

**CORRELATES OF RETENTION FOR  
AFRICAN-AMERICAN MALES IN  
COMMUNITY COLLEGES**

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**ABSTRACT**

The retention rates of African-American men in community colleges are among the lowest of all ethnic groups nationally. This study analyzes organizational data for three cohorts of men in a longitudinal design for three semesters ( $N = 202$ ), and uses logistic regression to identify the factors that best predict retention. The importance of high school grades, age, number of courses, a positive view of personal skills, clear high goals, and the early identification of a college major appear to be salient for this group and offer implications for practice.

Although the civil rights movement of the 1960s remains only a distant memory, issues of equal access to higher education and barriers to desirable employment with higher earnings continue to be a reality for many African Americans. The evidence of unequal opportunities is evident by the staggering proportion (26 percent) of African Americans living below the poverty level (U.S. Census Bureau, 1997). While African Americans make up 12.8 percent of the American population, they comprise 40 percent of the chronically poor (Shinagawa & Jang, 1998). In addition, African Americans have an unemployment rate that is double that of the general population (Shinagawa & Jang, 1998).

The demographic statistics for *male* African Americans are equally dismal. Black men in American society confront formidable challenges to success including lower achievement scores in basic subject areas, higher likelihood of placement in programs for students with learning disabilities, higher likelihood of school suspension, and are the frequent victims of lowered expectations by educational professionals (Reed, 1988). While the number of African-American men enrolled in the nation's colleges and universities has increased slightly during the 1990s, it remains disturbingly low (Reisberg, 1999). African Americans are the only racial group in which females appear to frequently attain greater rewards than males. Cuyjet (1997) commented that "a cursory look around most predominantly white campuses (unless one is standing in a location frequented by the football and basketball athletes) probably reveals the fact that black women attend college in proportionally larger numbers than black men" (p. 5). The proportion of African-American men who graduate from high school, achieve a bachelor's degree or higher, enter the labor force, or become managers or business professionals is lower than the proportion of African-American women who achieve these same milestones (Shinagawa & Jang, 1998).

The reasons for the unique gender differences may be quite complex. Lee (1994) posits that the combination of racial discrimination and lowered socioeconomic status experienced by many African Americans creates a complex array of historical and social interactions that ultimately blend to inhibit success. Majors and Billson (1992) have labeled this phenomenon "subjective cultural realities for black males" (p. 109).

Facts and figures support the commonly accepted nexus between high achievement and higher education, especially for African Americans. The U.S. Census Bureau (1998) indicated the median income of African Americans with only a high school diploma as \$18,683, as compared to \$31,047 for those with a bachelor's degree. Most would agree that the negative outcomes of un- and under-employment so prevalent among African-American males could be alleviated and reduced with larger scale, more focused efforts in postsecondary education. While the goal may be obvious and simplistic, the avenue to achieving the goal—widespread success in college—is not obvious, direct, nor easily attained.

Community colleges are the predominant entry point for postsecondary instruction for the majority of students of color, including African Americans (Chenoweth, 1998; McCool, 1984; Nora & Rendon, 1990). But the retention of these students remains an important yet perplexing and complicated issue at community colleges, where most students commute, have employment and/or family responsibilities, and are generally poorer than traditional four-year college students (Tinto, Russo, & Kadel, 1994). These students must cope with personal issues such as family or financial problems, lack of child care, and job demands concurrent with the demands of college (Kerka, 1995). Thus, many community college students, especially African-American males, do not achieve their educational goals. Data from the Beginning Postsecondary Student Survey (BPS)—Second Follow-up (National

Center of Education Statistics, 1994) indicates that only 16.6 percent of African Americans who began their education in community colleges in 1989-90 could be traditionally classified as persisters.<sup>1</sup> This finding is consistent with previous research indicating that African Americans are about 22 percent more likely than their white counterparts to leave college prior to goal completion (Carter & Wilson, 1993; Porter, 1990). Among African-American males in community colleges, the retention rate is even more shocking—less than 10 percent (Chenoweth, 1998).

### PURPOSE OF THE STUDY

The under-representation of African-American men has serious repercussions not only for the men themselves, but also for our nation as a whole. Whenever a group of individuals is not interacting and achieving at optimum levels, the country is robbed of talent that could enrich the lives of many. We are compelled to question the deplorable retention rates among this important population subsample and to determine factors and subsequent policy to provide academic success. Since the majority of African-American men who begin postsecondary instruction do so at community colleges, it seems intuitive that the identification of factors that promote retention and subsequent success in these institutions is a worthy and important endeavor. Because there has been so little research on this group, the present study was designed not to test a well-elaborated framework of hypotheses but instead to explore the following questions:

- What are the significant factors predicting retention among African-American males in an urban community college?
- Do the factors promoting retention vary with respect to number of semesters enrolled? In other words, do the same factors that promote retention through the first semester also promote retention through the second semester? And what factors will continue to promote retention in a third semester?

