

Persistence Factors for Black Males in the Community College: An Examination of Background, Academic, Social, and Environmental Variables

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ABSTRACT: The primary goal of this study was to identify variables predictive of first-year persistence among Black male students enrolled in community colleges. Specifically, this study explored persistence variables in four domains: 1) background/defining variables, 2) academic variables, 3) social variables, and 4) environmental variables. Data used in this study were derived from the Education Longitudinal Study from Black males in public two-year colleges. Hierarchical logistic regression analyses indicated that participation in intramural sports, extracurricular activities, talking with faculty, study habits, hours worked per week, supporting others, and life stress were predictive of persistence. In all, findings indicated environmental variables were substantially more predictive of persistence than variables in other domains. Implications for practice and future research are extended.

Each year, a large number of students make the transition from high school to college. While many students will attend four-year colleges and

universities, for students of color, particularly Black male students (54.9%), the majority will seek out postsecondary opportunities at two-year institutions. The vast majority of these two-year college attendees (81.9%) will enroll in public two-year colleges (also referred to as community colleges) (U.S. Department of Education, 2004/2009). Many Black males (and other minorities) attend community colleges because they perceive these institutions as venues that can facilitate their social and economic advancement (Bush, 2004; Bush & Bush, 2005). These perceptions are likely a result of the community college's mission of providing open-access to post-secondary opportunities for underserved communities (Nevarez & Wood, 2010).

Unfortunately, in many circumstances, this perception does not correlate with reality. Many institutions are struggling to reduce high departure rates among collegians (Kuh, Cruce, Shoup, & Kinzie, 2008). More specifically, the likelihood of success (e.g., persistence, achievement, graduation, or transfer) for Black males attending community colleges is low (Wood & Turner, 2011). In many respects, problems in student success are additive, increasing greatly over time. For example, 11.5% of Black male students will depart from a community college within one year of admission, 48.9% leave after three years, and 83% leave after six years, without achieving their intended certificate or degree (U.S. Department of Education, 2004/2009).

The research presented in this study was conducted in response to these challenges, with the intent of providing educators with information on factors that affect Black males' continuation in college. With this in mind, the primary goal of this study was to identify variables predictive of persistence among Black male students in community college. In particular, this study explored persistence variables in four domains: background/defining variables, academic variables, social variables, and environmental variables.

A study focused on persistence predictors for Black men in community college is significant for several reasons. First, the vast majority of studies on Black men in postsecondary education have overlooked the community college context. Instead, the extant literature on Black men focuses on their experiences in four-year colleges and universities (Wood, 2012; Wood & Turner, 2011). In contrast to four-year institutions, community colleges have differing institutional characteristics and foci, e.g., governance, faculty qualifications, teaching mission, and open access admissions (Piland, 1995). As such, while this literature is essential for supporting policies and practices in four-year contexts, these findings have limited applicability for community colleges.

Second, Black men in two- and four-year institutions are markedly different. Prior research has shown that Black men in four-year institutions are more

likely to benefit from academic and social integration experiences than their peers in two-year colleges (Flowers, 2006). Moreover, Black men in community colleges are more likely to be older, be classified as low-income, have dependents (e.g., children), be married, and to have delayed their enrollment in higher education. Further, they have significantly lower academic preparation in foreign language, mathematics, and science than their four-year counterparts (Wood, 2011b). These differences are not trivial. Rather, they necessitate interventions that are specific to the needs of Black men in two-year contexts.

Third, prior to this research, there have only been two other studies that have attempted to develop comprehensive models to explain persistence factors for Black men in community colleges. The first model, created by Mason (1998), illustrated the effect of environmental (e.g., finances, outside encouragement, and family responsibilities) and psychological outcomes (e.g., satisfaction and goal commitment) on Black male persistence. Unfortunately, Mason's study was limited because the data utilized was collected from only one institution; had a limited sample size of men ($n=93$); and had some methodological challenges, i.e., using mean tests for predictive modeling. Similarly, although methodologically rigorous, Hagedorn, Maxwell, and Hampton's (2001–2002) research on correlate of retention for Black men in community colleges was limited to one suburban institution with a small sample of only 202 Black men.¹ In contrast, this current study employed data from a large national sample of students, allowing for a greater level of generalizability. The next section will further articulate the need for a study of this magnitude and discuss research that served to guide this investigation.

RELEVANT LITERATURE

Recently, there has been a proliferation of scholarship on Black men in education (Bonner, 2001, 2003, 2010; Harper, 2004, 2006, 2008, 2009, 2012; Harris & Harper, 2012; Palmer, Davis, & Hilton, 2009; Palmer & Strayhorn, 2008; Palmer & Wood, 2012; Strayhorn, 2008, 2009, 2010). National interest on the plight of Black males has resulted in numerous conference sessions, think tanks, journal articles, books, and editorials dedicated to exploring the intricate factors impacting this group (Harper, 2010). Many community college leaders have contextualized challenges in educating Black males as part of a larger discourse on disparate success among minority men, which has resulted in campus and district-level initiatives designed to increase the entry and success (e.g., persistence or transfer) of men of color (Nevarez & Wood, 2010). Unfortunately, many efforts employ research specific to Black (and

other minority) males in four-year colleges, while not understanding that there are significant differences between the backgrounds and experiences of students enrolled in two-year and four-year institutions that should caution against the wholesale use of this literature (Wood, 2011a; Wood & Turner, 2011). For example, Wood (2011b) used national data from a longitudinal study of beginning postsecondary students to illustrate that Black males in two-year colleges are more likely to be older, have dependents, be independents, to delay their enrollment into postsecondary education, and to be married. Additionally, he found that they were less likely to have high degree expectations, to have attended private high school, and to have high levels of precollege preparation in foreign language, math, and science.

