

Analysis Proposal

SWK 4093

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Abstract

The purpose of our study was to find whether the implementation of a Collegiate Recovery Program would boost retention rates, raise GPA's, and improve the overall satisfaction of the participants. Qualitative surveys of yes/no answers were sent out to students across the campus. Sixty students responded and of the sixty students sixty three percent were female, thirty three percent male, and one person who identified as transitioning. From the surveys it was derived that further research was needed and more quantitative data to prove the rejection of the null-hypothesis. After the implementation of the Collegiate Recovery Program the students were given the surveys again and quantitative data was looked into. After the CRP the students GPA's raised, their over satisfaction was higher, and the retention rates improved at the University. In conclusion it was found that the implementation of a Collegiate Recovery Program improved the students and the college. For future researchers who would like to replicate this survey they may take into consideration finding more diverse group of students, having more financial means to better the research along with better school support, and have a longer study. Overall the researchers believe that this study has mild to moderate generalizability since the University of Oklahoma has the typical population you would find at other institutions.

Given the data was derived from a yes/no questionnaire with a moderate number of participants, we didn't envision the need to utilize data compilation software. We will plot observed trends on a variety of bar, graph, and pie charts dependent upon what correlations we are trying to highlight. We will use Excel for statistical testing to create graphs to represent the data results.

We will use Excel to analyze the data by showing various graphs that will include pre-test, post-test, a t-test, and a bell-curve. This will confirm our hypothesis that students coming into the collegiate recovery program will have lower GPA's and lower graduation rates. The intervention shows that after the implementation, student's felt less likely to want to quit school and drop out. We will use ordinal measures for our level of measurement to rank GPA before and after the intervention. This reports the ranking of the GPA's without having a variation degree between them. Ordinal means that there is an order. This is a type of quantitative data that is naturally occurring and there is no known difference. Once the intervention is in place, these two rates will rise. With the numbers continuing to increase over the year long "test", this will show confirmation. The null was rejected, and our hypothesis was accepted because the participants had higher retention rates and GPA's. This means the intervention was effective and not due to a sampling error. This is a type I error because we are going to reject the true null hypothesis, which confirms that there is a need for a collegiate recovery program. Our P-value showed a 0.5 thus confirming the rejection of the null hypothesis.

When deciding which methods we were going to use to analyze our data, we chose a T-test so we could compare the two means. This information came from a pre-test and a post-test.

PRE-TEST

We sent a survey through email to students at the University of Oklahoma. Through this, 60 students responded and we were able to then gather data. Of these students 22 of them were ages 18-20, 10 of them were ages 21-23, 20 of them were ages 24-26, and 8 people were of the age 27 or older.

Figure 1A

Ages	Number of students
18-20	22
21-23	10
24-26	20
27+	8

We then asked participants their gender and results showed that 20 males, 38 females, 1 transgender, and 1 unspecified responded. This means that 33% of the participants were male and 63% were females.

Figure 1B

Gender	Number of students
Male	20
Female	38
Transgender	1
Unspecified	1

We used GPA ranges from 1.0-4.0 broken down in sections as our dependent variable. We then asked the participants for their actual GPA so we could gather more accurate data to measure success over the year. We decided to use GPA rates as our dependent variable to support our hypothesis that a Collegiate Recovery Program would increase overall GPA, grades, and success.

Figure 1C

GPA Ranges	Number of students
1.0-1.5	14
1.5-2.0	20
2.0-2.5	14
2.5-3.0	6
3.0-3.5	4
3.5-4.0	2

According to the pretest 8 participants thought about quitting school every day, 8 participants thought about quitting school once a week, 12 participants thought about quitting school once a month, 20 participants wanted to quit school once a semester, and 12 participants never thought about quitting school. After one year of being in the recovery program these results changed dramatically. Results show that 0 participants thought about quitting school everyday, 4 participants thought about quitting school once a week, 6 participants thought about quitting school once a month, 10 participants thought about quitting school once a semester, and a large number of 40 participants never thought about quitting school. According to the t-test, the mean for both the pre and post is 12. The variance increased by 234.

Figure 1D

How often do you want to quit	Pre-test	Post-test
Everyday	8	0
Once a week	8	4
Once a month	12	6
Once a semester	20	10
Never	12	40

Figure 1D(2)

t-Test: Paired Two Sample for Means

	<i>Variable</i> <i>1</i>	<i>Variable</i> <i>2</i>
Mean	12	12
Variance	24	258
Observations	5	5
Pearson Correlation	0.203331	

Hypothesized Mean Difference	0
df	4
t Stat	0
P(T<=t) one-tail	0.5
t Critical one-tail	2.131847
P(T<=t) two-tail	1
t Critical two-tail	2.776445

The t-test breaks down the pre-test and post-test of the GPA ranges. Pre- CRP intervention shows that the mean GPA ranged lower than post-intervention at a 1.3 and increased over the course of a year to an average of 2.3. The variance was increased greatly from pre-intervention to post-intervention proving our hypothesis. The two-tailed test shows we measured the same 60 participants from start of intervention to end of intervention.

