CHAPTER IV

ANALYSIS OF DATA and STUDY RESULTS

Introduction

Three questions guided this research study. These questions are: a) Is Goal Accomplishment Style, as measured by the Goal Orientation Index (GOI) related to persistence and dropout in an online, computer-conferenced class? b) Is there a relationship between other selected variables (Demographic, Personal, Institutional, and Participative) and student persistence and dropout in the online, computer-conferenced environment? c) Can a relationship between Goal Accomplishment Style and the other selected variables be identified and related to persistence and dropout in an online, computer-conferenced class?

This chapter presents the results of the statistical analyses conducted. The textual narrative developed as a result of the qualitative interviews conducted with 6 dropout students is also included. The purpose of the qualitative interviews was to further illuminate the findings of the statistical analyses and to add depth to the quantitative study results.

Survey Response Rate

The first mailing of Pre-Course Survey packets was sent to 528 students registered in 20 of the institution's online, computer-conferenced classes, on June 1, 1998. The summer semester officially began May 26, 1998. The Pre-Course Survey packets contained a cover letter explaining the study's purpose, a Pre-Course Survey, the GOI instrument and Scantron™ answer sheet, a Human Subjects Consent form, and a self-addressed stamped envelope. One hundred and fifty-four of these surveys (29%) were completed

and returned by June 20, 1998. Two student packets were returned during this time period due to incorrect addresses. (Verification of the student database for an updated address was made throughout the prime mailing period. The students' addresses were never updated or corrected on file.)

A second mailing of 388 Pre-Course Survey and GOI instrument packets was posted on June 22, 1998. This second mailing included the 372 non-respondents to the first mailing plus 16 late registrants for the semester. (The late registration period for the summer 1998 semester ended June 2.) A total of 544 Pre-Course Survey packets were mailed and 241 were returned (44%).

Each of the 241 students who responded to the Pre-Course Survey was mailed a Post-Course Survey packet on July 22, 1998. This was approximately 3 weeks prior to the end of the semester. A second mailing of the Post-Course Survey packets was sent on August 8. By August 20th, 216 students responded to the two mailings of the Post-Course Survey, yielding a 40% response rate for the study. (Instructor reminders posted to the online course conferences resulted in the higher than expected return rate.)

Table 9 depicts the total number of students registered for each course included in the study and the number and percentage of surveys returned for each course. As a note, the percentage of surveys returned by class has also been included in Table 9. The response rate for each individual class was acceptable, ranging from a low of 29 percent for the Writing for Managers course, Section 6922 to a high of 68 percent for the Human Resources management Class. (Please refer to Chapter 3, Table 4 for an explanation of course titles.)

Table 9
Survey Instruments and GOIs Returned by Course

Course No.	Course Title	No. Students	No. (%) Return	% Return/ Class
BEHS343	Parenting Today	23	8 (4%)	35%
BEHS363	Human Sexuality	30	13 (6%)	43%
CAPP340	Computer Applications	35	11 (5%)	31%

CMIS370	Data Communications	46	16	(7%)	35%
CMIS435	Computer Networking	45	12	(5%)	29%
CMIS445	Distributed Networking	18	6	(3%)	33%
COMM390	Writing for Managers				
Section6920		26	10	(4%)	38%
Section6921		25	8	(4%)	32%
Section6922		25	5	(2%)	20%
COMM393	Technical Writing	25	8	(4%)	32%
HUMN301	Worldview in the Humanities	18	9	(4%)	50%
IFSM201	Introduction to Computers	32	17	(8%)	53%
IFSM300	Information Systems	46	23	(11%)	50%
MATH107	Selected Topics/College Algebra	36	12	(6%)	33%
MGMT300	Leadership	19	9	(4%)	47%
TMGT310	Problem Solving	22	9	(4%)	41%
TMGT322	Principles of Marketing	13	6	(3%)	46%
TMGT350	Organizational Development	14	7	(3%)	50%
TMGT360	Human Resources Management	22	15	(7%)	68%
TMGT430	Project Management	24	12	(6%)	50%
	TOTAL:	544	216	100%	

En toto, 216 completed Pre-Course Surveys, GOI Scantron™ sheets, Human Subjects Consent forms and Post-Course Surveys were received from students in the institution's summer online courses. Of the 216 study participants, only 12 (6%) were dropouts, as compared to the 11 percent dropout rate for the client-server-based classes or the 14 percent dropout rate for the entire population of online, computer-conferencing students for the summer 1998 semester. Note: The dropout rates referred to in this study include: 6% (Study dropout rate), 11% (client-server-based online course dropout rate), 14% (Average of client-server and Web-based course dropout rate) and, 17% (Web-based course dropout rate).

