DOWLING COLLEGE
School of Education
Department of Educational Administration, Leadership, and Technology

EDE 9803 - S. Marshall Perry, Ph.D.
Fall 2012

Patricia Murthy – FINAL

CHAPTER IV

DATA ANALYSIS AND FINDINGS

Introduction

The purpose of this study was to examine the participation in a reading program.

The following research questions guided the data analysis:

Research Question One

How did male and female students differ on the pre-assessments of teacher attitudes, teacher expectations, beliefs about computers, attitudes about reading, and attitudes about their class?

A t-test analysis of independent mean scores was utilized to answer this question.

Table 4.1 Independent Sample Means t-test of pre-assessments for males and females

			t-test for Equality of Means			
		M	t	df	Sig. (2-tailed)	Mean Difference
Teacher_Attitude	Female	5.6455	-1.294	356	.196	-.49059
	Male	6.1361				

Teacher_Expectations	Female	6.5238	-1.583	356	.114	-.51761
	Male	7.0414				
Computers	Female	3.9358	.368	352	.713	.08553
	Male	3.8503				
Reading_Attitudes	Female	1.2667	-2.558	338	.011	-1.09583
	Male	2.3625				
Class	Female	4.6684	-1.708	364	.088	-.55516
	Male	5.2235				

Table 4.1 shows the results of an independent sample t-test that was conducted to determine if there were significant differences between males and females on the pre-assessments of teacher attitudes, teacher expectations, computers, reading attitudes and class. The only significance between genders is with reading attitudes as seen with the Sig 2-tailed value of .011.

Research Question Two

How did students differ by ethnicity on the pre-assessments of teacher attitudes, teacher expectations, beliefs about computers, attitudes about reading, and attitudes about their class?

An ANOVA was utilized to examine the differences among ethnic categories for pre-assessments of teacher attitudes, teacher expectations, computers, reading attitudes and class.

Table 4.2 ANOVA Between Ethnic Categories for Pre-Assessments

		Sum of Squares	df	Mean Square	F	Sig.
Teacher_Attitude	Between Groups	71.836	6	11.973	.890	.502
	Within Groups	4719.363	351	13.445		
	Total	4791.198	357			
Teacher_Expectations	Between Groups	45.774	6	7.629	.779	.587
	Within Groups	3436.731	351	9.791		
	Total	3482.506	357			
Computers	Between Groups	35.015	6	5.836	1.232	.289

	Within Groups	1643.689	347	4.737		
	Total	1678.703	353			
Reading_Attitudes	Between Groups	243.613	6	40.602	2.670	.015
	Within Groups	5079.185	334	15.207		
	Total	5322.798	340			
Class	Between Groups	90.904	6	15.151	1.569	.155
	Within Groups	3466.724	359	9.657		
	Total	3557.628	365			

Table 4.2 indicates that there was only a statistical significance between ethnic groups on the pre-assessment of reading attitudes with a significance value of.015. Since the group sizes of the ethnic groups are not equal, then one ethnic group over another could have impacted the results. In considering all the ethnic categories as whole, the only significance was seen on the reading attitudes pre-assessment.

Research Question Three

How did students that did and did not participate in the reading program differ the pre-assessments of teacher attitudes, teacher expectations, beliefs about computers, attitudes about reading, and attitudes about their class?

An independent samples t-test was used to examine the differences between pre-assessments of teacher attitudes, teacher expectations, beliefs about computers, attitudes about reading, and attitudes about their class for those who did or did not participate in the program.

Table 4.3 Independent Samples T-Test of Groups Program Participation and No Participation

			t-test for Equality of Means			
	Program	M	t	df	Sig. (2-tailed)	Mean Difference
Teacher Attitude	No Participate	5.7065	-.660	360	.510	-.25415
	Participate	5.9607				

Teacher Expect.	No Participate	6.7802	.296	360	.768	.09689
	Participate	6.6833				
Computers	No Participate	3.6022	-2.532	356	.012	-.57858
	Participate	4.1808				
Reading Attitudes	No Participate	1.8563	.469	342	.639	.20092
	Participate	1.6554				
Class	No Participate	4.7158	-1.255	368	.210	-.40643
	Participate	5.1222				

Table 4.3 shows the results of an independent sample t-test that was conducted to determine if there were significant differences between pre-assessments of teacher attitudes, teacher expectations, beliefs about computers, attitudes about reading, and attitudes about their class for those who did or did not participate in the program. The only significance between groups is with computers as seen with the Sig 2-tailed value of .012.