Further, Flowers (2006) compared academic and social integration patterns between Black males enrolled in two- and four-year colleges and found that Black males had significantly lower levels of academic and social integration experiences at two-year institutions than they did at four-year institutions. As a whole, these studies illustrate that caution should be taken in assuming that theories, models, and research specific to Black males in four-year colleges will be applicable to Black men in two-year institutions (e.g., community colleges). This study is significant as its findings can be used to inform the preventative and intervening actions taken by college professionals to further the success of Black males in the community college. To provide a foundation for describing extant persistence research on Black males in community colleges, the next section discusses two commonly employed persistence frameworks.

Student Persistence in College

For years, persistence research has been guided by two predominant frames. The first is Tinto's (1975, 1987, 1988, 1993) model of student departure, which depicts persistence as a longitudinal process whereby a student interacts with the campus academic and social systems. The theory posits that the more a student becomes integrated into these systems, the greater their level of commitment to the institution becomes. Integration is fostered through both formal and informal interactions with the organization and its affiliates (e.g., faculty, staff, students). Tinto asserted that greater levels of commitment lead to increased levels of persistence.

This perspective on persistence (focused on academic and social integration) has been used extensively by scholars of the Black male experience (Bates, 2007; Dabney-Smith, 2009; Dorsey, 1996; Flowers, 2006; Hampton, 2002; Ihekwaba, 2001; Jordan, 2008; Miller, 2006; Mosby, 2009; Ray, Carly, & Brown, 2009; Riley, 2007; Scaggs, 2004; Shannon, 2006; Strayhorn, 2012).

Typically, social integration is operationalized through measures of students' participation in clubs and organizations, intramural sports, varsity sports, fine arts events, and student government. Often, academic integration is assessed by students' level of engagement in academic matters, such as studying, formal meetings with faculty, informal meetings with faculty, meeting with counselors and advisors, or going to the library (Flowers, 2006; Pascarella & Chapman, 1983).

In contrast to Tinto's model, the second predominant frame used to study persistence is Bean and Metzner's (1985) model of nontraditional student persistence. Bean and Metzner are critical of Tinto's model, which they assert does not adequately account for factors affecting nontraditional students. They note the difficulty in distinguishing between these two groups (e.g., traditional and nontraditional), but state that nontraditional students are generally older, commute to college, and are enrolled part-time. Further, these students are also differentiated from their peers as often being low-income and of a racial/ethnic minority affiliation. As a result, "the chief difference between the attrition process of traditional and nontraditional students is that nontraditional students are more affected by the external environment than by the social integration variables affecting traditional student attrition" (p. 485).

Environmental factors are variables that "pull" students' attention and intensity away from their collegiate endeavors. Often, these environmental factors occur externally to the institution, and include work, familial responsibilities, and financial challenges. Bean and Metzner (1985) proffer the notion that these environmental variables have a direct effect on persistence as well as an indirect effect on persistence through psychological variables (referred to as psychological outcomes). With these differences in mind, their model does not focus intently on the role of social variables in relationship to persistence. Rather, their model emphasizes the importance of environmental and psychological factors on persistence. The following section will examine extant research on Black male persistence in the community college, which demonstrates the influence of both Tinto's (1975) and Bean and Metzner's (1985) models of persistence.

Black Male Persistence in the Community College

To date, limited peer-reviewed research has examined factors correlated with or predictive of Black male persistence in the community college. Wood (2010) presented a meta-synthesis of research from 1971 to 2009 pertaining to student success (broadly defined) for African American males in the community college. In his study, he identified fifty publications that were specific to various

topics (e.g., remediation, achievement, persistence, engagement) regarding Black males in the community college. Of these, only eight pieces were peer-reviewed (most of the remaining works were dissertations). Further, four of those eight focused on persistence (e.g., Glenn, 2003–2004; Hagedorn et al., 2001–2002; Leach, 2001; Perrakis, 2008). Since that time, two additional peer-reviewed articles have been published on Black male persistence in the community college (Bush & Bush, 2010; Wood, 2012). Collectively, these six publications provide extensive insight into the persistence phenomena among this populous. In general, variables identified as being relevant to persistence can be divided into six constructs: background/defining variables, academic variables, environmental variables, institutional variables, and psychological variables. Findings relevant to each construct are presented below.

Background/Defining Variables

Background and defining variables refer to variables and factors that occur prior to students' enrollment in college and are expected to affect their academic outcomes (Bean & Metzner, 1975; Mason, 1994). These variables include educational goals, the student's age, the student's pre-collegiate academic success, and the educational level attained by the student's parents. Educational goals have been found to be strong predictors of success. In particular, scholars have found that having clear academic goals (Mason, 1998), having a strong rationale for enrolling in college (Perrakis, 2008), and having higher degree aspirations (Bush & Bush, 2010) can lead to increased persistence.

Age has also been identified as an important persistence factor. Though research on students of color in general has shown that increases in age are associated with corresponding increases in student performance (Carroll, 1988; Pascarella, Smart, & Ethington, 1986; Webb, 1989), research on Black males in community colleges suggests the opposite. Findings from Hagedorn et al. (2001–2002) and Perrakis (2008), for example, illustrate that youthfulness is predictive of persistence for Black males in community college. Prior research has also shown pre-collegiate academic success to have an effect on persistence. Studies have shown that increased high school grade point averages and the completion of higher-level mathematics can lead to lower attrition rates (Hagedorn et al., 2001–2002; Perrakis, 2008). In addition, there is some indication that a parent's level of education has a role in student success, where increased levels of education have a positive effect on persistence (Hagedorn et al., 2001–2002).

Academic Variables

Findings relevant to academic variables suggest that positive academic behaviors lead to increased success. For example, Mason (1998) indicated that increased time spent studying and lower absenteeism facilitates persistence. Further, enrollment intensity is also integral to persistence. Students who enroll full-time or have greater unit/credit loads are significantly more likely to persist than those who hold part-time schedules or have lower unit loads (Hagedorn et al., 2001–2002). Additionally, several studies illustrated that students' certainty in their major of choice is integral to persistence (Hagedorn et al., 2001–2002; Mason, 1998). Some scholars have also pointed to the role of academic integration in facilitating positive outcomes. For instance, Bush and Bush (2010) noted that students who have greater and more positive interactions with faculty are significantly more likely to achieve academically and persist than those who do not.

