Initial Educational Goals of First-Time Full-Time Community College Freshmen and Subsequent Retention Outcomes

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Running Head: Initial Educational Goals and Retention

43rd Annual Forum of the Association for Institutional Research
May , 2003
Tampa, Florida
(Session # 133)

Abstract

Retention and graduation rates have been topics of concern for undergraduate institutions. These indicators are not as applicable for two-year institutions where students' goals are more varied. This study examined the retention over four semesters of 678 first-time, full-time community college students with respect to their initial educational attainment goals, academic goals for attending community college and GPA goals for the first semester. Forward blockwise logistic regression was used to investigate the extent to which these goals were predictive of retention over the following three semesters. Three basic tendencies emerged: lower odds of being retained for short-term goals, and lower odds of being retained for transfer goals, which may be associated with higher GPAs. Female students have higher odds of being retained than their male counterparts. Even if students only meet transfer goals, the community college is succeeding in light of accountability standards of retention and graduation rates.

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Driven in part by increasing demands for accountability from state and provincial governments, student retention has become a pervasive concern for higher education institutions throughout the United States and Canada. Not surprisingly then, retention has been the focus of sustained research for many years. Within both the higher education literature and the psychological literature, goals or life tasks have been identified as important determinants of subsequent outcomes (e.g., Brower, 1992; Klein, Wesson, Hollenbeck, & Alge, 1999; Stark, Shaw, & Lowther, 1989). Although studies examining a wide range of student goals are common in the higher education literature generally (e.g., Dey, Astin, & Korn, 1991), retention studies have tended to focus on the goal of degree completion. Student commitment to the goal of completing the certificate or degree program has repeatedly been identified as a significant factor influencing student retention in both four-year and two-year institutions (Allen & Nora, 1995; Bers & Smith, 1991; Cabrera, Nora, & Castañeda, 1993; Grosset, 1991; Hagedorn, Maxwell, & Hampton, 2001; Sarkar, 1993; Tinto, 1993).

Much of the theoretical and empirical work on student retention has been based around traditional students at four-year institutions. Applying this knowledge base to the improvement of educational practice in the two-year institution continues to be a challenge because of differences in mission and student population (Hagedorn et al., 2001; Sarkar, 1993). One important difference in the student populations of four-year and two-year institutions may be their goals for attending. Most students enter a four-year college or university with the intention of obtaining a degree. In contrast, many students enter two-year institutions with shorter-term goals such as to transfer to a four-year institution. Completion of a Certificate or an Associate's Degree may not be high on the agenda for many students.

This study collected evidence on the question of whether retention studies in community colleges need to shift from a focus on retention until graduation to one of retention until goal achievement, whatever the goal may be. The specific objectives of the study were to examine the relationships between both students' stated goals for attending community college and their long-term educational attainment goals (highest degree aspired to) and subsequent retention outcomes over a four-semester period. These two initial goals were viewed as particularly important

determinants of retention, especially for first-time, full-time freshmen, as to whether or not students transferred from the two-year school to the four-year institution before graduating. If students who transfer early (e.g., after one year) are the highest achieving students, then traditional measures of retention may not be as applicable for two-year colleges.

A number of hypotheses were set forth in the study. First, it was hypothesized that an inverse relationship exists between educational attainment goals and the length of time for which students are retained (i.e., the higher the attainment aspirations, the more likely students are to leave the institution prior to graduation). This means that students who aspire to master's and doctoral degrees would less likely be retained and thus transfer before graduation.. Second, it was hypothesized that the more likely students indicate that they will transfer after one year, the less likely they will be retained. Third, the study investigated the influence of several variables that have been shown to be related to goal attainment, namely goal commitment, perceived goal difficulty and goal importance (Allen & Nora, 1995; Donovan & Radosevich, 1998; Klein et al., 1999; Secolsky, 2002). The influence of these variables for the two major goals (attending community college and educational attainment goal) on student retention for the second, third and fourth semesters was examined.

Instead of focusing on how goals enable students and other goal setters to achieve success and how the commitment, perceived difficulty and importance are enablers of goals, this study treated the goals students reported at face value. Although it must be recognized that students varied with respect to the degree that they had already internalized their goals. Secolsky's (2002) paper demonstrated the more definitive nature of the goals for the same Composition students used in this study as compared to the basic English skills students' goals.

Method

Sample

The sample for this study was drawn from an earlier study examining how the complexity of student goals influences subsequent performance (Secolsky, 2002). At the beginning of the Fall 2001 semester, a survey on educational and occupational goals was administered to 1,202 students in two freshman English courses (Composition and Basic English Skills) at County College of Morris (CCM) in Randolph, New Jersey (located approximately 40 miles west of New York City). CCM is a two-year school enrolling about 8,500 students each fall. Of the

1,202 students, 806 were first-time, full-time students (450 in Freshman Composition and 356 in Basic English Skills). For purposes of the current study, this sample was further restricted to those students for whom complete data was available on all the variables of interest. The final sample consisted of 678 students, 280 from Basic English Skills (164 men, 116 women) and 398 from Composition (205 men, 193 women).

Measures

The primary source of information for the independent variables was a survey administered in class (see Appendix A). The survey asked students to identify their goal for each of four types of goals: the goal for attending community college, educational attainment goal (highest degree sought), occupational goal and first semester grade point average (GPA) goal. For each of the four types of goals, students were asked to indicate: (a) their commitment to achieving the goal on a scale of 1=very committed, 2=somewhat committed, 3=slightly committed and 4=not committed at all, (b) how important the goal was on a scale of 1=very important, 2=important, 3=not very important, and 4=not important at all, and (c) how difficult the goal would be to achieve on a scale of easy, medium and difficult. Previous research has shown that the presence of commitment, importance and perceived goal difficulty were related to achieving one's goal (see Allen & Nora, 1995 on the construct of goal importance; and see Donovan & Radosevich, 1998 and; Klein et al., 1999 on the constructs of goal commitment and perceived goal difficulty). Demographic information on age, gender and major was also collected. On the survey students were asked to indicate their names so that data could be matched to the system-wide database using identification numbers.