### CONCEPTUAL FRAMEWORK

A variety of relevant independent variables are suggested in the conceptual literature concerning theories of integration, attrition, and status attainment among community college students.

#### Integration

The dominant paradigm in retention research posits that academic achievements and social relations with college peers promote learning and retention. Tinto (1975) defined academic integration as identification with, and the degree

<sup>1</sup>The classical definition of persister is used—a student who remains at the same institution and completes his goal. Nonpersistence rate does not include students who “stopout” or transfer to another institution.

of achievement (e.g., courses completed) according to, the scholarly standards of an institution. Social integration has been defined as student peer relations consisting of friendship, informal academic discussions and efforts, and shared extra-curricular activities. Theoretically, the student's academic integration and social relations are assumed to influence several attitudes, including college completion goals, which in turn affect retention and persistence in college. Extensive research on four-year colleges has provided substantial support for this theory (Braxton, Sullivan, & Johnson, 1997; Cabrera, Nora, & Casteneda, 1993; Kuh, Schuh, Whitt & Associates, 1991; Pascarella & Terenzini, 1991; Tinto, 1975, 1993, 1998).

### **Status Attainment and Attrition**

Other perspectives place greater emphasis on the social contexts outside the campus, particularly family socioeconomic status and the influence provided by family and friends (Bean, 1980; Hauser & Featherman, 1975; Metzner & Bean, 1987; Sewell, Hauser, & Featherman, 1976). Despite differences in emphasis, these perspectives overlap with integration theory in noting the impact of academic achievement and college completion goals on retention. A considerable amount of research in four-year colleges has provided support for these frameworks (Cabrera, Nora, & Casteneda, 1993; Pascarella & Terenzini, 1991; Tinto, 1993).

In a review of the relevance of these four-year college theories for community college students, Maxwell (1998) concluded that the limited amount of research available on community colleges is inconclusive regarding the impact of social integration on retention. Because the differences between students at four-year and two-year campuses are many, including patterns of residence, ethnicity, gender, parental education and income, and age, there is reason to question the relevance of the four-year theories. Other independent variables in community college research which have also manifested conflicting and inconclusive effects on retention include age of the student, GPA, full/part-time attendance, and day/evening attendance (Brooks-Leonard, 1991; Feldman, 1993; Fischbach, 1990; Grimes, 1997; Pascarella, Smart, & Ethington, 1986; Voorhees, 1987; Webb, 1989),

Several independent variables reported in the community college research literature display a more consistent pattern of relations with student retention, though the number of studies is quite limited and most of them were conducted one or more decades ago. The majority of these few studies did involve multi-racial samples, which included African-American males. Factors found to be positively correlated with retention included high school grades (Feldman, 1993; Fischbach, 1990), number of course credits earned (Grimes, 1997; Webb, 1989), academic self-confidence (Webb, 1989), certainty of major (Webb, 1989), and high educational goals (Feldman, 1993; Pascarella & Chapman, 1983; Voorhees, 1987; Webb, 1989).

After an extensive review of the persistence research on minorities, Nora (1993) concluded that there were no "theoretically based" studies of African-American

community college students. However, there has been research comparing male and female African-American students in other kinds of institutions (Allen & Haniff, 1991; Coates, 1987; Plummer, 1995). And, in fact, there have been a few investigations of the outcomes for African-American males in community colleges (Carroll, 1988; Lin & Vogt, 1996; Weis, 1985). Carroll's (1988) findings were consistent with the above studies which reported that high educational goals were positively correlated with retention.

Given the uncertain applicability of four-year college theories to two-year college students, we have followed an exploratory strategy that relies partially on these theories and also on other variables associated with classroom experiences. Using secondary analysis of existing institutional research data we have incorporated theoretically identified variables—such as college completion goals—wherever there were corresponding measures in the data. With respect to the import of classroom experience, Levin and Levin (1991) observed that, due to the usually limited involvement of students with the campus, the classroom is often the only focal point for both academic and social integration. Thus, we elected to include a variety of variables concerning the number of course credit hours and academic achievements (such as GPA) that might be correlates of factors promoting social and academic involvements within the classroom (Nora, 1987).