Environmental Variables

A few studies have examined the relationship between environmental variables and student success (e.g., Mason, 1998; Wood, 2012). Environmental variables, sometimes referred to collectively as “environment pull,” are life circumstances external to the institution that affect students' success within it (Bean & Metzner, 1985; Freeman & Huggans, 2009). For instance, students' perceptions of a lack of money were negatively associated with persistence (Mason, 1998), as were familial responsibilities. When students have greater levels of familial responsibilities (especially those responsibilities tied to financial support for others), students were less likely to persist (Wood, 2012). In a similar vein, Wood's (2012) analysis included a response category where students could indicate personal factors in general as a rationale for leaving college. His findings indicate that many students leave college for unspecified personal reasons, reasons he attributed to environmental pull. Encouragement from others (e.g., peers, friends, and family) can also lead to higher success. When students feel that they are supported in their academic endeavors, they are more likely to persist (Mason, 1998).

Psychological Variables

Numerous studies have identified psychological variables as being integral to Black male persistence in the community college. These studies have found that students are most likely to persist when (a) they feel a strong sense of belonging at their institution (Perrakis, 2008), (b) they are satisfied with their collegiate experience (Mason, 1998; Strayhorn, 2012; Wood, 2012), and (c) they are

committed to their academic goals (having internalized that goal commitment) and to persistence toward their objectives (Hagedorn et al., 2001–2002; Mason, 1998; Perrakis, 2008). Further research suggests that students persist when they perceive their degree pursuits to be worthwhile endeavors, referred to as degree utility (Mason, 1998). Wood (2011c) also emphasizes the importance of utility, he states that “many Black males may experience a utility-conflict, meaning that their perceptions of the benefits of school conflict with their experiences, perceptions, and immediate needs” (p. 24). In essence, while these men understand the importance of school, external pressures to meet their basic needs (e.g., food, housing, and bills) may lead to the prioritization of other goals (e.g., working or meeting family obligations) above their education.

Institutional Variables

Several scholars have noted that persistence research should not focus solely on the student and their engagement with the institution, but also on the institution’s role in facilitating student outcomes. These scholars have focused on how academic, social, and environmental issues are a byproduct of the institution and lead to dismal outcomes for students. For example, Bush and Bush (2010) noted that many college personnel are unwilling to engage in introspection on how their efforts, policies, practices, and personnel systematically produce educational disparities. They refer to this apprehension as the “elephant in the room.” In this light, they suggested that institutions foster faculty-student interaction and positive campus climates that enable students’ continuation in college. Similarly, Glenn (2003–2004) identified several institutional practices that can lead to positive student persistence, including identifying students who may be at risk of attrition before enrollment and monitoring their progress over time, mentoring students in need of guidance, requiring students to visit advisors, and mandating campus orientations.

While the aforementioned findings (background/defining, academic, environmental, psychological, and institutional) highlight the importance of certain constructs, little is still known about the relationship of social variables in facilitating or detracting from Black male persistence in the community college. The research presented here has been utilized as a conceptual guide in the current study. The next section of this study will discuss the methods used to investigate persistence among Black males in the community college.

METHODS

Data from this study was derived from the Education Longitudinal Study (ELS: 2002/2006), a nationally representative survey of youth that tracks their

transition from high school to college and/or the workforce (Bozick & Lauff, 2007). The data collected from the ELS is representative of three waves. The first wave was conducted in 2002, when the 16,200 respondents were tenth graders (sophomores in high school). The second wave followed up with students in 2004 (during their senior year) to examine gains in achievement, high school transition, early completion, and departure. In 2006, the third wave of ELS collected data relevant to the students' college access, choice, and experiences as well as other post-high school transitions, such as their workplace lives after high school. For those students who were collegians, most would have completed the survey in their sophomore year in college (Ingels et al., 2007). ELS has a fourth wave planned, which was conducted in 2012, to examine college completion and labor market experiences. The present study employs data specific to the second follow-up (wave three). Data were delimited to Black, male students who attended public two-year colleges, a weighted sample of 39,737 students. The next section discusses the variables that were employed from this dataset.

Variables

Variables were grouped into four general blocks, with multiple variables within each. These blocks included background variables, social variables, academic variables, and environmental variables, the percentage breakdowns of which are presented in Table 1. Three background variables were examined in this study: time status, educational goals, and academic performance. Time status refers to students' enrollment intensity, whether they enrolled full-time or less than full-time (mixed or part-time). This variable was coded "0" for full-time enrollment and "1" for less than full-time enrollment. Educational goals referred to the highest level of education that the respondent believed they would attain. This ranged on the following scale: less than high school graduate (coded "1"), GED or other equivalency only (coded "2"), high school graduation only (coded "3"), attend or complete a two-year college (coded "4"), attend four-year college, degree incomplete (coded "5"), graduate from a four-year college (coded "6"), obtain a master's degree or equivalency (coded "7"), and obtain PhD, MD, or other advanced degree (coded "8"). Academic performance refers to respondents' academic ability before entering college. Usually, prior performance for community college students is measured using high school grade point average, especially since many community college-bound students do not take the SAT or ACT. High school GPA was coded on a scale ranging from 0.00 to 1.00 (coded "0") to 3.51 to 4.00 (coded "6").

Three social variables were examined in this study. These variables included respondents' level of participation in intramural or non-varsity sports,

participation in varsity or intercollegiate athletics, and participation in other extracurricular activities (e.g., clubs, organizations, and student government). These variables provided three levels of response: never (coded "1"), sometimes (coded "2"), and often (coded "3"). This same scale (never, sometimes, and often) and coding schema were employed for the variables in the academic block. Four variables were included in this block, indicating students' level of participation in academic matters. These variables examined whether respondents talked with faculty about academic matters (talk with faculty), met with an advisor about academic plans (academic advising), worked on coursework in the library (study habits), and used the web to access the school library for coursework (library usage).