All returned instruments were reviewed, the data verified, and the light pencil markings on the Scantron™ response sheets were darkened. Erroneous values were treated as missing data. The instructor for MATH 107 responded with a score of "5" when asked

to rate each student's timeliness of assignment submission. As stated in the instruction sheet provided to each instructor, valid responses to this question were:

1) No assignment were submitted
2) Some assignments submitted in a timely manner, most were late
3) Most assignments submitted in a timely manner; few were late
4) All assignments submitted in a timely manner

Using the "Define Variable" option in SPSS, five was defined as a "missing value" and not included in the statistical calculation for this variable.

The small number of dropouts among those students responding to the survey, e.g, 12 out of 216, posed a problem with statistical power when conducting the initial logistic regression analysis because the SPSS software was unable to process all 25 of the study variables in one logistic regression, as proposed in the original study. The low study dropout rate (6 percent of survey respondents) also contributed to problems with analysis of the predictive strength of the significant variable model. This issue will be discussed in further detail later in this chapter.

Profile of the Sample – The initial descriptive analyses, e.g., the Pearson correlation and frequency distributions were conducted first. The results of these analyses are summarized in the paragraphs below and presented in Appendix I. According to the proposed study, the analyses results would be examined and any highly correlated variables (over r=0.80) would be combined and used as part of the initial logistic regression. None of the 25 study variables proved to be highly correlated and as a result, no variables were combined. The results of these initial descriptive analyses are presented in the following tables, grouped according to the variable subcategory, e.g., whether demographic (D), personal (PE), participative (PA), institutional (IN) or GOI.

Table 10 depicts the demographic variable analysis results. The average age of the study participants was 34, with a range between 18 and 53 years of age. One hundred and twenty respondents (55.6%) were women and ninety-four (43.5%) were men; 135

survey respondents (62.5%) were white and 45 (20.8%) were black. These demographics are consistent with the demographics of the institution as a whole. Six percent of the study participants elected not to respond to the ethnicity question.

Table 10
Demographic (D) Variable Analysis

Variable	Frequency	%	Mean	S. D.
Age			34	8.02
Gender				
Female	120	55.6%		
Male	94	43.5%		
Missing Data	2	.9%		
Ethnicity				
White	135	62.5%		
Black	45	20.8%		
Asian or Pacific Islander	7	3.2%		
Hispanic	6	2.8%		
Other	5	2.3%		
American Indian	3	1.4%		
Multiple Race	3	1.4%		
Missing Data	12	5.6%		

The personal (PE) variable analysis is displayed in Table 11. The students who responded to this survey had a mean grade point average (GPA) of 3.23 on a scale of 4.0. Their final grades for the online courses taken during the time of the survey yielded a mean of 4.28, which corresponds to a B+ average. Over 54 percent of the survey respondents (117 of the 216 students) received an A for their online class. A disproportionate number of highly motivated students would appear to have responded to the survey.

Over half of the respondents (55%) indicated this course was not their first course online, and 47% rated themselves as having intermediate computer expertise. A relatively large proportion of those responding to the survey (39%) are in a computer-related specialization, e.g., either computer management information systems (CMIS) (20.4%) or information systems management (IFSM) (18.1%); the next largest group of students are in the business management (BMGT) specialization (15%). Students indicated the primary reason they take courses in the online delivery format is for

convenience (69%). The next reported reason, the course is only offered in the online format, received only 8 percent of the responses followed by those who “want a new experience” (6.5%)