During each of the three subsequent semesters (Spring 2002, Fall 2002, Spring 2003), information on retention status (retained/not retained) was collected from CCM's student information system. The present study is restricted to the data on initial goals for community college, educational aspirations, and GPA goals of the first-time, full-time students, and their subsequent educational retention outcomes. Students whose responses to the academic goals item included "no goal," "hope to last here beyond the midterm," or "learn skills to get a job" were eliminated from the study.

Procedure

To facilitate interpretation, responses to the importance and commitment items were reverse-scored so that higher values indicated higher levels of importance and commitment

respectively. The goal difficulty scales were already defined such that higher values indicated higher perceived difficulty. After examination of the frequencies, means and skewness statistics for the commitment, importance and difficulty variables, it was decided to transform the values of commitment and importance using the square power function. The values of the perceived difficulty variables were left unchanged since the distributions for these variables were not skewed above an absolute value of 1.0. To facilitate analysis, educational attainment goals were recoded such that "Master's degree" and "Law degree" were grouped as a single category; similarly, "Doctorate" and "M.D." were grouped together.

Research Design

Blockwise logistic regression was used to analyze the influence of the independent variables on retention because the latter was treated as a dichotomous variable (retained vs. not retained) and because this approach lends itself to the mixing of categorical and continuous variables. Three sets of logistic regression analyses were run on the dependent variable of retention for the full sample, one for each of the retention points (Spring 2002, Fall 2002, Spring 2003). As shown in Table 1, each analysis consisted of four blocks of independent variables: demographic variables, educational attainment goals, academic goals for community college, and GPA goals. Given the three sets of goals (educational attainment, academic goals for the community college and GPA), it was assumed that academic goals would be determined in part from the educational attainment goals (highest degree aspired to), and that GPA goals would be shaped by the combination of educational attainment and academic goals. These assumptions led to the order in which the blocks were entered into the logistic regression model. The influences on each set of goals, which have been shown to help students achieve goals, namely commitment, perceived difficulty and importance were kept in the same block as the goals to which they corresponded. In other words, the commitment for the academic goals was kept with the academic goals and the commitment for the educational attainment goals remained in the same block as the educational attainment goals and so forth.

[Insert Table 1 about here]

The course variable (whether a student was a Composition student or a Basic English Skills student) was treated as a proxy measure for ability via placement test scores in English and included with gender in the demographic variables block. Educational attainment goals and

academic goals for community college were treated as categorical variables. This necessitated the use of dummy coding. In this sense for these two goals, each level of the goal was treated as a separate variable. “Associate’s Degree” and “Graduating with a two-year Associate’s Degree” were used as the respective reference categories for the dummy variables. GPA goal was left as a continuous variable, as were the respective difficulty, commitment and importance variables.

Local knowledge and experience suggested that the Composition and Basic Skills students tend to be quite different. It was therefore decided to repeat the analyses separately for the two groups. Thus, a total of nine logistic regression analyses were conducted: three each for the full sample, Basic Skills students, and Composition students, respectively. All analyses were carried out using the logistic regression procedure in SPSS (Version 11.0). Frequencies and descriptive statistics for the dependent and independent variables for these three groups are provided in Table 2.

[Insert Table 2 about here]

Results

The results of this study revolve around nine logistic regression analyses: three for the full group, three for the basic English skills group and three for the freshman English Composition students. For each group for each logistic regression analysis, the dichotomous variable used is retention (retained/not retained) for the Spring 2002 semester, retention for the Fall 2002 semester and retention for the Spring 2003 semester, respectively.

As independent variables three different sets of goals, gender and the influences on the three types of goals were used as discussed in the higher education and psychological literature. The three sets of goals were: (1) educational attainment goals, (2) academic goals for community college, and (3) GPA goal. All three sets of goals were initial goals in that data were taken from survey items at the beginning of the Fall 2001 semester.

Each regression was first tested for goodness of fit of the logistic regression model to the data using the Omnibus Test, Nagelkerke’s R Square and the Hosmer and Lemeshow chi-square test. The block-by-block goodness of fit statistics for the three analyses in each group are presented in Table 3 (full sample), Table 4 (Basic Skills), and Table 5 (Composition). Greatest weight in determining whether or not a block should be retained in the model was based on the

Hosmer and Lemeshow test. In two cases, the Hosmer and Lemeshow test for Block 4 (GPA goals) was significant, indicating that the model with this block of variables included did not adequately fit the data. These occurred in the full sample regression for retention in Spring 2002 and the Basic Skills regression for Spring 2003. Consequently, logistic regression weights for the independent variables in these regressions were examined in terms of models excluding the GPA goals block.

[Insert Tables 3, 4 and 5 about here]

Full sample

Logistic regression weights (b), standard errors and log odds ratios (exponent b) for the full model meeting goodness-of-fit criteria in each of the three regressions for the full sample are presented in Table 6. Based on the results of the logistic regressions, the following interpretations about the data can be drawn. Interpretations are also made for nearly significant b weights when the b weight added in making a point or clarifying an interpretation. Each statement should be viewed as starting with the expression, "Controlling for other variables in the model." For the entire sample of students for the Spring 2002 semester, the significant findings were:

- Female students have higher odds of being retained in Spring 2002 than their male counterparts.
- Students with an educational attainment goal of "Master's or Law degree" have lower odds of being retained in Spring 2002 than their counterparts with an educational attainment goal of Associate's degree."
- Students with an academic goal for community college of "completing the Fall 2001 semester" have lower odds of being retained in Spring 2002 than their counterparts with an academic goal of "graduating with a two-year Associate's degree."
- Students who perceive their academic goal as more difficult have lower odds of being retained in Spring 2002 than their counterparts who perceive their academic goal as less difficult.

