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Supporting Black Male Community College Success: Determinants of Faculty–Student Engagement

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The purpose of this study was to examine determinants of Black male students' engagement with faculty in the community college. Data from this study were derived from the 2011 three-year cohort of the Community College Survey of Student Engagement (CCSSE). Using data from 11,384 Black male respondents within 260 community colleges, this study investigated faculty–student engagement using hierarchical, multilevel modeling. Among other findings, this study illustrated the importance of reading remediation, participation in learning communities, study skills courses, and college orientation in positively contributing to faculty–student interactions. Implications for college practice are discussed.

In response to increasing global competitiveness among nations, the Obama Administration has established a 2020 Goal for the United States to “have the highest proportion of college graduates in the world” (White House, n.d., para. 3). The strategic plan associated with this goal suggests that, by the year 2020, 10 million more graduates from two- and four-year colleges and universities are needed (Kanter, Ochoa, Nassif, & Chong, 2011). To meet this goal, college leaders have focused on a completion agenda that seeks to advance the success of historically underrepresented and underserved students. In the community college context, African American males are one such subgroup that has been the topic of increasing concern over recent years. These men, in comparison to other ethnic and gender groups, are disproportionately underachieving in academic outcomes: percentage of degrees earned, persistence rates, and average cumulative grade point average (Bush & Bush, 2010). For example, Wood and Williams (2013) noted that “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” (p. 2). This is a particularly salient point, given

that community colleges are the primary postsecondary entry point for students of color, particularly African American male students (Perrakis, 2008).

Thus, attention to the importance of student persistence and degree attainment in the community college is of importance for this population (Nevarez & Wood, 2010). Research has indicated that faculty–student interaction (used interchangeably with engagement) is an important component of student persistence, leading to increased academic performance, stronger motivation, satisfaction with faculty and institution, increased academic effort, and educational attainment (Bush & Bush, 2010; Chang, 2005; Cole, 2008, 2010; Komarraju, Musulkin, & Bhattacharya, 2010; Pascarella & Terenzini, 2005; Thompson, 2001; Wood, 2012a, 2012b). Given the benefits of these interactions, understanding the unique predictors of faculty–student interaction among Black male students at community colleges may be an important step in addressing issues of retention and completion for this population. Guided by this notion, the purpose of this study was to examine determinants of Black male students’ engagement with faculty in the community college. This study employed a hierarchical, multilevel modeling approach to investigate the following research questions:

1. Is there a significant relationship between student-level background, academic, and environmental factors (Level 1) on Black male community college students’ engagement with faculty?
2. Is there a significant relationship between structural factors (Level 2) on Black male community college students’ engagement with faculty?
3. Do academic factors at the student level have a varying relationship with the outcome (engagement) across colleges? If so, does the college context have an effect on the slope relationship?

This research is an important contribution to the research literature. Despite the benefits of faculty–student interaction, very little research has examined determinants of these interactions, particularly in the community college context. Moreover, the researchers are unaware of any prior study that has examined determinants of faculty–student interaction among Black men. This is a noticeable point given that research on Black men in community colleges has shown that they are apprehensive to interact with faculty members for fear of being perceived as academically inadequate and unintelligent (Wood & Turner, 2010; Wood, in press).

RELEVANT LITERATURE

Hagedorn, Perrakis, and Maxwell (2006) developed the 10 “commandments” or best practices that appear to facilitate student success at community colleges. Their work was based a longitudinal and comprehensive study of the goals, success, and academic patterns of 5,000 community college students. Reflecting the well-researched benefits of faculty–student interaction, the first commandment was to “encourage faculty–student interaction; recruit instructors who offer time, attention and resources to facilitate student development; and include student interaction in the faculty reward system” (p. 5). Their research explicates the importance of faculty–student engagement on student outcomes.