## METHODOLOGY

### Sample

The present study took place at a large community college located in a middle-class predominantly blue-collar suburban community on the West Coast. The college was selected because the student population reflected the neighborhood's high ethnic diversity. The largest group of the students are Hispanic/Latino (40.6 percent), about one-eighth of the students are Caucasian/white (16.3 percent), 14 percent are Asian, and 8.8 percent are African American.

The study's sample consisted of 202 African-American male students who began their college experience in the Fall of 1995 ( $n = 83$ ), Fall 1996 ( $n = 76$ ), or Spring 1997 ( $n = 43$ ). For each of the cohorts, data were collected for three consecutive semesters (excluding summer). Thus, we monitored retention through the first, second, and third semesters of enrollment for each of the three cohorts at the community college. We eliminated from the study students who were pursuing neither degrees nor certificates.

### Measures

We obtained the student data for this study directly from the Office of Institutional Research at the study site. The majority of the data was collected via Computerized Assessment and Placement Program tests (CAPP), which are

routinely administered to incoming students to assist in the determination of appropriate course placement. The CAPP battery used at the study site consisted of three subtests: Assessment and Placement of writing (APW); Assessment and Placement of Reading (APR); and Basic Mathematics Readiness (BMR). In addition, the CAPP queries students on educational background and college plans. Also included in the CAPP were 15 questions added by the Office of Institutional Research concerning varied subjects including planned study, work responsibilities, high school coursework, and self ratings on skills in English and mathematics.

### Research Design

Logistic regression was used to analyze the dependent variable because retention in college can be conceived as a binary or dichotomous variable and because this statistic permits the mixing of continuous and categorical variables (Cabrera, Stampen, & Hansen, 1990; Feldman, 1993; Mallette & Cabrera, 1991). To better portray a longitudinal perspective on retention in the sample of African-American men, we designed three logistic regression equations regressing independent variables on the dichotomous outcome of retention. The first equation (Analysis 1) explained retention through semester one, the second equation (Analysis 2) explained retention through semester two, and the last retention equation (Analysis 3) explained retention through semester three.<sup>2</sup> Each equation consisted of four blocks of independent variables. The first block consisted of pre-college factors of social origin and education (i.e., demographics and high school variables). Block two consisted of ability tests administered prior to coursework as well as a scale measuring the self-assessment of ability. Block three consisted of items pertaining to experiences occurring during the semester. Finally, the last block consisted of items and experiences occurring simultaneously, but external to, college. The design allowed us to assess the contribution of each of the variable groups while controlling for the preceding blocks. Table 1 provides specific details on each of the four blocks of independent variables.

In addition to the full models, we derived reduced models using a block-by-block likelihood ratio (LR) backward elimination test. The likelihood ratio test eliminated one variable at a time followed by an estimation of the model by observing the change in the log likelihood.<sup>3</sup> The resulting models were parsimonious versions of the full models (Cabrera, 1994; Nora & Cabrera, 1997; Norusis, 1990).

<sup>2</sup>Analysis 3 is predicting enrollment into year 2.

<sup>3</sup>The likelihood ratio is calculated by dividing the likelihood of the reduced mode by that of the full model (Norusis, 1990). The introduction of a reduced model has been used in other postsecondary studies using logistic regression (Cabrera, 1994; Nora & Cabrera, 1997).

### Indicators of Goodness of Fit

We analyzed several measures of goodness of fit to assess the overall predictability of each block to each model including the chi square,  $G^2/df$  ratio,<sup>4</sup> Cox and Snell  $R^2$ ,<sup>5</sup> and the  $PCP$ <sup>6</sup> (proportion of cases correctly predicted). To interpret the relative importance of the independent variables, we observed the significance levels and calculated the Delta- $p$  statistic<sup>7</sup> where appropriate. Thus, we proceeded via the following steps for each model:

1. Assessment of the block.
2. Assessment of the individual predictors for each equation.
3. Assessment of the reduced model.
4. Comparison across the equation.

## RESULTS

Of the 202 men who began their college experience, 75 (36.9 percent) earned credits at the end of semester one. By the end of semester two, 56 (27.6 percent) continued to earn credits in semester two. Semester three retention (beginning of year two) included 69 men (34 percent) from the original sample. The fluctuation in numbers included men who left the college as well as men who “stopped out” for a semester.

### Forward Entry of Blocks of Variables

Table 2 provides the results of the block entry of variables for the full model for each of the three analyses. Tables 3a, 3b, and 3c provide parameter estimates (or logistic regression weights,  $B$ ) and standard errors (S.E.) for each of the independent variables in the equations.