- Students who are more highly committed to their academic goals for community college have higher odds of being retained in Spring 2002 than their counterparts who are less committed.

Controlling for the other variables in the model, for the entire sample of students for the Fall 2002 semester, the significant findings were:

- Female students have higher odds of being retained in Fall 2002 than their male counterparts.
- Students with an academic goal for community college of "completing the Fall 2001 semester" have lower odds of being retained in Fall 2002 than their counterparts with an academic goal of "graduating with a two-year Associate's degree."
- Students with an academic goal for community college of "transferring to a four-year college after one year" have lower odds of being retained in Fall 2002 than their counterparts with an academic goal of "graduating with a two-year Associate's Degree."

Controlling for the other variables in the model, for the entire sample of students for the Spring 2003 semester, the significant findings were:

- Students in the Composition course have higher odds of being retained in Spring 2003 than their counterparts in the Basic Skills course.
- Female students have higher odds of being retained in Spring 2003 than their male counterparts.
- Students with an educational attainment goal of "Master's or Law degree" have lower odds of being retained in Spring 2003 than their counterparts with an educational attainment goal of "Associate's degree."
- Students with an academic goal for community college of "completing the Fall 2001 semester" have lower odds of being retained in Spring 2003 than their counterparts with an academic goal of "graduating with a two-year Associate's degree."
- Students with higher GPA goals have higher odds of being retained in Spring 2003 than their counterparts with lower GPA goals.

Common to the three regressions for the entire sample for Spring 02, Fall 02 and Spring 03 were that female students are more likely to be retained than male students and students with the goal of completing the Fall 2001 semester are less likely to be retained. For two of the retention semesters, Spring 2002 and Spring 2003, students who aspire to the goal of Master's degree or Law degree are less likely to be retained.

[Insert Table 6 about here]

Basic Skills students

For the Spring 03 semester, the variable "course" was found to be significant for the full sample. Separate sets of logistic regression analyses were therefore conducted for the Basic Skills and Composition students. Logistic regression weights (b), standard errors and log odds ratios (exponent b) for the full model meeting goodness-of-fit criteria in each of the three regressions for the Basic Skills students are presented in Table 7. For the Basic Skills students, controlling for other variables in the model for the Spring 2002 semester, the significant findings were:

- Basic Skills students with an educational attainment goal of "Master's degree" or "Law degree" have lower odds of retention in Spring 2002 than do students with an educational attainment goal of "two-year Associate's degree."
- Basic Skills students with an academic goal for community college of "complete the Fall 2001 semester" have lower odds of retention in Spring 2002 than do students with an academic goal of "graduate with two-year Associate's degree."
- Basic Skills students with higher GPA goals have higher odds of retention in Spring 2002 than do students with lower GPA goals.

For the Basic Skills students, controlling for other variables in the model for the Fall 2002 semester, the significant findings were:

- Basic Skills students with higher difficulty levels for their educational attainment goals have higher odds for being retained in Fall 2002 than do the Basic Skills students with lower difficulty levels.

- Basic Skills students with higher difficulty levels for their academic goals for community college have lower odds for being retained in Fall 2002 than do Basic Skills students with lower difficulty levels

For the Basic Skills students, controlling for other variables in the model for the Spring 2003 semester, the significant findings were:

- Basic Skills students with an educational attainment goal of "Bachelor's degree" have lower odds of retention in Spring 2003 than do students with an educational attainment goal of "two-year Associate's degree."
- Basic Skills students with an educational attainment goal of "Master's degree" or "Law degree" have lower odds of retention in Spring 2003 than do students with an educational attainment goal of "two-year Associate's degree."
- Basic Skills students with an academic goal for community college of "complete the Fall 2001 semester" have lower odds of retention in Spring 2003 than do students with an academic goal of "graduate with two-year Associate's degree."
- Basic Skills students with higher difficulty levels for their academic goal for community college have lower odds for being retained in Spring 2003 than do Basic Skills students with lower difficulty levels.

[Insert Table 7 about here]

To summarize, several goal variables were found to be significant for the Basic Skills students for more than one semester. The educational attainment goal of Master's degree or Law degree was associated with significantly lower odds of being retained for the Spring 2002 and Spring 2003 semesters. The academic goal for community college of "completing the Fall 2001 semester" was significantly associated with lower odds of being retained for the Spring 2002 and Spring 2003 semester. Finally, higher difficulty levels for academic goals were associated with lower odds of being retained for the Fall 2002 and Spring 2003 semesters.

Composition students

Logistic regression weights (b), standard errors and log odds ratios (exponent b) for the full model meeting goodness-of-fit criteria in each of the three regressions for the Basic Skills students are presented in Table 8. From previous research using this dataset on which part of the

study was based (Secolsky, 2002), significant differences between the Basic Skills and Composition groups for the Spring 2003 semester full sample, and for the apparent inflated GPAs for the Basic Skills students, greater validity is placed in the following interpretive statements for the Composition students for the Spring 2002, Fall 2002 and Spring 2003.

[Insert Table 8 about here]

For the Composition students, controlling for other variables in the model for the Spring 2002 semester, the significant findings were:

- Female Composition students have higher odds of being retained in Spring 2002 than their male counterparts.
- Composition students with an academic goal for community college of "complete the Fall 2001 semester" have lower odds of being retained in Spring 2002 than their counterparts with an academic goal of "graduating with a two-year Associate's Degree."
- Composition students with an academic goal for community college of "transferring to a four-year college before graduating" have lower odds of being retained in Spring 2002 than their counterparts with an academic goal of "graduating with a two-year Associate's degree."