The final variable block used in this study was environmental variables. Four variables were employed: finances, hours worked per week, supporting others, and life stress. Finance is a measure of respondents' parents' income, beginning with no income (coded "1"), \$1,000 or less (coded "2"), \$1,001 to \$5,000 (coded "3"), \$5,001 to \$10,000 (coded "4"), continuing through successive levels of income and ending with \$200,001 or more (coded "11"). Hours worked per week indicated the number of hours that employed students worked while attending college. Hours worked ranges on the following scale: 1 to 10 hours per week (coded "1"), 11 to 20 hours (coded "2"), 21 to 30 hours (coded "3"), 31 to 40 hours (coded "4"), 41 to 50 (coded "5"), and 51 or more (coded "6"). Supporting others indicates whether respondents contribute to children's or anyone else's support. Response types for this variable included no (coded "0") and yes (coded "1"). The final variable employed in this block was life stress. Life stress indicates the number of stressful events that the respondents experienced in their lives within the past two years. This variable ranged on a scale from none (coded "0"), one (coded "1"), two (coded "2"), up through successive levels of life stress, ending with five or more (coded "5").

Analytic Procedure

This study was conducted using a two-stage research design. In both stages, the outcome variable of focus was student persistence. Students who entered college and did not persist to the end of the report period in wave three were coded "0," while those who persisted were coded "1." In the first stage, independent t-tests were conducted between each variable to identify whether mean scores differed significantly among those who did and did not persist. These analyses were conducted to determine the influence of each variable in isolation from other variables. All variables were tested at 95% confidence, with t-tests and r-squares being calculated. The second stage of the analyses employed hierarchical logistic

regression. This procedure allowed the researchers to examine the effect of each block on the outcome (persistence). Logistic regression was employed because the outcome was dichotomous in nature (did not persist or persisted) and the covariates were a mix of dichotomous and continuous predictors (Menard, 2002).

Four models were calculated using an additive block approach: the background variables block (first model); both the background and social variables blocks (second model); the background, social, and academic variables blocks (third model); and the background, social, academic, and environmental variables blocks (fourth model). This approach allowed the researchers to examine the change in the measures of pseudo r-square, providing an opportunity to determine the influence of each block on the outcome. Three pseudo r-square tests for strength of association were employed: a McFadden p^2 , a Cox and Snell pseudo r-square, and the Nagelkerke pseudo r-square.

The McFadden p^2 , which presents a transformation of the likelihood ratio that is designed to resemble R^2 , ranges on a scale from 0 to 1. This statistic is calculated where the log-likelihood of the full model is divided by the log-likelihood of the constant model. McFadden's measure tends to present a conservative measure. The Cox and Snell pseudo r-square, a strength of association measure, indicates the enhancement of the full model from the intercept model. This measure is a little more difficult to interpret, given that it does not have a maximum value of 1. The Nagelkerke pseudo r-square relieves some of the problems associated with the Cox and Snell by dividing the Cox and Snell r-square by its maximum value (Tabachnick & Fidell, 2001). Though all three measures of association are presented in the tables of findings, only the Nagelkerke will be discussed, for the sake of brevity. All estimates are reported in the form of an odds ratio, a ratio indicating the probability of the occurrence of an event (Rudas, 1998). In this case, the event of interest was persistence. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) complex sampling software with the second follow-up cross-sectional weight (F2QWT).

Overall, missing data was not of concern, as all variables except one (high school GPA) had less than three percent missing values. High school GPA had 10.5% missing values. Patterns of missing data were examined using several procedures, including separate-variance t-tests, cross tabulations, and tabulated patterns tables. These exploratory analyses seemed to indicate that data were missing at random and to confirm this assumption, Little's MCAR test of the expectation-maximization was employed. This test revealed that the data were indeed missing completely at random ($X^2=87.32$, $p=n.s$). As such, the authors proceeded with listwise deletion of cases with missing values. The next section will detail some of the limitations associated with this study.

Limitations

As with all studies, there are several limitations to this analysis. First, this study is delimited to first- and second-year college students who transitioned directly from high school. Thus, it does not account for general persistence concerns for Black males at other points in their academic trajectories. Further, as noted earlier, prior research has shown that age is a significant predictor of persistence (Hagedorn et al., 2001–2002; Perrakis, 2008). Given that students were within the same age cohort, this prevented the researchers from investigating the effect of age on the outcome. Further, several studies have shown the effect of psychological variables on persistence (Hagedorn et al., 2001–2002; Mason, 1998; Perrakis, 2008; Wood & Essien-Wood, 2012). Unfortunately, the dataset used limited psychological variables to the high school experience, thus, no psychological variables were employed in this study. While future studies may examine the effect of psychological dispositions from high school on college performance; this topic was outside the focus of this study. This research was, as a whole, limited to the variables that were available in the dataset. Consequently, the effect of each block on persistence is limited to the academic, social, and environmental variables included in ELS. As such, the variables included are not representative of the totality of factors affecting student persistence. With this in mind, this study should be viewed as exploratory in nature, providing an extension of prior research, particularly persistence and departure models from Mason (1998), Hagedorn et al., (2001–2003), and Wood (2012). The next section will present findings from this analysis of Black male persistence in the community college.

FINDINGS

Descriptive statistics for the summary of percentage data reveal that most Black males in the sample attended college full-time (73.0%) (see Table 1). While educational aspirations varied among this group, most (45.8%) indicated that their highest educational goal was to graduate from college. Only 28.4% responded that they desired to earn post-graduate degrees (e.g., master's, doctorate). Most of the respondents in the sample (63.8%) had a high school grade point average that ranged from 1.51 to 2.00, with only 8.2% earning above a 3.00. With respect to the variables in the social block, the vast majority of Black males indicated “never” having participated in intramural sports (68.3%), varsity sports (79.4%), or extracurricular activities (68.6%).