### Backward Stepwise Procedure

To facilitate interpretation of the results, we performed the analyses using a backward stepwise procedure. Rather than reproduce all of the parameter estimates for each of the equations, we have included in Table 4 only the final model (after all of the blocks of variables have been considered for entry/removal).<sup>8</sup>

<sup>4</sup>According to Stage, ratios of less than 2.5 signify a good fit (1990).

<sup>5</sup>Cabrera (1994) labels this a “pseudo  $R^2$ ” because it represents the proportion of error variance that an alternative model reduces in relation to a null model” (p. 242).

<sup>6</sup>The  $PCP$  compares the probable outcome to the actual outcome. Cabrera (1994) explains that “this measure basically involves a comparison between the number of cases that the model predicted as being either 0...or 1... (i.e., persisted or not persisted) against the total sample size” (pp. 242–243).

<sup>7</sup>The Delta- $p$  statistic was calculated only for those independent variables that were significant predictors of the dependent variable. According to Petersen (1985), the Delta- $p$  statistic provides an estimate of the change in the probability of the dependent variable resulting from a unit change in the predictor variable.

<sup>8</sup>The full analysis can be obtained by contacting the first author.

Table 1. Description of Variables

Block	Variable	Description
Dependent variable	Retention	Dichotomous variable (0 = not retained, 1 = retained) measuring retention. In each of the three equations, retention is defined differently. In equation 1, retention is measured through semester 1. In equation 2, retention is measured through semester 2. In equation 3, retention is measured to semester 3.
<b>Block 1.</b> Pre-college (demographics and high school variables)	Age	Respondent's age in years
	Parent's level of education	1 = advanced degree to 6=less than high school diploma
	Years of English	Number of years of high school English (1 = less than 1 year to 5 = 4 years)
	High School GPA	Self-reported high school GPA (1 = A to 7=below D)
	Highest level of HS math	Highest level of math class completed (1 = none to 8 = Calculus)
	Years of science	Number of years of high school science (0 = none to 4 = 4 years)
<b>Block 2.</b> Ability	Ability scale	Mean score of CAPP's Program subtests in reading, writing, and mathematics. (Alpha = .8069)
	Self-skill rating	The sum of respondent's expressed needs for tutoring, assistance in study skills, math, reading, and writing (Alpha = .8510).
<b>Block 3.</b> College related	Orientation	Dichotomous variable indicating if student attended orientation exercises prior to enrollment (0 = no; 1 = yes)
	Average credit hours	The average number of credit hours enrolled. Analysis 1 = average for semester 1 Analysis 2 = average for 2 semesters Analysis 3 = average for 3 semesters
	Success	The difference between the number of credit hours enrolled and the number of credit hours successfully earned in past semester(s) Analysis 1 = not included Analysis 2 = for semester 1 Analysis 3 = sum for semesters 1 and 2



	CUMGPA	Cumulative GPA Analysis 1 = average for semester 1 Analysis 2 = cumulative average for 2 semesters Analysis 3 = cumulative average for 3 semesters
	Day	Dichotomous variable indicating if student attends college classes during the day (0=evening and/or weekend courses; 1 = day courses)
	Voc-ed	Dichotomous variable indicating if student is in a vocational program (0 = no; 1 = yes)
	Certainty of Major	Degree of certainty on chosen major (1 = unsure to 3 = very sure)
	Study hours	Number of reported hours of studying
	Reverse transfer	Dichotomous variable indicating if student had a prior degree.
	Stopout	Dichotomous variable indicating if student ceased enrollment for 1 semester; Analysis 1 = not included Analysis 2 = student enrolled in semester 2, but earned 0 credit in semester 1. Analysis 3 = student enrolled in semester 3, but earned 0 credits in semester 1 and/or semester 2.
<b>Block 4</b> Personal variables (pull factors and self-evaluations)	Work hours	Number of weekly hours of employment while enrolled (1 = none to 6 = more than 40).
	Importance to others	Self-rating of importance of completing college to others (1 = not very important to 3 = very important).
	Importance to self	Self-rating of importance of completing college to self (1 = not very important to 3 = very important).
	Leisure hours	Number of weekly hours reported in leisure activities or getting together with friends (1 = none to 6 = more than 40).
	Perceived need for academic assistance	Self-assessed need for assistance in writing, reading, study skills, and mathematics (Alpha = .7740)

Table 2. Analyses by Block for Analysis 1 (Semester 1), Analysis 2 (Semester 2), and Analysis 3 (Semester 3).