For the Composition students, controlling for other variables in the model for the Fall 2002 semester, the significant findings were:

- Female Composition students have higher odds of being retained in Fall 2002 than their male counterparts.
- Composition students with an academic goal for community college of "complete the Fall 2001 semester" have lower odds of being retained in Fall 2002 than their counterparts with an academic goal of "graduating with a two-year Associate's degree."
- Composition students with higher difficulty levels for their academic goals for community college have higher odds for being retained in Fall 2002 than do Composition students with lower difficulty levels.
- Composition students with an academic goal for community college of "transferring to a four-year college after one year" have lower odds of being retained in Fall 2002 than

their counterparts with an academic goal of "graduating with a two-year Associate's degree (b=-.574; p=.055; near significance).

For the Composition students, controlling for other variables in the model for the Spring 2003 semester, the significant findings were:

- Female Composition students have higher odds of being retained in Spring 2003 than their male counterparts
- Composition students with an academic goal for community college of "transferring to a four-year college after one year" have lower odds of being retained in Spring 2003 than their counterparts with an academic goal of "graduating with a two-year Associate's degree."
- Composition students with an academic goal for community college of "transferring to a four-year college before graduating" have lower odds of being retained in Spring 2003 than their counterparts with an academic goal of "graduating with a two-year Associate's degree."
- Composition students with higher difficulty levels for their academic goals for community college have higher odds for being retained in Spring 2003 than do Composition students with lower difficulty levels.
- Composition students who place higher importance on their GPA goals have higher odds of being retained in Spring 2003 than do students with lower importance ratings.
- Composition students who specify a high GPA goal, have higher odds of being retained for the Spring 2003 semester (b=.631; p=.068; near significance).

Composition students have less of a likelihood of being retained for the Fall 2002 and Spring 2003 semesters if they had indicated that their goal was to transfer after one year. Also, Composition students who had the initial goal of transferring before graduation were less likely to be retained for the Spring 2003 semester as compared with those with the goal of graduating with a two-year degree. Furthermore, Composition students with specified a high GPA goal and placed a higher importance on their GPA goals had higher odds of being retained in Spring 2003.

Discussion

The results of this study reveal that students are less likely to be retained after the Spring 2002, Fall 2002 and Spring 2003 semesters because of two or more basic tendencies. First, students who indicated that their goal was to complete the Fall 2001 semester may not have had a long-term enough goal to stay at the college. These students were less likely to be retained in comparison to students with the goal of graduating with a four-year degree. One can only speculate why these students left. The results show that they achieved their goal. Without a more definitive goal, these students may not have been doing well in their coursework or they could have transferred very early in their college careers. Other evidence suggests that the former reason may have been more on target. Analysis of variance results for the Spring 2002 semester showed that the mean GPA for these 33 students was only 1.56 as compared to a mean of 2.18 for the 206 students who said they would transfer to a four-year college after one year. This difference was significant ($F=5.745$; $p=.003$). Another difference, this time for the Fall 2002 GPA, was also significant. It was between the short term goal of completing the Fall 2001 semester and transferring to a four-year college after one year ($F=4.974$; $p=.008$). The result in addition to the significant regression results for the full group lends support to the idea that students without longer-term goals will tend to be less likely retained. This is not likely due to transfer, but may even be in some cases due to poor academic performance.

The second general tendency that appeared to exist in the results of the logistic regression analysis results was that students whose educational attainment goal (Master's or Law degree) and even doctorate ($p=.071$; near significance) and students with academic goals of "transfer to a four-year college after one-year" and "transfer to a four-year college before graduating," were not retained because of transferring. While it appears to be only a significant overall tendency, these students generally left the college early to pursue a higher educational degree.

This study was designed to detect a number of tendencies related to students more likely being retained or not retained based on their goals. A number of tendencies emerged. It is contended that in many instances, retention is generally predictable from goals. The goals can be indicative of success, not only in terms of graduation, but also in terms that are specified by the student. Since success is relative to the goals that students set out to achieve, goals may be useful indicators of student success and, if properly captured, may shed light on the accountability of

the two-year or four-year college. Even students' ratings of goal commitment, goal importance and perceived goal difficulty that accompany the individual goals may be worthwhile indicators of how future directions for programs at the two-year college may unfold. But, even perceived goal difficulty may need further study. For example, rating a goal as difficult could mean that the student will achieve more because of the challenge or may mean that the goal is too difficult to "get to first base." In the present study for Composition students, students who indicated higher difficulty levels for their selected academic goal for community college were more likely retained. The same was true for the Basic Skills students. Therefore, allowing students to take on difficult goals can sometimes lead to greater achievement and even greater success.

In their review of goal studies, Donovan and Radosevich (1998) report an average R square of .08 in multiple regression studies. Although the Nagelkerke R square is not directly commensurate with the R square in linear regression, it is noteworthy that the models resulting from the current study had substantially higher values. The point here is that there are many reasons for students to not be retained, especially when predicting from only initial goals, because goals can and do change. And when goals are collected within a short time framework such as while completing a survey, goal data may have questionable validity. However, given the obstacles of getting accurate information on goals, this study was able to achieve fairly decent prediction.

Some states and provincial governments use success ratios to describe their intent to capture success in data collection efforts. In New Jersey, success rates are comprised of graduation, transfer rates as obtained from the National Student Clearinghouse and the proportion of students who left in good standing with a GPA above 2.0. Other states and provinces adhere strictly to graduation rates. Still others like New York State have begun to collect student goals in a statewide systematic way. There is no doubt that goal information can be useful but how exactly can they be best used. If states are to go to the trouble of reporting success ratios, then why not introduce the collection of goal attainment data through a carefully constructed goal-setting process. In this way, accountability for the community colleges can be more in line with their missions.