Responses from the academic experiences block indicated a much different trend, however, as many students indicated a greater level of engagement.

Table 1.
Summary of percentage data for independent variables: Black males in the community college

Construct	Items		
Background Variables	Time status	Full-time	73.0%
		Less than full-time	27.0%
	Educational goals ^a	Attend or complete 2 year	19.5%
		Attend college, 4 year	6.3%
		Graduate from college	45.8%
		Obtain masters or equivalent	20.1%
		Obtain PhD, MD or other advanced degree	8.3%
	High school GPA	0.00–1.00	1.1%
		1.01–1.50	10.1%
		1.51–2.00	33.8%
		2.01–2.50	30.0%
		2.51–3.00	16.9%
		3.01–3.50	8.1%
		3.51–4.00	.1%
Social Variables	Intramural sports	Never	68.3%
		Sometimes	17.1%
		Often	14.5%
	Varsity sports	Never	79.4%
		Sometimes	9.9%
	Extracurricular activities	Often	10.7%
		Never	68.6%
Sometimes		18.1%	
	Often	13.3%	
Academic Variables	Talk with faculty	Never	36.8%
		Sometimes	36.0%
		Often	27.2%
	Academic advising	Never	25.7%
		Sometimes	48.7%
	Study habits	Often	25.7%
		Never	18.2%
	Library usage	Sometimes	42.4%
		Often	39.3%
		Never	14.2%
	Sometimes	42.0%	
	Often	43.8%	
Environmental Variables	Finances	None	1.3%
		\$1,000 or less	2.1%
		\$1,001–\$5,000	1.7%
		\$5,001–\$10,000	3.1%
		\$10,001–\$15,000	6.8%
		\$15,001–\$20,000	9.0%
		\$21,001–\$25,000	10.9%
		\$25,001–\$35,000	14.4%
		\$35,001–\$50,000	20.3%
		\$50,001–\$75,000	18.5%
		\$75,001–\$100,000	7.9%
		\$100,001–\$200,000	2.4%
		\$200,001–or more	1.7%
	Hours worked per week	None	44.4%
		1-10	1.8%
		11-20	12.4%
		21-30	15.1%
		31-40	21.6%
		41-50	.6%
		51+	4.2%
Supporting others	No	64.6%	
	Yes	35.4%	
Life Stress	0	32.3%	
	1	32.7%	
	2	22.1%	
	3	7.0%	
	4	5.9%	

Note: ^a percentage distribution did not include pre-college response types.

For example, many students indicated that they “sometimes” talked with faculty (36.0%), met with an academic advisor (48.7%), studied in the library (42.2%), or used the web to access library resources (42.0%). The three largest response categories for income (\$25,000 to \$75,000) in the environment block accounted for 53.2% of respondents. Further, many students in the sample were not employed (44.4%); however, a large percentage (26.4%) worked at least 31 hours per week. While most students did not provide support to others (64.6%), more than one third indicated (35.4%) doing so. In terms of life stress, 32.3% noted no major life stressing events within the last two years, however, 67.7% indicated that at least one major event had occurred. Although this section has presented descriptive data, the next section will discuss findings from the independent sample’s t-tests.

Independent T-Tests: Independent Variables on Persistence

Independent sample t-tests were calculated to determine which group (non-persisters or persisters) had significantly different response types on the independent variables (without the influence of other variables). Nine of the fourteen variables examined among Black males were statistically significant. Black males who persisted had a significantly higher educational aspiration than non-persisting Black males, $t=3.090$, $p<.001$. Educational goals accounted for 4.2% of the variance in persistence. Further, students who persisted had significantly greater high school GPA’s, $t=4.511$, $p<.001$. High school GPA accounted for 3.1% of the variance in persistence.

In regard to social variables, persisting students had significantly lower participation mean scores on extracurricular activities than non-persisters, $t=-2.213$, $p<.05$. While significant, this variable only accounted for 1.8% of the variance in persistence. Additionally, three of the four academic variables were found to be significant. Persisting Black males had higher mean scores for talking with faculty ($t=2.374$, $p<.05$) and meeting with an academic advisor ($t=4.010$, $p<.001$). Talking with faculty and meeting with an academic advisor accounted for 1.5% and 2.3% of the variance in student persistence. However, students who did persist had lower mean scores on Internet usage of library resources ($t=-2.410$, $p<.05$). This variable accounted for 1.3% of the variance in persistence.

Several environmental variables were also found to be significant. Students who persisted worked more hours per week than those who did not, $t=16.272$, $p<.001$. Hours worked per week accounted for a large percentage (35%) of the variance in the outcome. In addition, students who persisted had

Table 2
Independent t-tests for independent variables on persistence for Black males

Items				Did not persist		Persisted	
		T-Test	R ²	Mean	SE	Mean	SE
Background Variables	Time status	.373	.000	.7220	.0419	.7401	.0234
	Educational goals	3.090**	.042	5.63	.135	6.12	.081
	High school GPA	4.511***	.031	2.53	.081	2.93	.084
Social Variables	Intramural sports	-.571	.001	1.49	.080	1.44	.047
	Varsity sports	-1.868	.006	1.37	.062	1.27	.039
	Extracurricular activities	-2.213*	.018	1.55	.070	1.36	.065
Academic Variables	Talk with faculty	2.374*	.015	1.79	.079	1.99	.044
	Academic advising	4.010***	.023	1.88	.049	2.10	.045
	Study habits	-.746	.002	2.25	.047	2.18	.063
	Library usage	-2.410*	.013	2.39	.042	2.22	.052
Environmental Variables	Finances	-.158	.000	8.10	.221	8.06	.126
	Hours worked per week	16.272***	.350	.60	.11318	2.8337	.09288
	Supporting others	-2.366*	.013	.42	.035	.31	.032
	Life Stress	-3.016**	.025	1.42	.128	1.06	.069

lower mean scores for contributing to the support of others, $t=-2.366$, $p<.05$, and also had a lower number of major life stress incidents, $t=-3.016$, $p<.01$. These variables accounted for 1.3% and 2.5% of the variance in persistence, respectively. To explore the effect of these variables on persistence within blocks, the next section will discuss findings from the logistic regression analyses.