However, not all students benefit from interactions with faculty. Harper (2009) suggested that Black men experience more limited levels of academic engagement than their female peers. He situated disengagement as a byproduct of institutions, suggesting that lack of investment in

Black male success leads to lower levels of engagement. Bush and Bush (2010) stated that Black men are more likely to be in need of faculty–student interactions and campus support services but are among those least likely to use them. They echo Harper’s (2009) sentiments, noting that Black men in community colleges experience lower levels of engagement in college due to institutional conditions rife with racism. Given this, Wood and Turner (2010) extended several key approaches that faculty can consider to enhance their engagement with Black males. In particular, they identified five key faculty–initiated elements that facilitated positive faculty–student interaction: “(a) were friendly with students from the onset; (b) checked in on student academic progress; (c) listened to student concerns; (d) proactive in addressing performance issues; and (e) encouraged students to succeed” (Wood & Turner, 2010, p. 143). Taken together, they assert that these approaches serve as a foundation for faculty–student engagement.

DETERMINANTS OF ENGAGEMENT

While prior research has touted the manifold benefits of faculty–student interactions, very few studies have examined determinants of these interactions. The few studies that have been conducted in this area provide some insight into potential determinants of faculty–student engagements. Based on a sample of immigrant families, Rendón and Valdez (1993) noted that faculty engagement with students was a byproduct of cultural capital. Specifically, students of immigrants were less likely to interact with faculty (e.g., ask questions during class, meet with faculty during office hours) as they had more limited understanding of academic college-level expectations and culture. Thompson (2001) investigated informal faculty–student interaction among community college students. He postulated that having a job, hours worked per week, and family obligations would have a direct effect on faculty–student interactions. This research did not find that having a job (in and of itself) was a negative predictor of these interactions. However, he found that family obligations had a direct positive effect on informal interactions while time spent working had a direct negative effect.

Cotton and Wilson (2006) extended further insight on the role of external pressures on faculty–student engagement. Using data derived from nine focus groups with 49 participants, they found that student, faculty, and structural factors influenced the intensity of interactions. Student factors primarily entailed time pressures that limited the amount of time they could spend interacting with faculty. The authors contextualized time pressures by noting interaction challenges for students who were enrolled part-time, worked while attending college, commuted to college, and had familial obligations. These findings seem to corroborate findings from Thompson (2001). Cotton and Wilson (2006) also found that many students questioned whether faculty wanted to have more interactions with them. As such, students noted that engagement was predicated upon students’ assessment of whether faculty were receptive to such interactions. This study also identified structural factors that affected student interaction with faculty. Structural factors referred to institutional characteristics (e.g., course sizes, physical design of the institution) and social relations. Larger course sizes and institutional designs that fostered limited interactions between faculty and students (e.g., faculty offices being located in less accessible locations) were identified by students as inhibiting relationships.

To date, Chang’s (2005) study of determinants of faculty–student interactions is the most extensive treatment of this topic in the community college literature. She examined data from

the Transfer and Retention of Urban Community College Students (TRUCCS) survey of 2,500 students. Chang found that students were more likely to engage with faculty when they were older, their parent's had higher levels of education, had positive attitudes toward college, spent time on campus, met with academic counselors, studied with others and individually, and perceived that faculty encouraged them. Beneficial to this study, Chang also ran models specific to racial affiliation. For African Americans, Chang found that they were more likely to engage with faculty when they were older, had positive attitudes toward college, attended a campus orientation, spent time on campus, studied with others, and met with academic counselors. Extending on the benefits of campus programming, Barbatis' (2010) findings suggested that first-year learning communities increase the knowledge and skills of underprepared students because of the opportunity for increased faculty–student interaction.

Drawing from these collective works, and specifically from the findings of Chang (2005) and Cotton and Wilson (2006), the researchers' developed a conceptual model of hypothesized determinants of Black male faculty–student engagement (see Figure 1).