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Table 1. Description of variables.

Block	Variable	Description
Dependent variable		
	Retention (Spring 2002, Fall 2002, Spring 2003)	Dichotomous variable (0 = not retained, 1 = retained), defined for each of the three semesters by whether or not the student was registered for courses.
Block 1: Course & Gender		
	Course	Dichotomous variable indicating in which of the two first year English courses the student was registered (0 = Basic Skills course, 1 = Composition course). Included only in the analyses for the full sample. Otherwise used as a filter variable.
	Gender	Dichotomous variable (0 = Male, 1 = Female)
Block 2: Educational Attainment Goals		
	Educational attainment goal	Highest educational degree to which a student aspired. Converted to dummy variables.
	Two-year Associate's Degree	Reference category
	Certificate	Coded as 1 if student's goal was a diploma from a Certificate program, otherwise 0
	Bachelor's	Coded as 1 if student's goal was a Bachelor's degree, otherwise 0.
	Master's or Law	Coded as 1 if student's goal was a Master's or Law degree, otherwise 0.
	Doctorate	Coded as 1 if student's goal was a Ph.D, M.D. or similar degree, otherwise 0.
	Difficulty of educational attainment goal	Student's response to "How difficult is this goal for you?" 1 = easy, 2 = medium, 3 = difficult
	Importance of educational attainment goal, squared	Square of student's response to "How important is this goal to you?" 1 = not important at all, 2 = not very important, 3 = important, 4 = very important
	Commitment to educational attainment goal, squared	Square of student's response to "How committed are you to achieving this goal?" 1 = not at all, 2 = slightly committed, 3 = somewhat committed, 4 = very committed
Block 3: Academic Goals for Community College		
	Academic goal for community college	Student's response to "What is your academic goal regarding attending community college?" Converted to dummy variables.
	Graduate with 2-year Associate's Degree	Reference category
	Complete Fall 2001 semester.	Coded as 1 if student's goal was completing the Fall 2001 semester, otherwise 0.
	Complete Spring 2002 semester.	Coded as 1 if student's goal was completing the Spring 2002 semester, otherwise 0.
	Transfer to 4-year college after 1 year.	Coded as 1 if student's goal was to transfer after one year, otherwise 0.
	Transfer to 4-year college before graduating.	Coded as 1 if student's goal was to transfer before graduating, otherwise 0.
	Difficulty of academic goal	Student's response to "How difficult is this goal for you?" 1 = easy, 2 = medium, 3 = difficult
	Importance of academic goal, squared	Square of student's response to "How important is this goal to you?" 1 = not important at all, 2 = not very important, 3 = important, 4 = very important
	Commitment to academic goal, squared	Square of student's response to "How committed are you to achieving this goal?" 1 = not at all, 2 = slightly committed, 3 = somewhat committed, 4 = very committed

Block	Variable	Description
Block 4: GPA Goals for Fall 2001		
	GPA goal	Student's response to "What grade point average do you expect to achieve this semester?"
	Difficulty of GPA goal	Student's response to "How difficult is this goal for you?" 1 = easy, 2 = medium, 3 = difficult
	Importance of GPA goal, squared	Square of student's response to "How important is this goal to you?" 1 = not important at all, 2 = not very important, 3 = important, 4 = very important
	Commitment to GPA goal, squared	Square of student's response to "How committed are you to achieving this goal?" 1 = not at all, 2 = slightly committed, 3 = somewhat committed, 4 = very committed

Table 2. Frequencies and descriptive statistics.

	Frequency and Percent by Analysis Group					
Variable Name	**Basic Skills**		**Composition**		**Full Sample**	
N	280		398		678	
Retention						
Retained Spring 2002	231	82.5%	350	87.9%	581	85.7%
Not Retained Spring 2002	49	17.5%	48	12.1%	97	14.3%
Retained Fall 2002	189	67.5%	287	72.1%	476	70.2%
Not Retained Fall 2002	91	32.5%	111	27.9%	202	29.8%
Retained Spring 2003	158	56.4%	267	67.1%	425	62.7%
Not Retained Spring 2003	122	43.6%	131	32.9%	253	37.3%
Course						
Basic Skills	280	100.0%			280	41.3%
Composition			398	100.0%	398	58.7%
Gender						
Male	164	58.6%	205	51.5%	369	54.4%
Female	116	41.4%	193	48.5%	309	45.6%
Educational Attainment Goals						
Two-Year Associate's Degree	49	17.5%	35	8.8%	84	12.4%
Certificate	12	4.3%	7	1.8%	19	2.8%
Bachelor's	135	48.2%	216	54.3%	351	51.8%
Master's or Law	61	21.8%	102	25.6%	163	24.0%
Doctorate	23	8.2%	38	9.5%	61	9.0%
Academic Goals for Community College						
Graduate with two-year Associate's Degree	109	38.9%	139	34.9%	248	36.6%
Complete the Fall 2001 semester	15	5.4%	18	4.5%	33	4.9%
Complete the Spring 2002 semester	7	2.5%	18	4.5%	25	3.7%
Transfer to 4-year college after one year	78	27.9%	132	33.2%	210	31.0%
Transfer to 4-year college before graduating	71	25.4%	91	22.9%	162	23.9%

	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Educational Attainment Goals						
Difficulty	2.39	.54	2.35	.59	2.37	.57
Importance, squared	13.66	3.56	13.86	3.41	13.78	3.47
Commitment, squared	13.51	3.69	13.70	3.56	13.62	3.61
Academic Goals for Community College						
Difficulty	2.13	.58	2.07	.59	2.10	.58
Importance, squared	13.70	3.52	13.78	3.47	13.74	3.48
Commitment, squared	13.70	3.58	14.05	3.31	13.90	3.42
GPA Goals						
GPA Goal	3.11	.41	3.17	.38	3.14	.39
Difficulty	2.25	.54	2.26	.59	2.26	.57
Importance, squared	12.90	3.60	13.56	3.50	13.29	3.55
Commitment, squared	13.44	3.56	13.59	3.53	13.53	3.54

Table 3. Analyses by block for full sample retention in Spring 2002, Fall 2002 and Spring 2003.

