

Differences in Community College Student Efforts and Engagement by First-Time in College Status: A National Investigation

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Abstract: In this investigation, the degree to which First-Time in College (FTIC) and non-FTIC community college students differed in their student engagement was addressed. Survey questions from the Community College Survey of Student Engagement were analyzed for three student engagement areas: student effort, student engagement, and academic challenge. Inferential statistics yielded a statistically significant difference in only one of three engagement components (i.e., student effort benchmark) for all students. With respect to the responses of male FTIC students, a statistically significant difference was present in their student effort and academic challenge, but not in their student engagement responses. No statistically significant differences were present for female FTIC students. Implications of these results and recommendations for future research were discussed.

Keywords: First-Time in College, First Year Student, Student Motivation, Student Effort, Student Engagement, Academic Challenge, Gender, CCSSE

1. Introduction

Despite the fact that community colleges educate more than half the nation's undergraduates [1], these 2-year public institutions have been called the stepchildren, or the "other college" of higher education [2, p. 1]. Community colleges consistently strive to provide stronger pathways and support services to meet diverse student needs [3]. Two-year colleges play a critical role in higher education in the United States, serving students who may: (a) be college eligible but not college ready, (b) work full-time and attend college part-time, (c) be single parents of small children, (d) be a member of an underrepresented underserved ethnic/racial group, and/or (e) be socioeconomically disadvantaged [2, 4]. Of importance to this investigation, [2] documented the enrollment at 2-year colleges has grown faster than enrollment at the 4-year colleges and universities.

Over the past few decades, the sole focus of open access

and equity at 2-year postsecondary institutions has shifted to student success and more equity in student outcomes [5]. In the Commission on the Future of Higher Education, Margaret Spelling, the past U.S. Secretary of Education, highlighted the need for both access and success to be increased. As stated by Spellings:

Over the past decade, literacy among college graduates has actually declined. Unacceptable numbers of college graduates enter the workforce without the skills employers say they need in an economy where, as the truism holds correctly, knowledge matters more than ever. [6, p. 17]

A decade later, the lack of persistence and degree completion has continued to plague the nation [7]. Although this problem has been a well-known fact for several years, [8] documented that a complex issue exists because of the differing characteristics of students who attend 2-year and those students who attend 4-year postsecondary institutions. McIntosh and Rouse [2] reported 2-year college students are

far less likely to be traditional-aged students (i.e., ages 18-24) than are 4-year college students. In addition, students who attend 2-year postsecondary institutions are far more likely to be enrolled part-time, employed part-time, and more likely to be of lower socioeconomic status than their 4-year counterparts. According to the [9], some of these traits are exhibited by, so called, high-risk students. Several risk factors contribute to low persistence and graduation from college:

Being academically underprepared for college-level work; not entering college directly after high school; attending college part-time; being a single parent; being financially independent; caring for children at home; working more than thirty hours per week; and being a first-generation college student. [10, p. 40)

Community college students are three to four times more likely to reflect four or more of these risk factors than their counterparts attending 4-year colleges and universities. Community college students are typically less academically prepared than their 4-year peers and are frequently first-generation college students. As such, these students are less likely to get support and information from family members [11]. Goldrick-Rab [11] asserted, however, that if student engagement levels are increased, colleges could close the persistence gaps between community college students and their 4-year counterparts. In this study, several engagement factors were reviewed and discussed: (a) student effort, (b) student motivation, and (c) academic challenge.

Researchers [e.g., 12, 13, 14] reported first-time college students, those who have no prior postsecondary higher education experience, as being socially disengaged and having disparate academic needs. These authors agreed that when students fail to persist, academic abilities are not the only factor involved in their lack of persistence. Rather, they believed that students' lack of basic skills in effective college success strategies contributed to their lack of persistence. Feldman and Zimbler [12] documented the presence of attributable skills, such as time management, writing ability, effective reading strategies, note-taking, and test-taking strategies that hinder student persistence and graduation.

Tinto's [15] integration framework is foundational with regard to linking student engagement with persistence in postsecondary education [16]. In agreement with [15], other researchers [e.g., 17, 10, 18] concurred that enhancing student engagement is essential to promoting desirable outcomes such as academic performance and persistence in colleges or universities. Schuetz [19] defined student engagement as "a state of being that combines high effort, attention, and participation with emotions of interest, enthusiasm, enjoyment, and lack of anxiety or anger" (p. 312). As noted, one component of engagement is student effort (e.g., time on task), which includes student behaviors that contribute to their learning and the likelihood that they will attain their educational goals.

In a recent study, [16] investigated the community college student levels of engagement as demonstrated in longitudinal

Community College Survey of Student Engagement (CCSSE) data. Of note in their study were the heavy family and social responsibilities of students. For example, 62% of the students were employed off-campus, of which 35% reported working more than 20 hours per week. In addition, 22% of the student group worked 30 or more hours per week. Dudley et al. [16] correlated these factors with student levels of engagement and effort. Students reported lack of time as a major obstacle, which hindered them from putting forth more effort toward studies. Specifically, students reported a limited amount of time to prepare additional writing drafts or reading assignments before class. As such, students unprepared or unfamiliar with course topics were much less likely to ask questions or participate in class [16].