Table 11

Personal (PE) Variable Statistics

Variable	Frequency	%	Mean	S. D.
GPA			3.23	.81
First online course				
No	117	54.6%		
Yes	96	44.4%		
Computer Expertise			2.86	.85
Intermediate	102	47.2%		
Expert	49	22.7%		
Passing Knowledge	48	22.2%		
Novice	15	6.9%		
Missing Data	2	.9%		
Final Grade			4.28	1.14
"A" (5)	117	54.2%		
"B" (4)	41	19.0%		
"C" (3)	17	7.9%		
"D" (2)	5	2.3%		
"F" (1)	12	5.6%		
"I" (6)	12	5.6%		
"W" (7)	12	5.6%		
Current Specialization				
CMIS	44	20.4%		
IFSM	39	18.1%		
BMGT	32	14.8%		
Computer Studies	18	8.3%		
TMGT	17	7.9%		
Other	66	30.5%		
Reason for taking course				
Requirement	115	53.2%		
Elective	49	22.7%		
Work-related	10	4.6%		
Self-enrichment	8	3.7%		
Secondary specialization	8	3.7%		
Other	26	24.1%		
Reason for taking course online				
Convenience	148	68.8%		
Only in online format	18	8.3%		
Wanted new experience	14	6.5%		
Other	36	16.4%		

As indicated in Table 12, the institution as a whole received high marks for its course materials and student services and support efforts. Seventy-six percent of the students

Table 12
Institutional (IN)Variable Analysis

Variable	Frequency	%
Overall Difficulty		
Most Difficult	6	2.8%
More Difficult	92	42.6%
No Difference	100	46.5%
Less Difficult	13	6.0%
Least Difficult	4	1.9%
Missing Data	1	.5%
Initial Experience w/Software		
No Problems	97	44.9%
Minimal Problems	91	42.1%
Intermediate Problems	20	9.3%
Unresolved Problems	6	2.8%
Missing Data	2	.9%
Assignment Load		
Most	6	2.8%
More	99	45.8%
No Difference	102	47.2%
Less Heavy Load	6	2.8%
Least Heavy Load	2	.9%
Missing Data	1	.5%
Materials Quality		
Inadequate	3	1.4%
Below Average	11	5.1%
Satisfactory	88	40.7%
Above Average	93	43.1%
Superior	18	8.3%
Haven't received texts	1	.5%
Technical Support		
Inadequate	4	1.9%
Below Average	10	4.6%
Satisfactory	52	24.1%
Above Average	55	25.5%
Support Not Required	93	43.1%
Missing Data	2	.9%
Login ID w/in 5 Days		
Yes	165	76.4%
No	44	20.4%
N/A (Had one from previous class)	5	2.3%
Missing Data	2	.9%

responding to the survey indicated they received their login and communication software within five days of registration. In addition, 87 percent of the students who responded indicated they experienced no (44.9%) or just minimal (42.1%) problems

(*problems easily resolved*) loading the communications software. Fifty percent of the respondents rated the technical support they received as *satisfactory* (24.1%) and *above average* (25.5%) and as reported previously, 43 percent of the students responding did not require technical support.

Eighty-four percent of the students responding to the survey rated the overall quality of their course materials as *satisfactory* (40.7%) or *above average* (43.1%), while 8 percent found their course materials to be *superior*. Note: The Pre-Course Survey question asked students to rate their course materials "in general", not compared specifically to any other course materials, whether for the online or traditional classroom.

One hundred and two students (47%) responded that they perceived *no difference* in the assignment load for their online class while 99 students (46%) thought the assignment load was *more difficult*. The students either rated the overall difficulty of their online course as *no different* than their traditional face-to-face courses (47%) or *more difficult* (43%) than their traditional face-to-face classes.

The results of the frequency analysis for the participative (PA) variables are given in Table 13. As indicated, 62 percent of the students who responded to the survey were either *satisfied* (41%), or *very satisfied* (21%) with their online course.

Table 13
Participative (PA) Variable Results

Variable	Frequency	%
Online Interaction		
No Interaction	3	1.4%
Little Interaction	32	14.8%
Somewhat Interactive	70	32.4%
Interactive	81	37.5%
Very Interaction	29	13.4%
Missing Data	1	.5%
Class Satisfaction		
No Satisfaction	3	1.4%
Little Satisfaction	19	8.8%
Same Satisfaction	59	27.3%
Satisfied with class	89	41.2%
Very satisfied with class	45	20.8%
Missing Data	1	.5%
Take Another		
Yes	204	94.9%
No	11	5.1%
Missing Data	1	.5%
Recommend Another		
Yes	190	88.0%
No	21	9.7%
Depend	3	1.4%
Unknown	1	.5%
Missing Data	1	.5%
Timely Submission		
None submitted on time	15	6.9%
Some submitted on time	21	9.7%
Most submitted on time	33	15.3%
All submitted on time	126	58.3%
Missing Data	21	9.7%
Student Participation		
Very participative	101	46.8%
Somewhat	43	19.9%
Limited participation	24	11.1%
Little participation	15	6.9%
No participation	20	9.3%
Missing Data	13	6.0%