	Spring 2002	Fall 2002	Spring 2003
Block 1: Course & Gender			
-2 Log Likelihood	540.384	809.535	878.384
Model chi-square (df)	16.246 (2) ***	16.411 (2) ***	17.409 (2) ***
Nagelkerke R Square	.042	.034	.035
Hosmer & Lemeshow Test chi-square (df)	.276 (2)	.089 (2)	2.383 (2)
Percentage correctly classified [a]	85.7	70.2	62.7
Block 2: Educational Attainment Goals			
-2 Log Likelihood	535.739	806.043	874.186
Model chi-square (df)	20.891 (9) *	19.903 (9) *	21.607 (9) **
Nagelkerke R Square	.054	.041	.043
Hosmer & Lemeshow Test chi-square (df)	14.452 (8)	6.430 (7)	14.521 (8)
Percentage correctly classified	85.7	70.2	63.3
Block 3: Academic Goals for Community College			
-2 Log Likelihood	495.906	793.413	862.076
Model chi-square (df)	60.724 (16) ***	32.533 (16) **	33.717 (16) **
Nagelkerke R Square	.153	.067	.066
Hosmer & Lemeshow Test chi-square (df)	11.789 (8)	3.323 (8)	5.551 (8)
Percentage correctly classified	86.7	70.8	64.7
Block 4: GPA Goals			
-2 Log Likelihood	484.883	786.788	846.183
Model chi-square (df)	71.746 (20) ***	39.158 (20) **	49.610 (20) ***
Nagelkerke R Square	.179	.080	.096
Hosmer & Lemeshow Test chi-square (df)	17.051 (8) *	8.326 (8)	5.288 (8)
Percentage correctly classified	86.9	70.9	66.7

[a] The cut value for the classification tables was .500

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 4. Analyses by block for Basic Skills retention in Spring 2002, Fall 2002 and Spring 2003.

	Spring 2002	Fall 2002	Spring 2003
Block 1: Gender			
-2 Log Likelihood	255.495	347.959	382.768
Model chi-square (df)	4.192 (1) *	5.167 (1) *	.753 (1)
Nagelkerke R Square	.025	.026	.004
Hosmer & Lemeshow Test chi-square (df)			
Percentage correctly classified [a]	82.5	67.5	56.4
Block 2: Educational Attainment Goals			
-2 Log Likelihood	250.498	345.577	377.164
Model chi-square (df)	9.189 (8)	7.548 (8)	6.357 (8)
Nagelkerke R Square	.053	.037	.030
Hosmer & Lemeshow Test chi-square (df)	8.766 (8)	11.877 (7)	7.055 (8)
Percentage correctly classified	82.5	67.5	57.9
Block 3: Academic Goals for Community College			
-2 Log Likelihood	235.718	332.542	358.629
Model chi-square (df)	23.969 (15)	20.583 (15)	24.892 (15)
Nagelkerke R Square	.136	.099	.114
Hosmer & Lemeshow Test chi-square (df)	3.507 (8)	10.752 (8)	6.743 (8)
Percentage correctly classified	82.9	69.3	61.8
Block 4: GPA Goals			
-2 Log Likelihood	226.366	328.075	353.584
Model chi-square (df)	33.321 (19) *	25.050 (19)	29.937
Nagelkerke R Square	.186	.159	.136
Hosmer & Lemeshow Test chi-square (df)	11.064 (8)	11.781 (8)	17.741 (8) *
Percentage correctly classified	83.6	69.3	60.4

[a] The cut value for the classification tables was .500

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 5. Analyses by block for Composition retention in Spring 2002, Fall 2002 and Spring 2003.

	Spring 2002	Fall 2002	Spring 2003
Block 1: Gender			
-2 Log Likelihood	284.613	461.487	493.236
Model chi-square (df)	8.414 (1) **	9.671 (1) **	11.088 (1) ***
Nagelkerke R Square	.040	.035	.038
Hosmer & Lemeshow Test chi-square (df)			
Percentage correctly classified [a]	87.9	72.1	67.1
Block 2: Educational Attainment Goals			
-2 Log Likelihood	283.213	456.572	490.666
Model chi-square (df)	9.814 (8)	14.586 (8)	13.657 (8)
Nagelkerke R Square	.047	.052	.047
Hosmer & Lemeshow Test chi-square (df)	3.088 (7)	6.345 (7)	5.635 (8)
Percentage correctly classified	87.9	72.4	68.3
Block 3: Academic Goals for Community College			
-2 Log Likelihood	251.941	440.222	476.617
Model chi-square (df)	41.087 (15) ***	30.935 (15) **	27.706 (15) *
Nagelkerke R Square	.188	.108	.094
Hosmer & Lemeshow Test chi-square (df)	4.077 (8)	10.649 (8)	8.048 (8)
Percentage correctly classified	88.9	74.4	69.1
Block 4: GPA Goals			
-2 Log Likelihood	247.849	435.619	459.200
Model chi-square (df)	45.178 (19) ***	35.538 (19) *	45.123 (19) ***
Nagelkerke R Square	.206	.123	.149
Hosmer & Lemeshow Test chi-square (df)	10.133 (8)	10.036 (8)	6.420 (8)
Percentage correctly classified	89.2	73.9	70.6

[a] The cut value for the classification tables was .500

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 6. Logistic regression weights, standard errors and log odds ratios for full model (full sample).