In brief, this model suggests that faculty–student engagement is influenced by precollege considerations that serve to frame students' perceptions about schooling in general. For example, in prior educational experiences (e.g., pre K–12), some Black males may have had negative interactions with teachers. These interactions could serve to shape future interactions with faculty in higher levels of education. The following five factors groupings are hypothesized in the model as having an effect on faculty–student engagement: (a) structural factors—relating to the locale, size, and social climate of the institution; (b) background/defining factors—encompassing

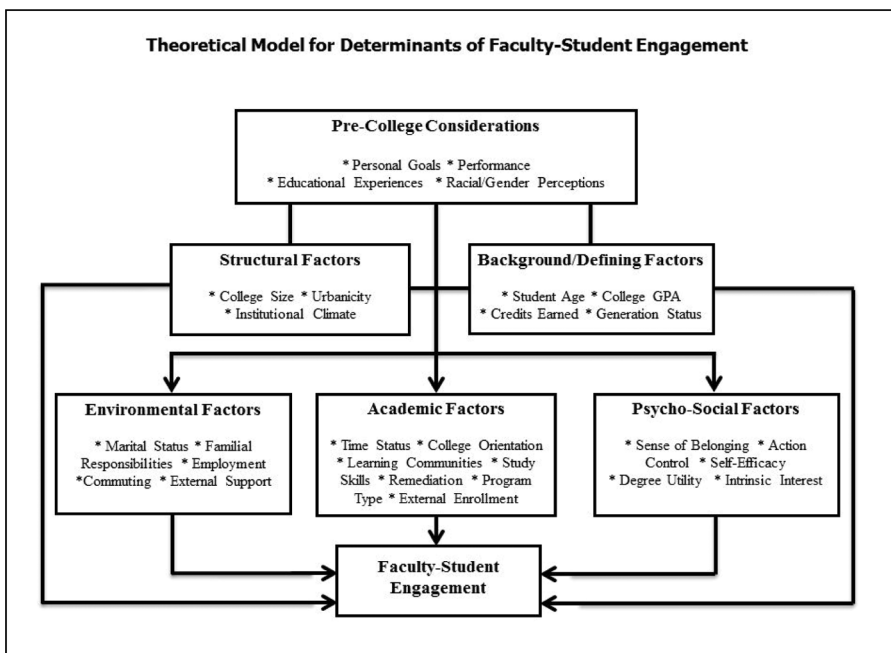


FIGURE 1 Theoretical model for determinants of faculty–student engagement.

background characteristics of the students and defining college performance and progress measures; (c) environmental factors—focusing on external pressures that occur outside of college but influence students success in college; (d) academic factors—related to academic intervention (e.g., orientation, learning communities), course-taking patterns, and academic intensity (e.g., time status, external enrollment); and (e) psychosocial factors—pertaining to student-level affective considerations such as sense of belonging and confidence in academic matters (e.g., self-efficacy). This particular study will examine only four domains (because available data as psychosocial factors were not readily available in the data source employed), including background/defining, structural, academic, and environmental factors.

METHODS

Data from this study were derived from the 2011 three-year cohort of the Community College Survey of Student Engagement (CCSSE). CCSSE is a large-scale assessment instrument used by community colleges to advance student learning and persistence (McClenney, 2007). CCSSE data are collected from colleges via a stratified cluster sampling approach from 443,818 students in 48 states. The CCSSE dataset was delimited to 14,822 Black men within 665 community colleges. To perform a multilevel analysis, only colleges with 20 or more Black males were retained, resulting in a final dataset of 11,384 Black male respondents within 260 community colleges.

The outcome variable of interest in this study was faculty–student engagement. Faculty–student engagement reflected students’ interaction experiences in and out of the classroom with instructors. This construct ($\alpha = .72$) was derived from six items (e.g., asked questions in class, discussed ideas from class with faculty, worked with instructors on noncourse activities, discussed grades or assignments with instructor, talked about career plans with faculty, worked harder than thought to meet instructor’s standards). Four groupings of predictor variables were employed: background/defining, academic, environmental, and structural factors. Background/defining factors included age, credits earned, grade point average (GPA), mother’s highest education, and father’s highest education. Academic factors included reading remediation, writing remediation, math remediation, learning community, study skills courses, orientation, and the total number of courses enrolled outside of the institution. Environmental factors included marital status, working for pay, providing care for dependents, and commuting time. All the aforementioned variables were grand mean centered and modeled at Level 1 (see Table 1 for descriptive data).