	Analysis 1 Semester 1 N = 157	Analysis 2 Semester 2 N = 163	Analysis 3 Semester 3 N = 137
<b>Block 1: Pre-college</b> (demographics and high school variables)			
-2 Log Likelihood	202.797	173.679	170.256
chi square ( $\chi^2$ ), (df)	10.853 (6)	31.93 (6)***	18.78 (6)**
G <sup>2</sup> /df ratio,	1.299	1.16	1.27
Cox and Snell R <sup>2</sup> ,	.067	.178	.128
PCP	61.15%	72.39%	62.04%
<b>Block 2: Ability</b>			
-2 Log Likelihood	195.069	167.912	164.080
chi square ( $\chi^2$ ), (df)	7.728(2)*	5.77 (2)	6.176(2)*
G <sup>2</sup> /df ratio,	1.24	1.17	1.24
Cox and Snell R <sup>2</sup> ,	.112	.206	.167
PCP	68.15%	70.55%	65.69%
<b>Block 3: College related</b>			
-2 Log Likelihood	152.561	117.774	133.465
chi square ( $\chi^2$ ), (df)	42.51(8)***	50.14(9)***	30.62 (10)***
G <sup>2</sup> /df ratio,	1.02	0.75	1.03
Cox and Snell R <sup>2</sup> ,	.322	.417	.446
PCP	73.89%	84.66%	80.29
<b>Block 4: Personal and Pull Factors</b>			
-2 Log Likelihood	149.998	106.975	121.695
chi square ( $\chi^2$ ), (df)	2.563 (4)	10.80(4)*	11.77 (4)*
G <sup>2</sup> /df ratio,	0.997	0.844	0.86
Cox and Snell R <sup>2</sup> ,	.333	.454	.519
PCP	73.89%	84.05	83.21%

For  $\chi^2$  analyses \* $p$  < .05. \*\* $p$  < .01. \*\*\* $p$  > .001.

The Delta- $p$  ( $\Delta p$ ) statistic is generally calculated for each significant predictor of the dependent variable (Cabrera, 1994). We used the formula recommended by Petersen (1985) to calculate the change in the probability of the dependent variable (retention) for a unit change in each of the significant independent variables in the reduced models (holding all other variables constant):

$$\Delta p = \frac{\exp(L_1)}{1 + \exp(L_1)} - P_0$$

Table 3. Block-by-Block Logistic Regression Weights (B) and Standard Errors (S.E.)  
 Table 3A: Analysis 1 - End of Semester 1

Block Independent variables	Equation 1	Equation 2	Equation 3	Equation 4
<b>Block 1</b>				
Age	-.0327 (.0402)	-.0306 (.0405)	-.0324 (.0581)	-.0284 (.0603)
Parent level of education	-.2537 (.1217)*	-.2687 (.1269)*	-.3324 (.1587)*	-.3195 (.1627)*
# years of English	.1725 (.1954)	.1353 (.1977)	.2878 (.2286)	.2407 (.2375)
High school GPA	-.1006 (.1444)	-.0523 (.1486)	.0421 (.1841)	.0327 (.1840)
Highest level of high school mathematics	.1136 (.1215)	-.0532 (.1390)	-.1452 (.1651)	-.0996 (.1766)
# years of science	-.0720 (.2108)	-.0483 (.2164)	.1330 (.2606)	.1524 (.2673)
<b>Block 2</b>				
Ability scale		.0780 (.0289)**	.0427 (.0356)	.0355 (.0369)
Self-skill rating		.0357 (.1282)	.0760 (.1553)	.0625 (.1610)
<b>Block 3</b>				
Orientation			-.0661 (.4205)	-.1499 (.4357)
Average credit hours			.2347 (.0562)***	.2379 (.0585)***
Success			Not applicable	Not applicable
CUMGPA			.3313 (.1662)*	.3273 (.1680)
Day			-.3108 (.4746)	-.4203 (.4899)
Voc-ed			-.4059 (.5561)	-.4621 (.5744)
Certainty of major			.2162 (.2081)	.1732 (.2131)
Study-hours			.0033 (.0977)	-.0255 (.1003)
Reverse transfer			1.7165 (1.2226)	1.8312 (1.2587)
Stopout			Not applicable	Not applicable
<b>Block 4</b>				
Work hours				-.0353 (.1477)
Importance to others				-.2708 (.3026)
Importance to self				-.0027 (.4553)
Leisure hours				.2432 (.1944)

\* $p > .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 3B: Analysis 2 - End of Semester 2

