post HESM285 than studen ts who indic ate a none-mild anxiety score post HESM285.**

Logistic Regression for Post Depression vs Pre Anxiet

y (2 Category)

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	24	100.0
	Missing Cases	0	.0
	Total	24	100.0
Unselected Cases		0	.0
Total		24	100.0

a. If weight is in effect, see classification table for the total
number of cases.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	preAnxBin(1)	-1.386	1.194	1.349	1	.246	.250
	Constant	2.079	1.061	3.844	1	.050	8.000

a. Variable(s) entered on step 1: preAnxBin.

This logistic regression is a test with post depression score as the dependent variable and the binn
ed pre anxiety results as the predictor variable . Pre anxiety test results were binned into None-Low
and Moderate-High categories . Pre anxiety **does not have any impact** on post depression scores
at any reasonable alpha level for this sample size.