Structural factors were modeled at Level 2. These variables included institutional climate for belonging, institutional climate for diversity, urbanicity, and institutional size. Urbanicity and institutional size were categorical variables; as such, rural colleges and very large institutions were employed as reference groups. Both of the institutional climate variables were latent constructs. Campus belonging climate was comprised of responses to three questions ranging on a scale from sense of alienation to sense of belonging. These questions inquired about students’ perceptions of connectedness to faculty, administrative personnel, and students ($\alpha = .72$). Campus diversity climate was also comprised of three questions that inquired about Black males having conversations with students of different beliefs, racial affiliations, political views, and others outside of class ($\alpha = .73$). These latent variables were aggregated at the college-level.

TABLE 1
Descriptive Statistics for Study Variables

| | <i>Mean (SD)</i> | <i>Percent</i> | <i>Min</i> | <i>Max</i> |
|-----------------------|------------------|----------------|------------|------------|
| Student Level Age | .00 (1.16) | | -.76 | 4.24 |
| Credit | .00 (1.36) | | -1.83 | 3.17 |
| GPA | .00 (1.29) | | -2.66 | 2.34 |
| Mothers Highest | .00 (1.57) | | -6.88 | 5.08 |
| Fathers Highest | .00 (1.32) | | -2.38 | 1.62 |
| Active Learning | .00 (3.74) | | -8.31 | 12.69 |
| External Courses | .00 (1.34) | | -.66 | 3.34 |
| Working for Pay | .00 (1.32) | | -2.47 | 1.53 |
| Providing Care | .00 (1.39) | | -1.81 | 2.19 |
| Commuting Time | .00 (1.08) | | -.79 | 3.21 |
| Marital Status | | | | |
| No | | 85.9 | | |
| Yes | | 14.1 | | |
| Orientation | | | | |
| No Plan/Not Done | | 44.1 | | |
| Plan to/Done | | 55.9 | | |
| Learning Community | | | | |
| No Plan/Not Done | | 52.9 | | |
| Plan to/Done | | 44.3 | | |
| Study Remediation | | | | |
| No Plan/Not Done | | 43.9 | | |
| Plan to/Done | | 56.1 | | |
| Math Remediation | | | | |
| No Plan/Not Done | | 43.4 | | |
| Plan to/Done | | 56.6 | | |
| Writing Remediation | | | | |
| No Plan/Not Done | | 54.4 | | |
| Plan to/Done | | 45.6 | | |
| Reading Remediation | | | | |
| No Plan/Not Done | | 58.9 | | |
| Plan to/Done | | 41.1 | | |
| College Level | | | | |
| Institutional Climate | | | | |
| Belonging | .00 (.72) | | -2.12 | 2.32 |
| Diversity | .00 (.72) | | -2.12 | 2.32 |
| Urbanicity | | | | |
| Suburban Colleges | | 27.3 | | |
| Urban Colleges | | 40.7 | | |
| Rural Colleges | | 32.0 | | |
| Institutional Size | | | | |
| Small | | 21.2 | | |
| Medium | | 28.3% | | |
| Large | | 26.3 | | |
| Very Large | | 24.2 | | |

In addition to these variables, this study had one primary control variable. This variable, active and collaborative learning, was a latent construct reflecting students' personal effort in academic matters and engagement in collaborative activities. This variable was composed of seven items

such as made a class presentation, prepared multiple paper drafts, integrated ideas from various sources, taught or tutored others ($a = .71$). This variable was controlled for to understand the effect of the predictor variables on faculty–student engagement while mitigating differences in student effort.