Ninety-five percent of students indicated they would *take another* class in the online format while 88% of the students responding said they would *recommend* the online conferencing format. Three students apparently were simultaneously taking online classes in the newer, web-based format the institution also offers and commented that

they would recommend online classes in the web format only. Further, these 3 students indicated the response time of online classes via the client-server mode was much too slow.

The results of the Goal Orientation Variable analysis are presented in Table 14. These variables are Planning, Acting, and Reflecting. A student scoring high in the planning category is capable of setting goals and conceptualizing long range plans. Scoring high in the Acting category means that a student is capable setting goals and putting the strategic plan into action. A student scoring high in the Reflecting category is capable of identifying alternative solutions, assessing the risks associated with each, and once the task is completed, appreciate and reflect the results, Atman (1987) refers to this as the "Ooh & Ah! subcategory.

Table 14
Goal Orientation (GOI) Variable Analysis

Variable	Mean	S. D.
Planning	122.93	18.81
Acting	128.89	18.89
Reflecting	106.02	22.56

The scores for study participants yielded expected results in that, overall, the students who responded to the survey scored highest in the Acting category, less strong in Planning, and least strong in the Reflecting category. These results follow Atman's norms profile of American adults (n=1116) (Atman 1990).

Of the 12 dropout cases, 8 students scored above the mean in all three categories. Two of the student dropouts fell below the mean in all three categories. One student scored just above the mean in the planning and reflecting categories but below the mean in acting.

A Pearson correlation was then conducted, in which the *r* values were calculated for all pairs of the continuous independent variables. The expected significant relationships resulted from the Pearson correlation analysis, such as the relationship between student participation and timely submission of assignments ($r = .73$) and between a student's final grade and GPA ($r = .53$). Logically, it follows a strong, positive correlation can be made between a student's active participation in the online classroom and the timely submission of assignments. Likewise, maintaining a high GPA, results in a higher likelihood of the student performing well in the online class and receiving a higher final grade.

Some additional interesting relationships were found by examining the relationship between a student's age and GPA ($r = .18$) and between age and the final grade ($r = .15$). While these relationships are small, they are significant to the .05 level, thus allowing inferences to be made. First, based upon the result of the correlation analysis, older students seem to maintain a higher GPA and second, older students fared better in the online class with respect to a final grade.

The highest correlations, which resulted from this analysis for the continuous variables, were those that included the participative (PA) variables. The continuous participative variables in this study included: online interaction, class satisfaction, student participation, and timely submission of assignments. The first two variables measure students' perceptions of online course interactivity and overall course satisfaction; the latter two variables measure the faculty member's perception of each student's level of participation.

The correlation results for the participative variables reflected a significant relationship between a student's participation in the online course and the final grade received ($r = .16$) and between the timely submission of a student's assignments and the final grade

(r = .60) and GPA (r = .22). The more a student participated in the online classroom and the more timely the course assignments were submitted, the higher the student's final grade for the course. In addition, study results show the older a student, the more likely assignments are to be submitted in a timely manner (r = .21).

An important correlation that resulted from the participative variable regression was the moderately high correlation between a student's measure of class satisfaction and the perception of how interactive the online class was (r = .54). Therefore, higher class satisfaction is associated with increased online activity. The participative (PA) variables yielded the strongest results in the correlation analysis conducted.

Logistic Regression Analysis

The purpose of a logistic regression is to determine the most parsimonious set of variables that can be used to predict the dichotomous dependent variable, e.g., persistence/dropout. These variables are determined by their significance rating as determined by the SPSS software. To be significant, a variable is said to be better than simple chance at predicting the specified outcome. In addition, logistic regression analysis measures the predictive power or relative strength of the variable model.