Block Independent variables	Equation 1	Equation 2	Equation 3	Equation 4
<b>Block 1</b>				
Age	-.2562 (.0987)**	-.2361 (.0985)*	-.2990 (.1148)**	-.2875 (.1216)*
Parent level of education	-.2642 (.1335)*	-.2607 (.1387)	-.3456 (.1854)	-.4619 (.2068)*
# years of English	.5233 (.3252)	.4695 (.3423)	.7275 (.4880)	.7787 (.5071)
High school GPA	.1665 (.1643)	.2236 (.1696)	.5311 (.2473)*	.6706 (.2732)*
Highest level of high school mathematics	.1168 (.1295)	.0075 (.1485)	-.0541 (.2027)	-.1380 (.2311)
# years of science	.0647 (.2324)	.0721 (.2354)	.3390 (.3052)	.4357 (.3339)
<b>Block 2</b>				
Ability scale		.0599 (.0309)	.0229 (.0416)	.0139 (.0478)
Self-skill rating		-.2276 (.1660)	-.4707 (.2327)*	-.5401 (.2597)*
<b>Block 3</b>				
Orientation			-.4206 (.4898)	-.1901 (.5367)
Average credit hours			.3538 (.0814)***	.4216 (.0963)***
Success			.2291 (.1469)	.3033 (.1725)
CUMGPA			.1464 (.2395)	.1615 (.2557)
Day			-.0158 (.6043)	-.0703 (.6382)
Voc-ed			.7695 (.6657)	.9216 (.7306)
Certainty of major			.6929 (.2519)**	.7687 (.2838)**
Study-hours			.1097 (.1150)	.0845 (.1291)
Reverse transfer			2.1404 (1.7243)	2.1493 (1.7322)
Stopout			Not Applicable	Not Applicable
<b>Block 4</b>				
Work hours				-.2187 (.2018)
Importance to others				.4437 (.4439)
Importance to self				1.7594 (.7052)*
Leisure hours				.2308 (.2341)

\* $p > .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 3C: Analysis 3—End of Semester 3

Block Independent variables	Equation 1	Equation 2	Equation 3	Equation 4
<b>Block 1</b>				
Age	-.1807 (.0683)**	-.1768 (.0704)*	-.2855 (.1017)**	-.2814 (.1059)**
Parent level of education	-.0693 (.1393)	-.0911 (.1463)	-.0298 (.1698)	-.0834 (.18830)
# years of English	.1844 (.2256)	.1211 (.2346)	.0704 (.2768)	.0400 (.2981)
High school GPA	.2309 (.1662)	.2839 (.1723)	.4371 (.2196)*	.5443 (.2521)*
Highest level of high school mathematics	.1002 (.1279)	-.0301 (.1484)	-.1318 (.1796)	-.2739 (.2059)
# years of science	-.1840 (.2273)	-.1710 (.2314)	-.1227 (.2661)	-.1322 (.2799)
<b>Block 2</b>				
Ability scale		.0714 (.0325)*	.0697 (.0408)	.0877 (.0451)
Self-skill rating		-.1287 (.1429)	-.2247 (.1761)	-.2878 (.2008)
<b>Block 3</b>				
Orientation			-.5739 (.4534)	-.2577 (.4963)
Average credit hours			.2638 (.0788)***	.2898 (.0848)***
Success			.0449 (.0931)	.0805 (.1019)
CUMGPA			.0179 (.2510)	-.0047 (.2671)
Day			-.1416 (.5187)	-.2231 (.5649)
Voc-ed			.5852 (.6550)	.5214 (.7086)
Certainty of major			.6142 (.2350)**	.7277 (.2613)**
Study-hours			.0016 (.1023)	-.0226 (.1160)
Reverse transfer			3.6492 (1.5980)*	3.7293 (1.6249)*
Stopout			.7583 (.9484)	1.1292 (.9877)
<b>Block 4</b>				
Work hours				-.2310 (.2002)
Importance to others				.5955 (.4107)
Importance to self				1.4931 (.5507)**
Leisure hours				.1096 (.2103)

\* $p > .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 4. Reduced Models—Parameter Estimates, Standard Errors, and the  $\rho$  Statistics