	Retention in Spring 2002 [a]			Retention in Fall 2002			Retention in Spring 2003		
Variables	**B**	**S.E.**	**Exp(B)**	**B**	**S.E.**	**Exp(B)**	**B**	**S.E.**	**Exp(B)**
Composition course	.428	.239	1.534	.200	.179 .	1.221	.474	.171 **	1.607
Female	.705	.256 **	2.024	.635	.183 ***	1.888	.465	.172 **	1.592
Educational Goals									
Certificate	.248	.793	1.282	-.095	.591	.909	.044	.563	1.045
Bachelor's	-.436	.425	.647	-.380	.303	.684	-.389	.282	.678
Master's or Law	-1.045	.464 *	.352	-.358	.344	.699	-.647	.321 *	.524
Doctorate	-.424	.597	.655	-.503	.417	.605	-.713	.395	.490
Educational Goal Difficulty	.275	.233	1.317	.043	.182	1.044	.167	.175	1.182
Educational Goal Commitment Squared	-.011	.046	.989	.011	.036	1.011	-.030	.035	.971
Educational Goal Importance Squared	-.009	.046	.991	-.008	.037	.993	-.039	.036	.962
Academic Goals									
Complete Fall 2001 semester	-2.188	.444 ***	.112	-1.282	.398 ***	.277	-1.136	.398 **	.321
Complete Spring 2002 semester	-.923	.627	.397	-.348	.478	.706	-.364	.458	.695
Transfer to 4-year college after 1 year	-.288	.310	.750	-.447	.219 *	.639	-.375	.208	.687
Transfer to 4-year college before graduating	-.431	.322	.650	-.361	.236	.697	-.307	.224	.736
Academic Goal Difficulty	-.491	.217 *	.612	.196	.181	1.216	.147	.174	1.159
Academic Goal Commitment Squared	.090	.040 *	1.094	-.016	.033	.984	-.019	.032	.981
Academic Goal Importance Squared	.038	.040	1.039	-.001	.033	.999	.018	.031	1.018
GPA Goal				.443	.241	1.558	.540	.232 *	1.716
GPA Goal Difficulty				-.116	.182	.891	.003	.174	1.003
GPA Goal Commitment Squared				.026	.032	1.027	.049	.031	1.050
GPA Goal Importance Squared				.030	.031	1.031	.051	.030	1.052
Constant	1.157	.858	3.181	-1.090	.956	.336	-2.050	.922 *	.129

[a] The Hosmer and Lemeshow test was significant when GPA goals were added to the model for Spring 2002, indicating that the model with these variables did not adequately fit the data. Coefficients are taken from the model after the academic goals were entered and prior to the GPA goals.

Note: N = 678; * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 7. Logistic regression weights, standard errors and log odds ratios for full model (Basic Skills).

	Retention in Spring 2002			Retention in Fall 2002			Retention in Spring 2003 a		
Variables	**B**	**S.E.**	**Exp(B)**	**B**	**S.E.**	**Exp(B)**	**B**	**S.E.**	**Exp(B)**
Female	.418	.394	1.520	.407	.299	1.502	.005	.273	1.006
Educational Goals									
Certificate	.079	.983	1.082	-.639	.739	.528	-.448	.743	.639
Bachelor's	-.320	.551	.726	-.500	.431	.607	-.994	.398 *	.370
Master's or Law	-1.343	.636 *	.261	-.823	.509	.439	-1.333	.472 **	.264
Doctorate	-.842	.874	.431	-1.045	.648	.352	-.999	.604	.368
Educational Goal Difficulty	.471	.371	1.601	.637	.305 *	1.891	.339	.273	1.404
Educational Goal Commitment Squared	.023	.072	1.023	.003	.059	1.003	-.018	.051	.982
Educational Goal Importance Squared	-.078	.071	.925	-.063	.059	.939	-.058	.052	.944
Academic Goals									
Complete Fall 2001 semester	-1.597	.711 *	.202	-1.209	.622	.298	-1.588	.668 *	.204
Complete Spring 2002 semester	-1.458	.995	.233	.620	1.153	1.859	1.259	1.122	3.521
Transfer to 4-year college after 1 year	-.291	.438	.748	-.263	.345	.769	.075	.322	1.077
Transfer to 4-year college before graduating	.052	.483	1.053	-.248	.362	.780	.176	.335	1.192
Academic Goal Difficulty	-.244	.356	.783	-.596	.290 *	.551	-.552	.251 *	.576
Academic Goal Commitment Squared	.040	.064	1.041	.016	.052	1.016	.027	.046	1.027
Academic Goal Importance Squared	.064	.060	1.067	.008	.049	1.008	.063	.045	1.065
GPA Goal	1.031	.463 *	2.805	.576	.368	1.779			
GPA Goal Difficulty	-.486	.382	.615	-.061	.308	.941			
GPA Goal Commitment Squared	.092	.064	1.097	.050	.053	1.051			
GPA Goal Importance Squared	.007	.061	1.007	.019	.049	1.019			
Constant	-2.385	1.861	.092	-.974	1.488	.378	1.305	1.003	3.689

[a] The Hosmer and Lemeshow test was significant when GPA goals were added to the model for Spring 2003, indicating that the model with these variables did not adequately fit the data. Coefficients are taken from the model after the academic goals were entered and prior to the GPA goals.

Note: N = 280; * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 8. Logistic regression weights, standard errors and log odds ratios for full model (Composition).