Figure 2A

t-Test: Paired Two Sample for Means		
	1.3	2.3
Mean	2.02711864	2.96949153
Variance	0.44511397	0.23526008
Observations	59	59
Pearson Correlation	0.8236419	
Hypothesized Mean Difference	0	
Df	58	
t Stat	-18.859512	
P(T<=t) one-tail	1.0117E-26	
t Critical one-tail	1.67155276	
P(T<=t) two-tail	2.0234E-26	
t Critical two-tail	2.00171748	

Figure 1B displays the pre-intervention bell curve over the course of one semester showing student's GPA averaged a 2.015 with a standard deviation of 0.668. Figure 1C

shows student's GPA averaged a 2.3 with a standard deviation of 0.488. These graphs help show students who are entering into a collegiate recovery program their starting GPAs and how the CRP model can help students gain a higher GPA than they would have if they did not have the intervention in place.

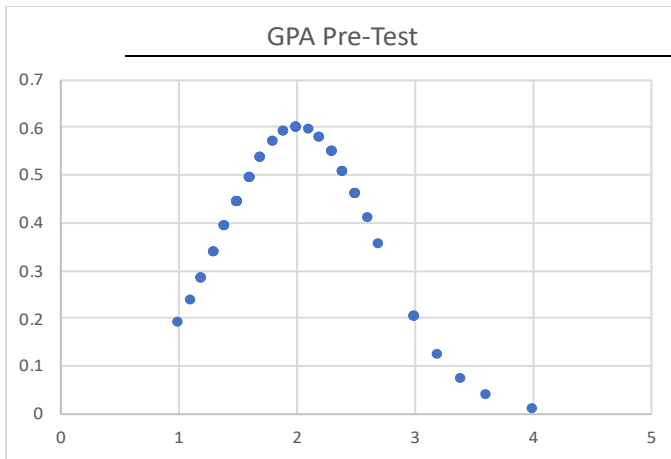


Figure 1B

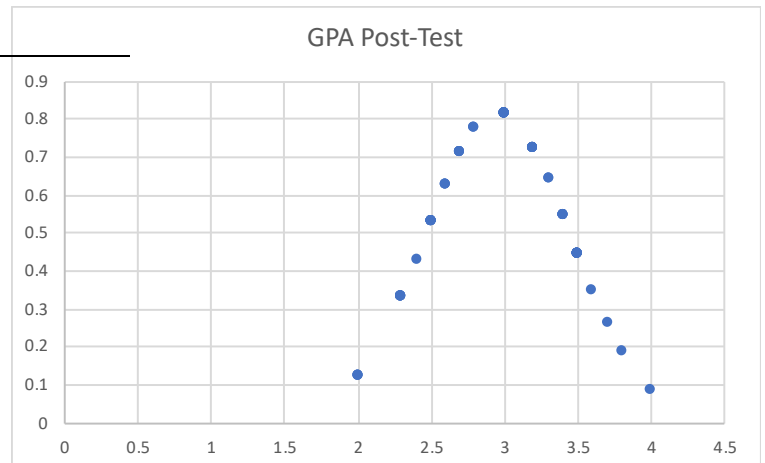


Figure 1C

For further recommendations we would add a qualitative study to further understand the factors that contributed to higher GPA and retention rates as well as decreased frequency of thinking about quitting or dropping out of school. Factors of reasons that could have been identified and contributed are peer interactions, number of times met during the week, counseling services, a dedicated collegiate recovery space, and dedicated staff. Having the data can help identify what worked in the program and perhaps what the students benefited from the most. It is important that this intervention matches the needs of the population. With further researchers collecting qualitative data, it will improve areas in which the program can be enhanced. This qualitative data will

help further researches gain insight into CRP development and overall student's satisfaction in their academic careers. The majority of our participants identify as white. Further studies need to assess a more diverse group to see if results vary amongst different ethnicities. Inquiring more questions about financial resources could help benefit the population with a high financial barrier. In addition, the study needs to be prolonged for more accurate findings and sustainable achievement.

We conducted this study to analyze students' success while participating in a collegiate program. In the fall of 2018 students entering the CRP filled out a Qualtrics survey with questions ranging from their GPA to satisfaction level with mental health. Prior to the CRP intervention, students showed a lower GPA with a correlation of lower retention rates, while students who participated in CRP showed higher GPA and retention rates.

Our data analyzed 60 participants with an average of a 2.0 GPA among the students and a GPA averaged at 2.95 at the end of the year. We rejected the null due to these findings because our hypothesis was correct. We anticipated higher GPA among students after a year in the intervention program. There were limitations due to the nature of our study that can approve upon in further researcher. Overall, the students' satisfaction increased greatly while in a collegiate recovery program.