Variable	Analysis 1		Analysis 2		Analysis 3	
	Parameter Estimates (S.E.)	$\rho$	Parameter Estimates (S.E.)	$\rho$	Parameter Estimates (S.E.)	$\rho$
<b>Block 1</b>						
Age			-.2549 (.1071)*	.1607	-.2730 (.0902)**	.0923
Parent level of education	-.3062 (.1426)*	.0545	-.4332 (.1743)*	.1175		
Years of English			.5662 (.3990)			
<b>Block 2</b>						
Ability	.0383 (.0296)		-.0188 (.0358)		.0393 (.0341)	
<b>Block 3</b>						
Success			.2651 (.1289)*	.2900		
Average hours	.2271 (.0521)***	.1870	.3571 (.0694)***	.3124	.2170 (.0677)**	.2141
CUMGPA	.2946 (.1597)					
Certainty of Major			.5984 (.2398)*	.3694	.6652 (.2266)**	.3205
Reverse transfer					3.5152 (1.5538)*	.6312
<b>Block 4</b>						
Importance to self			1.2081 (.5811)*	.4941	.9991 (.4458)*	.3910
<b>Goodness of Fit Measures</b>						
-2 Log Likelihood		159.749		126.497		138.292
Goodness of Fit		146.022		178.067		146.867
Cox & Snell R <sup>2</sup>		.291		.385		.310
PCP		71.97		84.05		81.02

Where:

$P_0$  = the mean of retention for the specific analysis

$L_1$  = the parameter estimate (logistic regression weight) for the independent variable in the specific analysis

## INTERPRETATIONS OF RESULTS

### Assessment of Blocks

For each of the three analysis, the first block of variables (demographics and high school related) explained a large and significant proportion of the variance of the dependent variable, retention. Although the independent variables in the block are beyond the control of the community college, they indicate the importance of pre-college predictors in college outcomes and provide a reminder of the importance of including these variables as controls. Block 2, ability variables measured in college, added little to the predictability of the equation beyond the earlier contribution of the high school achievement measures (which presumably were also related to ability). The strongest set of variables were those of block 3 (college related). The combined effect of the first three blocks explained more than three-fourths of the variance in retention (as defined by the individual equations). Since the college has more control over these factors, important and constructive policies may be implied. Finally, the last block (personal and pull factors) had a small (Analysis 3) or imperceptible effect (Analysis 1 and 2).

### Assessment of Individual Predictors

#### *Block One*

In all three analyses, being younger was a significant predictor of retention. This contrasts with two previous multi-racial studies (Pascarella, Smart, & Ethington, 1986; Webb, 1989) and Carroll's study of African Americans, all of which found no correlations with age, but is consistent with other studies reviewed earlier which found that younger students were more likely to persist. Various interpretations may be made of this finding. For example, older men may confront more problems in attending the college. Or, it may indicate that for African-American men, family, employment, or other responsibilities that tend to increase with age, are detractors to the community college experience. This finding may indicate the need for more support of older African-American men. Although not tested in this study, it may be that younger men feel more comfortable or better integrated. While many community colleges have adult re-entry programs that stress the needs of older *women*, perhaps this college and others like it should consider expending a more equal effort to accommodate older men with a special emphasis on older men of color.

In retention through semester two (Analysis 2) and through semester three (Analysis 3), high school GPA was a significant predictor, and consistent with

previous research (Feldman, 1993; Fischbach, 1990). These findings indicate that as the student progresses in college, his academic preparation—and probably some other correlates of high school GPA, such as motivation and college GPA—become increasingly more important in determining collegiate outcomes. Most likely the effect of high school preparation and correlates becomes more salient as college coursework moves beyond the introductory and into the more advanced.

#### *Block Two*

As indicated earlier, we found an absence of significant effects of the ability tests—above and beyond the effects of the control variable of high school GPA—on retention in the first semester. However, for the second semester analysis, the effect of low self-assessment of skills was a significant predictor of non-retention. This is consistent with Webb's (1989) earlier findings of a correlation between academic self-confidence and retention. Therefore, African-American men who feel capable of college-level work tended to complete semester two in greater proportion than those who felt less capable. This finding may underscore the importance of providing academic assistance to those who express a need for it. A full 40 percent of the men in this sample indicated a need for academic assistance in at least one of the five items queried (basic tutoring, study skills, math, reading, and/or writing). It may be useful for academic advisors to extend an invitation to individuals who indicate academic concerns on the CAPP instrument, inviting them to tour or learn more about the academic assistance center. Instructors may also find it appropriate to introduce students to the academic assistance center early in the semester, perhaps during orientation or similar programs.