Logistic Regression Analyses: Covariate Blocks on Persistence

As previously noted, four logistic regression models were employed with an additive block approach. These models examined the effect of the covariates on the dichotomous outcome of persistence. In the first model, the background variables block illustrated that educational goals and prior academic performance (high school GPA) were significantly predictive of persistence. In terms of educational goals, in this block, this study found that for each increase in a

student's level of educational aspiration, the odds of persistence increased by 24.9% ($p < .01$). High school GPA also illustrated statistical significance. The odds of persisting grew by 45.9% for every level increase in a student's GPA, $p < .001$. According to Nagelkerke's pseudo R^2 , the background variables block accounted for 7.3% of the variance in persistence.

The second model included variables from the background and social blocks. In this model, three of the six variables examined were significantly predictive of persistence. As with the first model, respondents with higher educational goals had greater odds of persistence, a 32.1% increase for each successive level of their goals ($p < .001$). High school GPA was also predictive of persistence, with the odds of persisting growing by 38.1% for every level increase in GPA ($p < .01$). In the social variables block, students who persisted had greater levels of participation in intramural sports. In fact, the odds of persisting grew by 42.2% for each level increase (never, sometimes, often) in participation in intramural or non-varsity sports. As assessed by Nagelkerke's, these two blocks accounted for 10.5% of the variance in persistence.

The third model examined variables from three blocks, background variables, social variables, and academic variables. Five of the ten variables examined were significantly predictive of persistence. As with previous models, the odds of persisting were greater for those with higher educational aspirations. For each successive level of educational goal, the odds of persistence increased by 27.1% ($p < .05$). High school GPA also served as a significant predictor of Black male persistence. Findings indicated that the odds of persisting rises by 43.8% for each level increase in GPA. Further, students who persisted were less likely to participate in extracurricular activities ($p < .05$). While participation in intramural sports was predictive of persistence in model two, this variable was not significant in model three ($p = n.s.$). Interestingly, greater levels of participation in extracurricular activities were actually negatively predictive of persistence. For each level increase in extracurricular activities (e.g., never, sometimes, or often), the odds of persisting decreased by 45.9%.

Two variables in the academic block also illustrated a significant effect on the dependent variable. Students who met with academic advisors had a greater likelihood of persisting than those who did not. The odds of persisting rose by 69.1% for each level increase in meeting with advisors about academics ($p < .05$). However, using the web to access the library for coursework was negatively predictive of persistence. In fact, the odds of persisting decreased by 56.3% for students for each level increase in using the web to access library resources. As assessed by Nagelkerke's pseudo R^2 , the three blocks accounted for 20.5% of the variance in persistence.

Table 3
Odds ratios and 95% confidence intervals, logistic models of Black male persistence

Block	Items	Model 1		Model 2		Model 3		Model 4	
		Odds Ratio	95% CI						
Background Variables	Time status	.826	.52-1.30	.844	.48-1.45	1.034	.58-1.84	1.788	.73-4.37
	Educational goals	1.249**	1.09-1.43	1.321***	1.13-1.53	1.271*	1.06-1.52	.969	.789-1.19
	High school GPA	1.459***	1.21-1.75	1.381**	1.14-1.67	1.438**	1.16-1.77	1.023	.81-1.28
Social Variables	Intramural sports			1.422*	1.01-1.99	1.405	.97-2.03	1.943***	1.35-2.78
	Varsity sports			.766	.43-1.34	.697	.36-1.32	.643	.36-1.12
	Extracurricular activities			.657	.43-1.00	.541*	.30-.97	.318***	.20-.48
Academic Variables	Talk with faculty					1.491	.85-2.60	1.897**	1.29-2.77
	Academic advising					1.691*	1.06-2.69	1.395	.91-2.13
	Study habits					1.208	.80-1.80	1.977**	1.30-2.99
	Library usage					.437***	.29-.65	.941	.47-1.86
Environmental Variables	Finances							.947	.85-1.04
	Hours worked per week							3.593***	2.89-4.46
	Supporting others							.256***	.17-.38
	Life Stress							.741**	.61-.89
Cox and Snell		.054		.078		.153		.469	
McFadden		.041		.059		.121		.467	
Nagelkerke		.073		.105		.205		.632	
Wald F		9.999***		6.829**		12.107**		206.136**	
Percent Correct		61.9%		62.9%		65.6%		84.3%	

The final model included variable responses from all blocks (e.g., background, social, academic, and environmental). Overall, seven variables (intramural sports, extracurricular activities, talking with faculty, study habits, hours worked per week, supporting others, and life stress) were significantly predictive of persistence. Whereas, in previous models, educational goals had been predictive of persistence, with the addition of the environmental block, this variable was no longer significant (p=n.s.). In like manner, high school GPA, which was also significant in all the previous models, was no longer predictive of persistence with the addition of the environment variables (p=n.s.). Among the social variables, student participation in intramural sports, however, was found to be predictive of persistence. For each successive level increase in intramural sports participation (never, sometimes, or often), the odds of persistence rose by 94.3% (p<.001). Similar with the preceding models, students who participated in other extracurricular activities had lower odds (by 68.2%) of persistence for each level increase (never, sometimes, or often) (p<.001).

As with the third model, greater levels of interaction with faculty were predictive of persistence. For each level increase (never, sometimes, or often) in interaction, the odds of persistence grew by 89.7% (p<.01). Mean score differences indicated that for each level increase (never, sometimes, or often) in

meeting with an academic advisor, persistence raised by 39.5%. However, in contrast to the third model, this increase was no longer significantly predictive of persistence ($p=n.s.$). Also in contrast to model three, studying in the library was predictive of persistence. The odds of persisting rose by 97.7% for each level increase (never, sometimes, or often) in using the library to study ($p<.01$). Additionally, model four did not illustrate that Internet usage of library resources was predictive of persistence ($p=n.s.$).