Data were analyzed using hierarchical, multilevel regression. A null model (with no predictors) was created to examine whether the outcome varied between colleges. The null model indicated significant variation between colleges (Wald $Z = 6.178$, $p < .001$), with the Intraclass Correlation Coefficient (ICC) suggesting that 3.1% of the variability in faculty–student engagement existed between colleges. While the variance between colleges was relatively small, Porter and Swing (2006) have advocated multilevel modeling for survey data with only 2.5% between-group variance. The second model added background/defining factors at the student level and structural factors (college-level). The third model employed these same variables but also included academic factors, while the fourth model was a full model including environmental factors. These models were explored with a fixed effects approach. All data were weighted based on part-time or full-time enrollment. Academic factors illustrating significant variance at the student-level were examined (using random slopes) to determine if their effect on faculty–student engagement varied across colleges. When they did vary, cross-level interactions between academic factors and college-level variables were created to determine whether this variation was a byproduct of the college context. Model fits were determined using the -2 Log Likelihood ($-2LL$) and Akaike Information Criterion (AIC). Exploratory analyses of data illustrated that several variables had more than 5% missing values. These variables included: active learning, caring for dependents, commuting, father’s education, mother’s education, and working for pay. Multiple imputation was employed to address missing values within the data source. Due to the large sample size, only variables significant at .01 are discussed (though the tables show significance at .05), except for cross-level interaction modeling where variables at .100 or less are reported.

FINDINGS

As noted, the first model was a null model that illustrated significant between-group variation. The second model examined the effect of background/defining factors (at Level 1) and structural factors (at Level 2) on faculty–student engagement while controlling for active learning. Active learning was a significant predictor of faculty–student engagement in this model ($B = .505$, $p < .001$) as well as in the remaining models. Age was found to have a positive effect on faculty–student engagement ($B = .064$, $p < .01$); this indicated that as Black males increase in age, they are more likely to have engaging interactions with faculty. Amount of credits earned ($B = .089$, $p < .001$) and college GPA ($B = .150$, $p < .001$) were also found to have a positive effect on engagement. Neither the variables for mother’s education or father’s education had a significant effect on the outcome. At Level 2, both variables for institutional climate illustrated significance. Campuses with greater belonging ($B = .145$, $p < .01$) and diversity climates ($B = .199$, $p < .01$) had greater levels of engagement. While urbanicity was not a significant predictor, institutional size did illustrate significance. Small campuses ($B = .625$, $p < .001$) benefited from higher levels of engagement than very large colleges. Model 2 accounted for 43.5% and 32.8% of the between-college and within-college variability in the outcome beyond the null model (see Table 2).

TABLE 2
Multi-Level Model: Determinants of Faculty Student Engagement: CCSSE

| <i>Variables</i> | <i>M1</i> | <i>M2</i> | <i>M3</i> | <i>M4</i> |
|-----------------------------------|--------------|--------------|--------------|--------------|
| Intercept | 13.909098*** | 13.791084*** | 13.106393*** | 13.143945*** |
| <i>Student-Level</i> | | | | |
| Active Learning Control | | .505*** | .470*** | .467*** |
| Background/Defining Factors | | | | |
| Age | | .064** | .039 | .041 |
| Credit | | .089*** | .114*** | .113*** |
| GPA | | .150*** | .190*** | .197*** |
| Mothers Highest | | -.012 | .029 | .028 |
| Fathers Highest | | -.051 | -.001 | -.01 |
| Academic Factors | | | | |
| Reading Remediation | | | .378** | .383** |
| Writing Remediation | | | -.168 | -.184 |
| Math Remediation | | | .005 | .004 |
| Learning Community | | | .605*** | .606*** |
| Study Skills Course | | | .316*** | .307*** |
| Orientation | | | .316*** | .183* |
| Number of External Courses | | | .039 | .035 |
| Environmental Factors | | | | |
| Marital Status | | | | -.163 |
| Working for Pay | | | | -.038 |
| Providing Care for Dependents | | | | .096*** |
| Commuting Time | | | | .105** |
| <i>College Level</i> | | | | |
| Institutional Climate (Belonging) | | .145** | .115 | .109 |
| Institutional Climate (Diversity) | | .199** | .143 | .154 |
| Urban Colleges | | .162 | .199 | .202 |
| Suburban Colleges | | .094 | .155 | .173 |
| Institutional Size: Small | | .625*** | .621*** | .607*** |
| Institutional Size: Medium | | .224* | .281* | .297** |
| Institutional Size: Large | | .083 | .124 | .137 |
| <i>Variance Components</i> | | | | |
| Variance between institutions | .346246*** | .195630*** | .133569*** | .126736*** |
| Variance within institutions | 10.687381*** | 7.186030*** | 6.950564*** | 6.922431*** |
| <i>Fit indices</i> | | | | |
| -2LL | 58127.748 | 53405.063 | 39253.755 | 39219.462 |