Research Question Four

How did students that did and did not participate in the reading program differ on the post-assessments of beliefs about computers, attitudes about reading, and attitudes about their class?

An independent samples t-test was used to examine the differences between post-assessments of beliefs about computers, attitudes about reading, and attitudes about their class for those who did or did not participate in the program.

Table 4.4 Independent Samples T-Test of Groups Program Participation and No Participation

			t-test for Equality of Means			
	Program	M	t	df	Sig. (2-tailed)	Mean Difference
Class	No Participate	3.7430				-.64547
Post	Participate	4.3885	-2.387	315.941	.018	-.64547
Reading	No Participate	1.6514	-.302	310	.763	-.14419

Attitude Post	Participate	1.7956				-.14419
Computers	No Participate	3.7955	-1.447	310	.149	-.38102
Post	Participate	4.1765				-.38102

Table 4.4 shows the results of an independent sample t-test that was conducted to determine if there were significant differences between post-assessments of beliefs about computers, attitudes about reading, and attitudes about their class for those who did or did not participate in the program. The only significance between groups is with class post as seen with the Sig 2-tailed value of .018.

Research Question Five

How did students that did and did not participate in the reading program differ the post-assessments of beliefs about computers, attitudes about reading, and attitudes about their class?

An independent samples t-test was used to examine the differences between pre and post-assessments of beliefs about computers, attitudes about reading, and attitudes about their class for those who did or did not participate in the program.

Table 4.5 Independent Samples T-Test of Group Program Participation

			t-test for Equality of Means			
	Program	M.	t	df	Sig 2-tailed)	Mean Difference
Class Post	No Participate	3.7430				
	Participate	4.3885	-2.387	15.941	.018	-.64547
Class	No Participate	4.7158	-1.255	368	.210	-.40643
	Participate	5.1222				
Read Attitudes	No Participate	1.6514	-.302	310	.763	-.14419
Post	Participate	1.7956				

Reading Attitudes	No Participate Participate	1.8563 1.6554	.469	342	.639	.20092
Computers Post	No Participate Participate	3.7955 4.1765	-1.447	310	.149	-.38102
Computers	No Participate Participate	3.6022 4.1808	-2.532	356	.012	-.57858

Table 4.5 shows the results of an independent sample t-test of program participation with respect to pre and post-tests of beliefs about computers, attitudes about reading, and attitudes about their class. In addition to what was already noted in Table 4.1 there was significance between groups is with class post, there is significance with computers as well (sig 2-tailed .012) between students who did and did not participate in the program.

Research Question Six

What are the relationships among the dimensions of teacher attitudes, teacher expectations, age, and the post-assessments of beliefs about computers, attitudes about reading, and attitudes about their class?

Correlation coefficients were computed using the Pearson Correlation (Sig. 2-tailed)) where a *p value* of 0.05 was required to determine statistically significant relationships the dimensions of teacher attitudes, teacher expectations, age, and the post-assessments of beliefs about computers, attitudes about reading, and attitudes about their class**.** The results of the correlation analysis are reported in Table 6.1.

Table 4.6 Correlations among Variables and Student Age

	age	Teacher Attitude	Teacher Expectations	Computer Post	Reading Attitude Post	Class Post

age	Pearson Correlation					
	Sig. (2-tailed)					
	N					
Teacher Attitude	Pearson Correlation	-.059				
	Sig. (2-tailed)	.267				
	N	357				
Teacher Expectations	Pearson Correlation	-.048	.463**			
	Sig. (2-tailed)	.361	.000			
	N	358	349			
Computers Post	Pearson Correlation	-.015	.038	.096		
	Sig. (2-tailed)	.800	.519	.101		
	N	301	292	292		
Reading Attitude Post	Pearson Correlation	-.066	.229**	.188**	.123*	
	Sig. (2-tailed)	.257	.000	.001	.034	
	N	301	291	292	299	
Class Post	Pearson Correlation	-.114*	.219**	.238**	.144*	.292**
	Sig. (2-tailed)	.047	.000	.000	.012	.000
	N	307	295	295	307	304