Three of the four variables (hours worked per week, supporting others, and life stress) in the environmental block were significant in the final model. For instance, for each unit increase in hours worked per week (e.g., none, 1 to 10, 11 to 20, and 21 to 30), the odds of persistence grew by 259.3% ($p<.001$). Students who supported others were less likely to persist. When students contributed to the support of others, their odds of persistence decreased by 74.4% ($p<.001$). Increased levels of life stress (a major life stressing event occurring within the past two years) also had an effect of persistence. For each level increase in life stress, students' odds of persistence decreased by 25.9% ($p<.01$). With the addition of the environmental block, the Nagelkerke pseudo R^2 increased to .632, indicating that the fourth model accounted for 63.2% of the variance in persistence (of which the vast majority was attributable to environmental variables). The following section will contextualize this study's findings in light of extant research.

DISCUSSION AND IMPLICATIONS FOR PRACTICE

Overall, findings from this research illustrated that, when taking into account variables in all blocks, persistence in this sample was (at least primarily) a function of environmental variables. Across three of the four models, the background variables of educational goals and high school GPA were predictive of persistence. Prior research has shown both educational goals (Bush & Bush, 2010; Mason, 1998; Perrakis, 2008) and high school performance measures (Hagedorn et al., 2001–2002; Perrakis, 2008) to be strong predictors of success. However, when the environmental variables block was introduced (fourth model), both variables were no longer significantly predictive of persistence. Further, the predictive strength of background variables, as assessed by Nagelkerke's R^2 , was minimal at best. Background variables accounted for only 7.3% of the variance in the outcome. As such, while background variables do provide added understanding of the persistence puzzle, other blocks were more elucidative.

Two models indicated that participation in intramural sports was a positive indicator of persistence. As previously noted, little is known about the

effect of social variables on persistence, which makes this finding particularly important, as it indicates that participation in intramural and non-varsity sports can facilitate student persistence. Community colleges that do not currently provide intramural and non-varsity sports opportunities for Black males should examine models in place at other institutions that they can replicate. It may also be beneficial to attach a collegiate performance requirement (e.g., semester GPA or minimum number of units) to participation. Institutions that currently have non-varsity sports opportunities in place should consider how these opportunities can be expanded to a wider range of students. In addition, colleges may consider collecting data from students (e.g., interviews or focus groups) who already participate in non-varsity sports to better determine how these sports serve to facilitate their success. The identified benefits of these sporting activities should then be expanded to further complement students' continuation in college.

Overall, in multiple models, engagement in extracurricular activities was a significant negative predictor of persistence. Students' engagement in campus activities (e.g., clubs or organizations), based on Tinto's (1975, 1993) theory, would suggest the opposite relationship, however. This finding raises caution about the practice of encouraging students to participate in extracurricular activities with the notion that these activities (in and of themselves) will benefit their continuation in college. In general, persistence literature on two-year collegians has suggested that the effect of social variables (as measured through integration) is varied (Napoli & Wortman, 1996, 1998). This finding, coupled with other findings from the social variables block, indicates that differing social participation on campus has varying effects on student persistence. Rather than encouraging students' participation in any and all extracurricular activities, college professionals with experience working with Black males should use their expertise (as well as inquiry) to assist students to target and prioritize certain social activities over others. Specifically, college professionals should identify those extracurricular activities that are most likely to facilitate students' persistence and then encourage them to participate in those.

With regard to academic variables, findings from model three and four indicated that regular interactions with faculty, meeting with academic advisors, and studying are integral to student success. College professionals must find ways to facilitate students' interactions with faculty. To do so, they can offer workshops providing students with tips on how to approach faculty, common questions to ask, and methods of establishing rapport with faculty. However, the onus of initiating faculty-student relationships is not solely on the students. Faculty members must also take responsibility for seeking out these

interactions (Rendón, 1994, 2002). This can be facilitated by being welcoming and caring from the onset (on-campus, in-class, and off-campus) and creating an affirming environment (Wood & Turner, 2011). Additionally, faculty members may consider establishing a minimum number of required office hours to further facilitate interactions with students.

Similar policies can be established with academic advising, requiring students to meet with advisors to check in on their progress, engage in a continual (re)evaluation of goals, and participate in goal setting and monitoring (academic, career, or personal). Again, policies can facilitate interactions, however the nature of advisor-student interactions are key. Advisors must illustrate that they care, set high expectations, and must affirm students. In consideration of findings from this study, college professionals should also find ways to encourage students to study in campus libraries. Possibly, colleges can offer incentives (e.g., food, tutoring services, discounts, or book give-aways) to increase students' usage of the library. Further, campus orientation efforts should focus on familiarizing students with the library, teaching students about library policies, resources, and study spaces as well as introducing them to library support staff (of course, online orientation programs complicate this recommendation).

In model three, using the Internet to access the library was negatively predictive of persistence. This finding is, in some respects, counterintuitive. It would seem that usage of library resources (even via the Internet) would be beneficial to collegiate continuation. While it is unclear why this variable was negatively predictive, it is possible that accessing library resources from the Internet could lead to other online distractions (e.g., Facebook, email, blog sites) as well as reduce important interactions between students and library staff, thereby failing to facilitate students' incorporation into the academic landscape. As this study's findings suggest that studying in the library leads to persistence but using library resources via the Internet does not, the latter rationale should be investigated. Given this, college personnel should examine how differing types of interaction (e.g., online versus in-person) lead to alternative outcomes and the rationale for why this occurs.