For this study, 25 variables were identified as independent variables (IV's), culled from previous dropout research and adapted for the online, computer-conferenced environment. A Pearson correlation was conducted and no highly correlated variables resulted. Thus, all variables were sufficiently interdependent to be used in the initial logistic regression analysis. However, as stated previously, there was an insufficient sample size to permit a logistic regression calculation to be conducted using all 25 independent variables.

To answer the study questions, separate logistic regressions were then conducted using the individual variables in the sub-categories, e.g., demographic (DE), institutional (IN),

personal (PE), participative (PA), and Goal Orientation Index (GOI). The results of these individual logistic regression analyses are discussed below. In instances where variables in the category were found to be significant, the table is displayed within the text. If there were no significant variables identified, the logistic regression table can be found in Appendix J.

The first study question was: Is Goal Accomplishment Style, as measured by the Goal Orientation index (GOI) related to persistence and dropout in an online, computer-conferenced class? The logistic regression for the GOI variables, Planning, Acting, and Reflecting yielded no significant results. The table containing the results of the GOI variable logistic regression can be found in Appendix J.

The second study question was: Is there a relationship between other selected variables (Demographic, Personal, Institutional, and Participative) and student persistence and dropout in the online, computer-conferenced environment? The results of the logistic regressions conducted to answer this question are found on pages 88 through 91.

The logistic regression for the demographic (D) variable subcategory utilized three variables; age, gender and ethnic identity. No variable was found to be significant to dropout/persistence. Appendix J contains the results of the Demographic (D) variable regression analysis.

The logistic regression using the six institutional variables also did not result in any significant findings. Please reference Appendix J for the table containing the results of the Institutional (IN) variable regression analysis.

Seven variables were included in the logistic regression analysis for the personal (PE) variable category. The analysis process indicated the personal variable logistic regression could not be run because there was not a sufficient number of dropout cases

with complete responses. Logistic regressions were conducted on individual personal variables. None resulted in significance to persistence/dropout.

The participative (PA) variables proved to be significant when predicting dropout and persistence. First, a logistic regression was initiated using all six of the participative category variables. Results of this analysis can be found in Table 15. The variable, timeliness, yielded the most significant results with a significance level of .0014. The more timely a student is with respect to assignment submission, the more likely the student is to persist. (Appendix K, Table 1)

Table 15
Results of Participative (PA) Logistic Regression Analysis

Variable	B	S.E.	df	Sig	R
TIMELINESS	-1.7016	.5238	1	.0014*	-.3033
PARTICIPATION	-.1641	.3344	1	.6237	.0000
INTERACTION	.5956	.6366	1	.3493	.0000
SATISFACTION	-.3771	.5572	1	.4985	.0000
RECOMMEND	1.2415	1.0329	1	.2294	.0000
TAKE ANOTHER	.1489	1.7635	1	.9327	.0000

Table 16 presents the results of the satisfaction variable analysis. Once the initial participative logistic regression was conducted, a second regression was conducted using three of the participative variables designed to measure a student's perception of satisfaction with the online class. These variables, usually closely associated in the literature, include: Overall Satisfaction, Recommend Another and Take Another. The variable Recommend Another proved to be a significant predictor of persistence or dropout (p=.0253). (Appendix K, Table 2)

Table 16
Results of Logistic Regression Analysis Using Subset of Participative Variables

Variable	B	S.E.	df	Sig	R
SATISFACTION	-.2575	.3086	1	.4040	.0000
RECOMMEND	1.0249	.4583	1	.0253*	.1814
TAKE ANOTHER	-.3384	1.1394	1	.7665	.0000

The results of the logistic regression using Timeliness and Participation are presented in Table 17. Participation, as determined by the faculty member, measured the student's level of participation in the online class. Timeliness, again determined by the faculty member, measures the student's assignment submission timeliness.