#### *Block Three*

In all three analyses, the number of hours of course enrollment was a positive and significant predictor of retention. Men who attended the college on a full-time basis were more likely to persist. Although the studies cited earlier were in disagreement on the correlation with full-time enrollment, the number of courses attended has usually been found to be related to retention (Brooks-Leonard, 1991; Feldman, 1993; Grimes, 1997; Maxwell, 1998; Voorhees, 1987; Webb, 1989). In the second and third analyses, certainty of major was also a significant predictor of retention, consistent with Webb's (1989) similar finding. Because certainty of major is positively related to college goal commitments, it may be that men who have a specific occupational goal and can pursue it on a more full-time basis are more likely to persist. Community colleges, therefore, should continue to help students identify occupational goals early in their college enrollment and to encourage students to attend full-time whenever possible. Helping students to identify and apply for financial aid may assist some men to focus more exclusively on completing their education. Having sufficient financial means may allow some to attend on a full-time basis rather than appending college to the end of a day at work.



In contrast to several previous studies that have found GPA positively correlated with retention, none of the three analyses found a relationship with cumulative GPA. This is probably due in this case to the introduction of correlated control variables such as high school GPA and motivational measures.

#### *Block Four*

In predicting retention through both semesters two and three, men who expressed a high degree of importance (to self) in completing college were found to be more likely to complete the semester. Although this finding was expected and consistent with earlier studies (Pascarella & Chapman, 1983; Voorhees, 1987; Webb, 1989), when combined with the finding of the importance of certainty of major, it further confirms the role of college completion goals (“goal commitment” in the integration literature) for this sample of African-American men. Colleges would, therefore, be well advised to establish activities and experiences that emphasize the need, the importance, and the outcomes of a college degree.

#### **Additional Insights from the Reduced Models**

The reduced models simplified the equations by stripping them of variables that did not appear to pertain to this specific sample and by allowing to remain only those variables that explained a significant proportion of the variance of the dependent variable. In many instances, comparing the reduced model to the full model revealed different significant predictor variables. The inconsistency may be explained by an overlap in the full models of multiple independent variables explaining a portion of the variance. Whenever a variable is removed from the equation, its associated explained variance can be attributed to another predictor. Thus, variables that appeared to be non-significant predictors may suddenly emerge as more important in the reduced models. We present these findings with caution because they are based solely on this sample and may not be applicable to other African-American men at other institutions. Yet, we feel that the reduced models can and do provide additional important information. We calculated the delta- $p$  statistic from the reduced models to better understand this study’s sample.

The role of age is evident in the reduced models. In predicting retention in semesters two and three, the likelihood of non-retention increases 16 percent and 9.2 percent, respectively, for each additional year in age. From block three, the role of completing courses (success) was a significant predictor for analysis two. In terms of the delta- $p$  statistic, for each credit hour dropped, the likelihood of non-retention increased by 29 percent. For this sample, dropping courses was an indication of possible non-retention. Since the college tracks both courses entered and courses completed, policies to contact individuals after a course is dropped may be an important way to indicate concern and to remind students of the types of available assistance on campus.

Similar to the full models, college related variables (block three) offered many insights. Once again, the importance of full-time enrollment became evident. With each additional credit hour of enrollment, the likelihood of retention through semesters one, two, and three increased by 18.7 percent, 31.2 percent, or 21.4 percent, respectively. The reduced model also indicated that men with a previous college degree were 63 percent more likely to persist through semester three.

Finally, the reduced model underscored the importance of personal goals for retention. Men who reported that college was very important were 49 percent and 39 percent more likely to persist through semesters two and three respectively.

## CONCLUSIONS

We did find support for the impact of high school grade point average and college goal commitments, as posited in integration, attrition, and status attainment theories. Also consistent with these theories are the strong correlations with retention of the number of course credit hours (units) and the dropping of course units. The number of course credit hours is useful as a measure of the potential for academic and social involvement of African-American males in the classroom, which is a particularly significant form of involvement in community colleges.

Additional variables that have distinctive manifestations in community colleges were high school preparation, perceptions of the need for academic assistance, and age. Given the greater likelihood that students enrolling in two-year institutions have insufficient preparation and needs for academic assistance, and the special needs of older males, the findings suggest that academic and support services take these factors into account in developing programs and services for African-American males.

Community colleges are important avenues for the success of African-American men. A large portion of the degrees earned by African Americans are at the associate/vocational level (Shinagawa & Jang, 1998). Further, a college degree has positive and important consequences. For example, the U.S. Census Bureau (1998) reported the median earnings of African Americans with a bachelor's degree was \$12,364 more than that for only a high school diploma. Finally, African-American men lag behind African-American women in their proportional representation in the ranks of managers and professionals (Shinagawa & Jang, 1998). In short, it is time for community colleges to recognize the potential and the importance of African-American male students and to develop policies specifically aimed at this subpopulation.

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