Key Findings: The Effect of Environmental Factors on Persistence

The primary finding from this research is that environmental variables are key to persistence for Black males. This is in line with prior research from Mason (1998) and Wood (2011c) who affirm the importance of Bean and Metzner's (1985) model for investigating the experience of Black males in community colleges, given the focus on environmental variables. In this current study, hours

worked per week were a significant predictor of persistence. While prior research has explicated the important effect of work on achievement among this population (see Wood, Hilton, & Lewis, 2011), this is the first extension of this notion to the persistence phenomenon. It is unclear why working more, which would seemingly reduce students' time on campus, would benefit their success. Possibly, students who work possess psychological dispositions (e.g., external locus, goal internalization, and drive) that enable them to excel in college. Regardless of the rationale, the researchers' caution the use of this finding to assert that all Black males should be encouraged to work as many hours as they can during college.

Further investigation of this phenomena through line charts (examining mean persistence and hours worked per week) indicated that variance in persistence becomes less stable after 21 to 30 hours per week. Thus, college professionals should encourage students to work, but to limit it to something that is part-time, as opposed to a job that is full-time or more. Specifically, college professionals should work to find on-campus employment opportunities for students, particularly Black males, which may reduce time spent traveling from college to work and increase their integration into campus academic and social systems (Pascarella & Terenzini, 1991, 2005). In particular, findings on Black male student achievement in community colleges indicate that students are more likely to perceive a job as positively affecting their success when it is relevant to their coursework and provides germane experience in their field of interest (Wood, Hilton, & Lewis, 2011). Thus, regardless of whether on-campus job opportunities can be provided, college professionals should work with students to help identify employment that is relevant to what they are learning in class and will give them the necessary experience for the future.

Findings regarding respondents' support of others complimented findings from previous studies that suggest that familial responsibilities, especially those tied to financial support, affect students' persistence (Mason, 1998; Wood, 2012). In addition, the degree of life stress was also found to be significant in this study. As a whole, this finding affirms the role of life circumstances in "pulling" the student away from success in their respective institutions (Bean & Metzner, 1985; Freeman & Huggans, 2009). Given external responsibilities and life stressors impacting student persistence, college professionals should work to identify students with high levels of external responsibility and stress at the beginning of each semester. This could be done through a small set of questions during the application process, advising sessions, and online course registration. Then college counselors and academic advisors can use this information to initiate discussions around potential barriers to persistence, how those barriers can be addressed, and to expose students to campus support services that can aid them

when facing familial and life challenges (e.g., counseling and retention programs). During the semester/quarter, early warning systems (when in place) can be utilized by faculty and campus personnel to report changes in familial responsibilities or life challenges that could serve as a barrier to persistence. College professionals (e.g., counseling or advising) can then set up meetings with students to discuss action plans to address the effect of external challenges on school.

To be clear, while environmental variables often originate outside of the institution, college professionals are still responsible to curb the effects of “pull” factors. In an additional analysis, the environmental block was examined as a sole predictor of persistence, exclusive of the background, social, and academic blocks. Nagelkerke’s R^2 indicated that the environmental block accounted for 54.1% of the variance in persistence without the influence of the other blocks. As a result, college personnel must develop strategies and interventions to mitigate these environmental factors.

Overall, this study has provided a significant contribution to the literature on Black men in community colleges in several ways. First and foremost, this research has shown that environmental considerations are central to understanding the persistence phenomenon among Black males in public two-year colleges. In particular, supporting others and life stress lead to lower odds of persistence. However, working (at least to some degree) has a positive effect on persistence. Second, this study has illustrated that social involvement, in and of itself, does not facilitate persistence for Black men, but certain types of social involvement (particularly in non-varsity sports) can. That being the case, extracurricular involvement (the mainstay of many efforts to enhance the success of these men) has an inverse relationship on their success. Finally, academic involvement generally has an important and positive effect of persistence for Black men, the most important academic considerations of which are faculty-student interactions and study habits. As noted earlier, this study is the first on Black males in the community college to present a comprehensive analysis of persistence predictors with national data. Given this, the aforementioned findings are an integral addition to the literature on this population. While this section has discussed findings and resultant recommendations for practice, the next section will provide recommendations specific to future research.

FUTURE RESEARCH

While the fourth model accounted for a large percentage of the variance (63.2%) in persistence, nearly 37% of it is still unexplained. As noted earlier,

this study should be viewed as exploratory; thus, future research should employ a more holistic set of variables that can facilitate an understanding of factors that are associated with Black male students' continuation in college. As a result, scholars should consider other variables within each domain examined (e.g., academic, social, and environmental) that were not accounted for in the final model. For example, the variable participation in extracurricular activities (within the social block) was very generic in nature. There are numerous types of extracurricular activities that could have been encompassed in this variable that should be examined individually, such as participation in student government, cultural clubs, academic clubs, and professional organizations. Furthermore, academic variables were also restricted; future research should examine other types of academic factors, including hours spent studying, participation in study groups, and usage of tutoring services. In addition, because this study did not account for psychological variables, future research should examine their effect on persistence. In particular, researchers could examine the predictive usefulness of utility, self-efficacy, sense of belonging, goal commitment, satisfaction, stereotype threat, and locus of control (among others). This research illustrated that environmental variables were key to understanding student persistence. Given research that suggests that the environment leads to psychological outcomes that effect persistence (Bean & Metzner, 1985; Mason, 1998), more insight on psychological variables is warranted. Overall, this research has shed important light on the persistence phenomenon among Black male students in community college. Because of the large percentage of Black males who enter and are enrolled in community colleges, and the dearth of understanding on what impacts their success, further research on this topic is essential for enhanced outcomes for this population.

In closing, this research has provided important insight into the role of background/defining, academic, social, and environmental factors on Black male persistence in the community college. A sense of urgency is needed in this regard as critical linkages between theory, research, and practice are necessary to facilitate preventions and interventions to meet their needs. Given the immense challenges that community colleges face in facilitating the success of this population, it is the researchers' hope that study findings can lead to enhanced discourse among practitioners about challenges and opportunities for educating these men. Ultimately, such conversations, guided by research findings (such as those identified in this study), can lead to policies, practices, and strategies that will result in better academic outcomes for Black males.

NOTES

1. Research findings from Mason (1998) and Hagedorn et al. (2001–2002) are explained in the section on relevant literature.

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