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

In model 3, academic factors were added to the variables examined in model 2. The effect of the background/defining variables on the outcome remained the same except for age, which no longer served as a significant predictor. At the college-level, neither institutional climate variable served as significant predictors of faculty–student engagement as they did in model 2. These model changes were a reflection of the addition of academic factors. Of the seven predictors examined, four illustrated a significant positive effect on the outcome; these variables included reading remediation ($B = .378, p < .01$); learning communities ($B = .605, p < .001$); study skills courses ($B = .316, p < .001$); and orientation ($B = .316, p < .001$). Given that these variables were standardized, learning communities had the greatest effect on faculty–student engagement

TABLE 3
Estimates of Covariance Parameters for Level 1 Academic Measures

| <i>Parameter</i> | <i>Estimate</i> | <i>SE</i> | <i>Wald Z</i> | <i>Sig.</i> | <i>One-tailed</i> |
|---------------------|-----------------|-----------|---------------|-------------|-------------------|
| Reading Remediation | .263618 | .094 | 2.873 | .005 | .002 |
| Learning Community | .275030 | .094 | 2.885 | .004 | .002 |
| Orientation | .032970 | .052 | .605 | .525 | .262 |
| Study Skills | .252758 | .078 | 3.226 | .001 | .000 |

among the academic factors. Model 3 accounted for 31.7% and 3.3% of the between-college and within-college variability in engagement beyond Model 2.

In the fourth model, environmental variables were added for examination. The effect of the factors examined in prior models remained relatively the same. The only exceptions were that orientation no longer served as a significant predictor of faculty–student engagement (at $p < .01$), and that medium colleges illustrated higher levels of engagement than very large colleges ($B = .297$, $p < .01$). Two of the four environmental variables illustrated significant effects on the outcome. Time spent providing care for dependents ($B = .096$, $p < .001$) and commuting time ($B = .105$, $p < .01$) were significant predictors of faculty–student engagement. Model 4 accounted for 5.2% and 2.8% of the between-college and within-college variance beyond Model 3 (see Table 3).

Additional analyses were employed using random slopes. These models investigated whether the effect of the significant academic factors (e.g., reading remediation, learning community, orientation, study skills) on faculty–student engagement varied across college contexts. These models illustrated that reading remediation ($Z = 2.873$, $p = .002$); learning communities ($Z = 2.885$, $p = .004$); and study skills ($Z = 3.226$, $p < .001$) all had significantly varying slopes. Cross-level interactions between these variables (at Level 1) with structural variables (Level 2) were constructed to examine whether these interactions could explain slope differences. Findings provided little insight for reading remediation and study skills. However, this study did find that the distributional effects of learning community slopes on faculty engagement are weaker at colleges with higher levels of sense of belonging. In other words, the benefits derived from learning communities are not as great when colleges have greater climates of belonging. Additionally, the effects of learning communities on the outcome were found to be greater at suburban colleges in comparison to rural colleges.