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The strengths of the relationships among these variables as seen in Table 4.6 describe a moderate relationship between teacher expectations and teacher attitudes. A weak relationship exists between reading attitudes and teacher attitudes, teacher expectations and computer post. Class post also has a weak relationship with teacher attitudes and teacher expectations. There is an inverse relationship between age and all of the other variables. This indicates as age increases the variables of teacher attitudes, teacher expectations, and the post-assessments of beliefs about computers, attitudes about reading, and attitudes about their class decreases.

Research Question Seven

For all students, how do the dimensions of program membership, teacher attitudes, teacher expectations, age, gender, and the post-assessments of beliefs about computers and attitudes about their class predict attitudes about reading?

A regression analysis was utilized to determine if any of the independent variables predict the student attitudes about reading. The results of the regression analysis are shown in Tables 4.71 and 4.72, the model summary and coefficients respectively.

Table 4.71 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.280[a]	.078	.074	3.75605
2	.321[b]	.103	.096	3.71234
3	.350[c]	.122	.111	3.68048

a. Predictors: (Constant), Teacher_Attitude

b. Predictors: (Constant), Teacher_Attitude, gender

c. Predictors: (Constant), Teacher_Attitude, gender, Teacher_Expectations

Table 4.72 Coefficients'

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.220	.487		-.451	.652

	Teacher_Attitude	.320	.070	.280	4.551	.000
2	(Constant)	-.738	.521		-1.416	.158
	Teacher_Attitude	.304	.070	.266	4.360	.000
	gender	1.237	.475	.159	2.604	.010
3	(Constant)	-1.452	.604		-2.405	.017
	Teacher_Attitude	.222	.078	.194	2.851	.005
	gender	1.177	.472	.151	2.495	.013
	Teacher_Expectations	.185	.081	.156	2.286	.023

a. Dependent Variable: Reading_Attitudes

The model summary reveals that none of the models' have an r-square close to approaching one, therefore none of those variables are very good predictors of reading attitudes. The best of the models includes teacher attitudes, gender and teacher expectations as predictors of reading attitudes, and teacher attitudes , gender and teacher expectations have significance of .005, .013 and .023 respectively.

Research Question Eight

For all students, how do the dimensions of teacher attitudes, teacher expectations, age, gender, and the post-assessments of beliefs about computers, attitudes about their class, and attitudes about reading predict program membership?

A binary logistic regression analysis was used to answer the research question of how teacher attitudes, teacher expectations, age, gender, and the post-assessments of beliefs about computers, attitudes about their class, and attitudes about reading may be predictors of program membership.

Table 4.8 **Omnibus Tests of Model Coefficients**

		Chi-square	df	Sig.
Step 1	Step	11.509	6	.074
	Block	11.509	6	.074
	Model	11.509	6	.074

Table 4.81 Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	347.864[a]	.043	.057

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Table 4.82 Classification Table

			Predicted Program		
	Observed		did not participate	participate	Percentage Correct
Step 1	Program	did not participate	126	24	84.0
		participate	77	36	31.9
	Overall Percentage				61.6

a. The cut value is .500

Table 4.83 Variables in the equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	gender	.232	.260	.793	1	.373	1.261
	Teacher_Attitude	.024	.043	.323	1	.570	1.025
	Teacher_Expectations	-.044	.046	.915	1	.339	.957
	ClassPost	.145	.063	5.282	1	.022	1.156
	ReadingAttitudePost	-.032	.034	.864	1	.353	.969
	ComputersPost	.107	.062	3.003	1	.083	1.113
	Constant	-1.261	.463	7.431	1	.006	.283

a. Variable(s) entered on step 1: gender, Teacher_Attitude, Teacher_Expectations, ClassPost, ReadingAttitudePost, ComputersPost.

*I do not consider myself at a level of interpretation even close to this. You had said in the notes at the end of assignment, "*If there is a binomial logistic regression needed, use "Conditional LR." *But this was not an option (unless I am missing something. I was on the right track but only wish I did not leave this until the final hour!*