Table 17
Results of Logistic Regression Analysis Using Faculty-Related Variables

Variable	B	S.E.	df	Sig	R
TIMELINESS	-1.7054	.5017	1	.0007*	-.3284
PARTICIPATION	.3134	.3134	1	.5372	.0000

The third study question was: Can a relationship between Goal Accomplishment Style and the other selected variables be identified and related to persistence and dropout in an online, computer-conferenced class? The only significant relationship that resulted was between Acting and Timeliness. Table 18 presents the results of this logistic regression. Acting, this time, was significant (p=.04) and Timeliness was also again significant (p=.00). Acting is a goal-directed activity so it follows that it would be significant when predicting persistence/dropout. (Appendix K, Table 3)

Table 18
Results of Acting, and Timeliness Logistic Regression Analysis

Variable	B	S.E.	df	Sig	R
ACTING	.0505	.0250	1	.0439*	.1575
TIMELINESS	-2.2393	.5047	1	.0000*	-.4615

Logistic Regression Analysis Summary

Significant variables identified during the logistic regression analysis as predictors of persistence and dropout include: Timeliness (PA), Recommend, e.g., whether or not an online student would recommend another online class, (PA), and Acting (GOI). As a result of the initial logistic regressions, these three variables were found to be significant, they proved to be better than chance for predicting persistence/dropout.

Next the Classification Table for each of the significant logistic regressions was analyzed for the number and percent of persisters and dropouts correctly predicted by the variables used in the calculation. The results of this analysis indicated these four variables were not a strong predictive model, e.g., these variables were significant, just not strong predictors of persistence/dropout in the online environment.

The Classification Tables for each of the study's significant logistic regressions can be found in Appendix K. The tables indicate that while the logistic regression model for each of the significant variables correctly predicts persisting students in 100% of the cases, the model only rarely predicts instances of dropout. For example, the participative (PA) variable model, predicted persistence in 98 percent of the cases and correctly predicted dropout only 46 percent of the time.

If the sample size of this study had been larger, e.g., if thousands of students had completed and returned surveys, a 6 percent dropout rate would have enabled a more definitive conclusion regarding the predictive capability of the significant independent variables. The only comment to be made is that these three variables are significant predictors to a slight degree.

One last observation to be made about these significant variables is that only 1 variable, Acting, could be determined prior to the start of a semester and used successfully as part of a pre-course diagnostic tool. Timeliness and Recommend were both collected from post-course study instruments.

In addition to identifying these variables, the study was important for the questions it raised about using variables to capture multi-dimensional behaviors. What the research confirmed is that an adult student's decision to persist or dropout of an online class is a complex decision, not easily identified with quantitative variables. The qualitative interviews bore further evidence to this conclusion.

Qualitative Interview Discussion

In the original study proposal, three of the six qualitative interviews were to be conducted with persisters and three interviews were to be conducted with dropout students in the summer 1998 semester. To compensate for the overwhelming number of study participants who were persisters, all six interviews were conducted with students who elected to dropout of their online, computer-conferenced class. Note: the six students were not selected from among the twelve original dropout students who participated in the study. The six students interviewed were taken at random from the institution's master list of students withdrawing from any of the 52 online computer-conferenced classes for the summer 1998 semester. The intent behind including non-participating dropouts was to interview students who were not the "eager" students who seemed to have participated in the survey. Using non-study participants might yield a new dimension.

The purpose of the student interviews was to provide insight into the dropout decision process and to add depth to the quantitative study. Each student was contacted by telephone at which time an appointment, most convenient for the student, was made. Each interview was tape recorded, with the students' permission, transcribed and analyzed for major themes. The major themes that emerged from the in-depth interviews are discussed in the paragraphs below.

Theme 1 – Adjusting the workload

The most important message that came to light during the in-depth interviews with each of the dropout students was that they were not dropping out of their degree programs. Rather, the students interviewed were merely adjusting their course workload to better accommodate the shortened, more compact summer semester timeframe. In four of the six cases, the students interviewed were taking two courses during the semester. These

students described how once they reviewed the syllabus and noted the course requirements, they decided the combined course load would be too much for them to complete successfully. The majority of students interviewed said they found it difficult to balance the requirements of family, home, work and school while taking two classes, especially during the shortened summer semester.

> I work 50 hours full time with a part time job on the weekend. I have two stepkids and I'm going to school. It makes it a lot easier not having to be somewhere every night of the week.
> (Sue)

> I like the idea of physically being with my children while I'm in the class. The appeal was the convenience.
> (Nancy)

While these four students appeared as dropouts on the institution's master dropout report, they were actually persisters in other courses they were taking, either in online or traditional, face-to-face classes. All six of the students interviewed planned to complete their degrees and eventually go on to graduate school. These six "dropouts" were very highly motivated students.