Appendix

Student GPA ranges (pre-test and post-test data):

GPA range 1.0 - 1.5	Pre-Test	Post-Test
Student 1	1.3	2.3
Student 2	1.5	2
Student 3	1.1	2.3
Student 4	1.5	2.3
Student 5	1.4	2
Student 6	1.4	2.5

Student 7	1.2	2.3
Student 8	1	2.3
Student 9	1.3	2.4
Student 10	1.3	2
Student 11	1.5	2.5
Student 12	1.2	3
Student 13	1.4	2.7
Student 14	1.2	2.5

GPA 1.5 -2.0

student 15	1.7	3
Student 16	1.5	2.7
Student 17	1.6	2.7
Student 18	2	2.8
Student 19	1.7	2.5
Student 20	1.7	3
Student 21	1.6	2.6
student 22	1.6	2.7
Student 23	1.5	2.5
Student 24	2	2.5
Student 25	1.8	2.6
Student 26	1.8	3
Student 27	1.5	2.8
Student 28	1.9	2.6
Student 29	1.6	3
Student 30	1.5	2.5
Student 31	2	3.2
Student 32	2	3.5
Student 33	1.9	3.4
Student 34	1.6	3.4
Student 35	1.5	3

GPA 2.0 -2.5

Student 36	2.3	3.2
Student 37	2.5	3.2
Student 38	2.1	3.4
Student 39	2.5	3.5
Student 40	2.2	3

Student 41	2.3	3.5
Student 42	2.3	3.2
Student 43	2.4	3.4
Student 44	2.4	3
Student 45	2.2	3
Student 46	2.5	3.5
Student 47	2.4	3.2
Student 48	2	3

GPA 2.5 - 3.0

Student 49	2.7	3.2
Student 50	3	3.3
Student 51	2.6	3.3
Student 52	2.5	3.5
Student 53	2.5	3.4
Student 54	3	3.5

GPA 3.0 - 3.5

Student 55	3.2	3.8
Student 56	3	3.5
Student 57	3	3.6
Student 58	3.4	3.5

Pre Test data	dist	mean	stddev
	1.3	0.33679519	2.015
GPA 3.5 - 4.0	1.5	0.44364476	0.66811777
Student 59	1.1	0.25178201	
Student 60	1.4	0.3908996	
	1.4	0.3908996	
	1.2	0.28375094	
	1	0.18831828	
	1.3	0.33679519	
	1.3	0.33679519	
	1.5	0.44364476	
	1.2	0.28375094	
	1.4	0.3908996	
	1.2	0.28375094	
	1.7	0.53430338	
	1.5	0.44364476	
	1.6	0.49235262	
	2	0.59696324	
	1.7	0.53430338	
	1.7	0.53430338	
	1.6	0.49235262	
	1.6	0.49235262	
	1.5	0.44364476	
	2	0.59696324	
	1.8	0.56698343	

Post Test Data	dist	mean	stddev
	2.3	0.32941687	2.95833333
	2	0.11929354	0.48861328
3.6	2.3	0.32941687	
4	2.3	0.32941687	
	2	0.11929354	
	2.5	0.52586875	
	2.3	0.32941687	
	2.3	0.32941687	
	2.4	0.42501773	
	2	0.11929354	
	2.5	0.52586875	
	3	0.81351531	
	2.7	0.70997877	
	2.5	0.52586875	
	3	0.81351531	
	2.7	0.70997877	
	2.7	0.70997877	
	2.8	0.7747169	
	2.5	0.52586875	
	3	0.81351531	
	2.6	0.62396008	
	2.7	0.70997877	
	2.5	0.52586875	

2.1	0.59230086		
2.5	0.45880611		
2.2	0.57465595		
2.3	0.54518541		
2.3	0.54518541		
2.4	0.50576797		
2.4	0.50576797		
2.2	0.57465595		
2.5	0.45880611		
2.4	0.50576797		
2	0.59696324		
2.7	0.35301833		
3	0.2014096		
2.6	0.40698447		
2.5	0.45880611		
2.5	0.45880611		
3	0.2014096		
3.2	0.1238671		
3	0.2014096		
3	0.2014096		
3.4	0.069649		
3.6	0.03580609		
4	0.00723253		

3.4	0.5426509		
3.5	0.44165385		
3	0.81351531		
3.5	0.44165385		
3.2	0.72247844		
3.4	0.5426509		
3	0.81351531		
3	0.81351531		
3.5	0.44165385		
3.2	0.72247844		
3	0.81351531		
3.2	0.72247844		
3.3	0.63939341		
3.3	0.63939341		
3.5	0.44165385		
3.4	0.5426509		
3.5	0.44165385		
3.8	0.18519156		
3.5	0.44165385		
3.6	0.34470901		
3.5	0.44165385		
3.7	0.25800752		
4	0.0841446		