	Retention in Spring 2002			Retention in Fall 2002			Retention in Spring 2003		
Variables	**B**	**S.E.**	**Exp(B)**	**B**	**S.E.**	**Exp(B)**	**B**	**S.E.**	**Exp(B)**
Female	.883	.363 *	2.419	.768	.243 **	2.155	.770	.234 ***	2.160
Educational Goals									
Certificate	-.545	1.411	.580	.371	1.216	1.449	.167	.990	1.181
Bachelor's	-.613	.731	.542	-.306	.463	.737	.039	.434	1.040
Master's or Law	-1.006	.781	.366	-.046	.508	.955	-.106	.475	.899
Doctorate	-.471	.920	.624	-.092	.597	.912	-.329	.565	.719
Educational Goal Difficulty	.077	.350	1.080	-.370	.249	.691	.010	.237	1.010
Educational Goal Commitment Squared	-.065	.072	.937	.025	.049	1.025	-.029	.048	.971
Educational Goal Importance Squared	-.018	.075	.982	.017	.052	1.017	-.020	.050	.980
Academic Goals									
Complete Fall 2001 semester	-2.801	.633 ***	.061	-1.383	.564 *	.251	-.838	.557	.433
Complete Spring 2002 semester	-.578	.915	.561	-.574	.577	.563	-.914	.565	.401
Transfer to 4-year college after 1 year	-.392	.471	.676	-.574	.298	.563	-.773	.291 **	.462
Transfer to 4-year college before graduating	-1.016	.469 *	.362	-.498	.328	.608	-.682	.317 *	.506
Academic Goal Difficulty	-.428	.352	.652	.743	.256 **	2.103	.628	.250 *	1.873
Academic Goal Commitment Squared	.074	.065	1.077	-.026	.048	.975	-.025	.047	.976
Academic Goal Importance Squared	.032	.064	1.032	-.017	.047	.983	-.022	.046	.978
GPA Goal	.194	.496	1.214	.397	.353	1.487	.631	.346	1.880
GPA Goal Difficulty	-.058	.344	.943	-.201	.239	.818	-.124	.235	.883
GPA Goal Commitment Squared	.079	.057	1.082	.004	.043	1.004	.041	.042	1.042
GPA Goal Importance Squared	.045	.058	1.046	.060	.042	1.062	.115	.041 **	1.122
Constant	1.293	1.881	3.644	-1.080	1.345	.340	-2.881	1.316 *	.056

Note: N = 398; * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Appendix A
STUDENT GOALS QUESTIONNAIRE

As part of the College's effort to better understand students, we would like to ask you a few questions regarding your educational goals. All data that you provide will be kept in strict confidence and only reported in summary form.

1. What is your name? _____
2. Check one: _____ Male _____ Female

A1. Choose one: What is your academic goal regarding attending community college?
____ No goal at all
____ Hope to last here beyond the midterm.
____ Complete fall 2001 semester
____ Learn skills to get a job
____ Complete spring 2002 semester
____ Complete Certificate Program
____ Transfer to four-year college after one year
____ Transfer to four-year college before graduating
____ Graduate with two-year Associate's degree

A2. How committed are you about your goal in A1? (Choose one)
____ Very committed
____ Somewhat committed
____ Slightly committed
____ Not committed at all

A3 Put down one of the following choices regarding this goal.
____ It's an easy goal
____ It's a goal of medium difficulty
____ It's a difficult goal

A4 The goal in question A1 is (Choose one)
____ Very important
____ Important
____ Not very important
____ Not important at all

B1. What grade point average do you expect to achieve this semester? _____

B2. How committed are you to achieving this goal? (Choose one)

____ Very committed
____ Somewhat committed
____ Slightly committed
____ Not committed at all

B3. Choose one of the following regarding this goal
____ It's an easy goal
____ It's a goal of medium difficulty
____ It's a difficult goal

B4. The goal in B1 is: (Choose one)
____ very important
____ important
____ not very important
____ not important at all

C1. What degree do you expect would be the degree which is your ultimate educational goal? (Choose one):
____ Certificate
____ Associate's
____ Bachelor's
____ Master's
____ Doctorate
____ Law Degree
____ M.D.

C2. How difficult is this goal for you? (Choose one)
____ easy
____ medium
____ difficult

C3. How committed are you to achieving this educational goal?
____ very committed
____ somewhat committed
____ slightly committed
____ not at all

C4. How important is this goal to you?
____ very important
____ important
____ not very important
____ not important al all

D. What is your major? _____

E. How many credits are you taking this semester? _____

F. Do you work? ____ Yes ____ No Work part-time _____ Work full-time_____
G. What is your age? _____
H. What semester is this for you at CCM? ___ 1st ___ 2nd ___ 3rd ___ 4th ___ more than 4th (do not count summer school)

I1: What is your occupational goal? (Choose one)

a) Get a job in one's field of study after leaving the community college _____
b) Get a job in one's field of study after completion of a Bachelor's Degree or beyond._____
c) Maintain current employment while pursuing an education _____
d) Take advantage of opportunities to advance in one's current job_____

I2. How difficult is this occupational goal for you? (Choose one)

_____ It's an easy goal
_____ It's a goal of medium difficulty
_____ It's a difficult goal

I3. How committed are you about the goal in I1? (Choose one)

_____ Very committed
_____ Somewhat committed
_____ Slightly committed
_____ Not committed at all

I4. The goal in question I1 is (Choose one):

_____ Very important
_____ Important
_____ Not very important
_____ Not important at all

J1. Will economic factors prevent you from attaining your goals? _____Yes _____ No.

J2. If you answered Yes, which goals will the economic factors affect?

____ A1 ____ B1 C1 ____I1

K Please write any comments you have about your goals.

_____
_____
_____
_____

Thank you very much for your cooperation in this study of goals.