Two students interviewed were graduating seniors and planned to attend the May graduation ceremony. One student had completed the degree by taking only courses offered in the online mode. The other student had taken courses both traditionally and in the online environment.

Two of the interviewees were pregnant. Initially, these students related, they had elected to take courses during the summer semester, one registering for two courses, so they could take a semester off once delivery occurred and not "fall too far behind" in their degree pursuit.

> We're pregnant and I'll be taking a break through the fall semester to do mommy things. The baby is due in January and I'll probably start back up again in the spring term.
> (Alice)

These two students planned to continue taking online classes while they were home with their infants. Another student was "just getting out of a bad marriage" and decided to take two courses to move more quickly along in the process of obtaining her degree. This student had a child to raise and because of access to online courses, she could take classes without giving up quality time with her child.

Theme 2 – Convenience of the online environment

All six students who were interviewed related they elected to take the courses online because of the convenience of not having to drive to class in rush-hour traffic and hassle with parking. One student interviewed lived over 200 miles away from campus and wanted to continue her degree with the institution. Taking the class in the online format was her only option.

As a note, a high percentage of the quantitative survey responders (69 %) cited "convenience" as the reason for taking online classes. But only during the interviews with students did the multi-faceted dimensions of the term convenience begin to be discerned more fully. For one student in particular, the "convenience" of online classes allowed her to finish her chemotherapy treatments and physical therapy for her breast cancer while continuing her studies. This student related how she, along with her husband, had just made the decision for her to finish her degree when she received the diagnosis. This student related how she felt apprehensive at the thought of taking courses in the online format but was resigned to enrolling in the program because she had no other options available to her if she was to complete her degree.

Once her chemotherapy ended, her husband became terminally ill. The online class delivery format allowed her to tend for her husband while she pursued her degree. At the point of his diagnosis, she had become quite comfortable with the online format and

found comfort in posting to the conference and communicating with other students, while still being available should her husband require assistance.

This student completed her degree effective December 1998. She related how sad she was her husband is no longer alive to share in her accomplishment, but she does plan to fly her father from Buenos Aires to attend her graduation ceremony in May, 1999. I present this student's story in detail to illustrate the dedication with which some adult students pursue their education. In the face of terrible personal trials, these students persevered, even taking comfort and solace in the learning process. A major theme that emerged during the interviews is that adult students are looking to the online environment for providing educational opportunities they would not otherwise have sometimes due to circumstances beyond their control.

Theme 3 – Interactivity and participation in the online environment

Two other themes that emerged from the qualitative interviews include the concept of interactivity and the student's perception of learning in the online environment. With respect to interactivity, the student responses were varied. Two students "hated" the thought of interacting with other students in the traditional class as well as in the online environment.

> I didn't pay all this money to hear another student blabbing away.
> (Jack)

Later he added:

> There are times when I don't want to listen to an instructor who I think doesn't know what he's talking about.
> (Jack)

When probed further specifically about participating in collaborative group work, the student described prior bad experiences where he had to contend with non-participating team members. Follow-on questions about the appropriateness of the design of the

team activities he was asked to participate in were brushed away impatiently. Group activity design did not seem to matter in this student's opinion because team exercises were "a waste of time" in general. In this student's opinion, it was not a question of activity design, but rather the concept of working in assigned teams, that was a bad idea, whether in the traditional or online classroom.

While he was the most vocal, most of the other students also did not seem to have a high opinion of group work either in the online or traditional classroom. A few of the students interviewed voiced concerns about "carrying" other team members who didn't participate fully. A few of the students interviewed were concerned with the "unfairness" of their hard work and research efforts going unacknowledged. In addition, the students cited lack of time for not interacting with fellow students in group work.

> I ended up calling my teammates to get them started. One lived in Florida and I paid for the calls out of my own pocket. No one would do anything.
> (Jack)

Only one student did not voice a concern about working in a collaborative environment and actually thought that the team environment was part of the "college experience".

> Yeah, it (activity) does (add a dimension of learning to the online environment) because when you're thinking of college work, you're looking at different perspectives and you need those different perspectives not just your own, or just the instructors, but you need to know how other students feel about stuff. I feel it's very important to the learning.
> (Alice)

When asked specifically about interaction through online conferencing, the students said they did not mind responding to conference questions as part of individual assignments, but they did not want to work in teams to develop group responses. In conferencing dialogues, for example, students have the opportunity to post individual

responses to thought questions originated by the instructor and by other students where they can demonstrate their analysis and grasp of the concepts.