DISCUSSION AND IMPLICATIONS

This study set out to explore determinants of faculty–student engagement for Black males in the community college. A number of compelling findings emerged from this study. In model 2, age had a positive effect on engagement. This finding was in line with research from Chang (2005), which illustrated that older African American students had greater levels of faculty–student interactions. However, the effect of age on the outcome disappeared with the addition of academic and environmental factors. Moreover, this study did not find a significant linkage between parental education (for mothers or fathers) and engagement. Research from Rendón and Valdez (1993) suggested that cultural capital (conceptualized as parent’s education in this study)

affected students' interactions with faculty. As such, this finding departed from the prehypothetized relationship in the conceptual model. In terms of academic factors, reading remediation, learning communities, study skills courses, and participation in orientation had a positive effect on faculty–student engagement. Given that Chang (2005) identified orientation as a significant predictor of engagement for African Americans, findings around orientation in this study corroborate prior research. Additionally, Barbatis (2010) found that participation in learning communities better prepared students for faculty–student interactions, a finding also substantiated in this research. Moreover, this study has extended upon prior research by illustrating the importance of academic interventions (e.g., reading remediation, study skills) in fostering greater engagement.

Guided by prior research from Cotton and Wilson (2006) and Thompson (2001), the researchers' presumed a negative relationship between working and commuting on engagement. Contrary to prior research, working and commuting had a positive effect on faculty–student engagement, suggesting that students with greater hours work per week and enhanced time spent commuting had more interactions with faculty. Moreover, prior research had shown divergent findings on family obligations; with Thompson (2001) espousing that family obligations had a positive effect on faculty–student interactions while Cotton and Wilson (2006) articulated a negative relationship. This study's findings aligned with those of Thompson (2001), illustrating that family obligations had a positive effect on faculty–student engagement. Likely, students with family obligations were more likely to be older, which was shown in this study and prior research to be positively associated with faculty–student engagement.

Finally, several structural variables illustrated significance. In model 2, both climate variables for belonging and diversity served as significant predictors of faculty–student engagement. However, in further models, that addition of academic and environmental factors mitigated the effect of climate on engagement. Thus, viewed in isolation, institutional climate does have an effect on faculty–student engagement as a whole, but not when examined with other considerations. The researchers' postulate that the effect of campus climate was eliminated as a result of academic factors where in-class interactions with faculty were indicative of student perceptions of the greater campus climate. Across models, small colleges (and to a lesser degree) medium colleges had higher levels of faculty–student engagement than very large institutions. As with findings around academic factors, results regarding structural factors also extended new insights into determinants of faculty–student engagement.

IMPLICATIONS

Findings from this study indicate the important role that learning communities have in facilitating faculty–student engagement. Above and beyond the other academic factors, learning communities had the strongest effect on engagement. As such, community colleges with learning communities should encourage Black males to participate in such programming. In institutions without large-scale learning community offerings, college leaders can establish a limited number of learning communities and encourage Black male participation in this programming. Findings around learning communities are timely, as dwindling fiscal resources have forced colleges to make difficult decisions about which programs to continue funding. Hopefully, findings from this study illustrated that investing in learning communities is integral to faculty–student engagement, and as a result, student success.

Another salient finding from this study was the importance of study skills courses. These courses focus on preparing students to succeed in college via a curricular emphasis on time management, note-taking skills, test preparation strategies, and awareness of campus resources. In these courses, students learn strategies that provide them with a framework for greater levels of engagement with faculty. Given the importance of this programming, the researchers recommend that academic advisors work with students to prioritize this coursework in their programs of study. In a similar vein, this research has also illustrated the importance of orientation. Given this, colleges should consider whether making orientation mandatory (or for credit) for all students is feasible. If so, this study can serve to evidence the importance of college orientation in fostering greater levels of engagement with faculty.

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