> I tend to be shy and it's sometimes hard for me to speak my opinions in class but I wasn't shy about sending e-mail messages. So that was neat, you know. It was always there because we posted our messages and they stayed up.
> (Nancy)

All of the students interviewed made it very clear they registered for online classes because the online environment provided them the freedom to participate when it was most convenient for them and not because they had a set class time to meet. Reflecting on questions and developing individual responses seemed to fit student requirements, participating in groups did not.

Theme 4 – Structuring the learning process in the online environment

The last theme explored in the course of the in-depth interviews was that of the learning process as it relates to the online environment. First, the students were asked about their initial thoughts as they faced the blank screens for the first time after switching on their computer and loading their communication software. What went through their minds? How did they begin to manage their learning? Not surprisingly, all six of the students said they began by reading the online syllabus to find out about the course requirements and begin making a schedule of assignment due dates.

> It was kind of exciting. I checked stuff out and made calls to the support center to find out how do you this or how you do that. Once I got on, I started looking around and reading my syllabus.
> (Nancy)

The students said they learned from taking previous online course experience that good time management was critical to success in the online class. (All six of the dropouts interviewed previously had taken online classes and had formed their strategies for success.) The major concern the students had was the course requirements. What was required of them to get a passing grade? What mark did they have to meet?

Next the students began reading the text and responding to instructor and fellow student e-mails and joining in conference dialogues. For the most part, the students said they appreciated frequent contact with their instructors, whether as responses to their topic conference posts or to their e-mail notes. Interactivity and frequent contact with their faculty and with other students was very important to most of them.

> I read and reread my texts and online materials until it begins to make sense and I am comfortable with the concepts I was supposed to understand. (Anna)

As an aside, when the students were asked if they believed they had learned in the previous online courses in which they had persisted, the students responded they had. When questioned further, the students all described the process of how they read the materials, participated in the online conferences and conducted the research required for the course, calling on the faculty member for clarification as needed. Two students interviewed discussed time management skills specifically as paramount to succeeding in the online class. One student described how she had mapped out the assignment due dates and included a distribution date two-weeks prior to the actual date the assignment was due to the instructor. The student related how she would develop her paper two weeks prior to the due date and give it to co-workers at her office to critique. This student was a non-native English speaker and wanted input on her grammar and sentence structure before formally turning in her assignments.

When responding to the question regarding their decision to dropout from their online class, most students said they made their decision based upon the amount of work required for the courses and whether or not the course was required for their degree. One student, however, indicated she withdrew from her mathematics course because she needed the support of a face-to-face instructor to conquer the “secrets” of mathematics.

> I dropped the classes and I need to be in a class with a teacher that I can keep raising my hand and asking questions. I don't think Algebra should be taught over the internet.
> (Nancy)

When questioned further, the student indicated she needed the security of someone to explain the fine points and answer her questions as soon as they develop. This student believed the asynchronous mode was insufficient for her when mathematics was the subject matter at hand. This student's response raises another important question. Are there subject topics that should not be taught online yet because the technology is not sufficient to support student learning?

When asked for their final thoughts, all of the students expressed their appreciation for course delivery in the online format. The students acknowledged they possibly would not be taking classes at this time and pursuing their degrees, if not for the online environment. Three students complained that the institution needs to develop their online courses faster because of a desire for a wider variety of courses from which to select.

Summary

This chapter presented a description of the study results. Pearson correlations and frequency distributions tables were constructed for each variable category. The results of logistic regressions, also conducted for each of the individual variable categories, were discussed in detail. In instances of significant variables, tables were also included. In addition, the major themes that emerged from interviews with six dropout students were presented.

The variable model that resulted from the logistic regression analysis, although not a strong predictive model, was important because it lays a foundation for future research.

Whether or not a student submitted assignments on a timely basis or would recommend an online class, both participative (PA) variables, proved to be significant when predicting persistence/dropout. In addition, the descriptive analysis and interviews yielded much information for informing practice. Chapter V presents a discussion of these ideas.