The role of student motivation, also known as a non-cognitive factor, is another predictor of college persistence and postsecondary student success [20]. The term motivation is a Latin derivative meaning "to move" [21, p. 603]. According to [21], several qualities of motivation exist such as "needs, drives, goals, aspirations, interests, and affects" (p. 603). Motivation tends to be either intrinsic or extrinsic in nature. Intrinsic motivation comes from internal sources such as the pure enjoyment of task engagement [21], or enjoyment of a task for its own sake [22]. Extrinsic motivation is defined as engagement motivated by external pressures or influences [22], such as receiving financial compensation [21].

In a 2014 investigation, [23] analyzed how motivation and self-efficacy affected community college student persistence. Self-efficacy, defined as the belief that of being capable of accomplishing a specific task [23], was viewed through the lens of self-regulated learning efficacy and self-efficacy for academic achievement. Zimmerman [24] defined self-regulated learning as the "degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning process" (p. 167). In his study, [23] reported self-regulated learning efficacy predicted student intention to persist, or reenroll, whereas, self-efficacy for academic achievement failed to predict persistence.

In the [23] study, motivation was examined at two levels: intrinsic motivation and extrinsic motivation. They contended that intrinsically motivated students internally valued learning and wanted to understand the content. Conversely, extrinsically motivated students viewed test preparation activities as leading to an external reward of a grade [23]. Interestingly, extrinsic motivation predicted persistence or reenrollment; however, the effects of intrinsic motivation were minimal and failed to predict persistence in this study. Further, the four independent variables (i.e., self-regulated learning efficacy, academic achievement efficacy, intrinsic motivation, and extrinsic motivation) were statistically significantly related with each other.

Academic challenge is another factor associated with student engagement. Academic challenge is defined as "challenging intellectual and creative work", which is essential to student learning [9, p. 1). Several academic challenge constructs are measured, such as, how much the

coursework required “analyzing the basic elements of an idea, synthesizing and organizing ideas, information, or experiences in new ways, making judgements about the value or soundness of information, applying theories or concepts to practical problems or in new situations, and using information you have read or heard to perform a new skill” [18, p. 116]. The emphasis in the academic challenge is on the nature and amount of assigned academic work. Further, academic challenge is an effective practice in which the complexity of cognitive tasks presented to students is addressed [9].

Longerbeam [25] examined experiences related to academic challenge and support of first-year college students. In her mixed-methods study, challenge was used to refer to the academic rigor and level of effort required for the student to succeed academically, whereas, support referred to the academic and social encouragement and assistance offered by faculty, staff, and peers. Longerbeam [25] documented that students who reported, “academic challenge and a supportive campus environment were significantly more likely to report gains in general education— a measure of learning. Students who had enriching educational experiences—the environmental context for challenge and support—were more likely to graduate.” (p. 38). As a result of [25]’s study, several challenge and support themes emerged: (a) embracing struggle and overcoming obstacles, (b) making personal connections with key personnel, (c) reaching out to appropriate contact, and (d) deepening involvement via academic and co-curricular activities [25]. When academic challenge and support are both present, students thrive.

1.1. Statement of the Problem

Several researchers [e.g., 26, 2, 27] established that graduation rates have remained around 50% over the past few decades. Low persistence rates and low retention rates are serious concerns for many 2- and 4-year colleges and universities [28, 29]. To meet the needs of the nation and produce and graduate more educated citizens, the quality of student learning must improve. Higher education institutions must find ways to help support, motivate, and actively engage students to continue through graduation.

According to [30], academic achievement, motivation, and self-efficacy play major roles in student persistence. As suggested by [30], the time and energy students devote to educationally purposeful activities are excellent predictors of personal learning and development [31, 9]. Based on national reports, student development during college depends on a variety of factors and conditions [9]. One of these important concepts is the student engagement benchmark. Emphasized in student engagement are two key components: (a) time and effort students put into their studies and (b) how institutions utilize resources and structure learning opportunities, which allow students to participate in activities linked to student learning. Academic challenge is another factor essential to student learning. As reported by [32], academic challenge is positively correlated to degree and certificate attainment.

1.2. Purpose of the Study

The purpose of this study was to determine the degree to which differences were present between FTIC community college students and non-FTIC community college students with respect to specific student behaviors. Of particular interest was whether reported student effort and student engagement differed between these two groups of community college students. Also of interest was whether these two groups of community college students differed with respect to student motivation and academic challenges. By analyzing responses to four survey items on a national dataset, information was obtained concerning the presence, or absence, of differences between FTIC community college students and non-FTIC community college students.

1.3. Significance of the Study

For decades, growing concerns exist about the engagement levels of college students. Several researchers [e.g., 17, 23, 25, 13] concurred student learning and achievement in college have strong associations with student engagement. Community colleges are challenged with finding innovative ways to: (a) improve curriculum, (b) provide quality-teaching strategies, and (c) maintain accountability standards. By analyzing CCSSE survey data, key information could be gained. The results of this study may provide higher education administrators, policymakers, faculty, and student support personnel with necessary information and knowledge to help increase the engagement levels of community college students. Further, these higher education professionals may be able to develop or enhance current programs at their respective colleges.

1.4. Research Questions

In this investigation, the following research questions were addressed: (a) What is the difference between FTIC and non-FTIC community college students in their student effort?; (b) What is the difference between FTIC and non-FTIC community college students in their student engagement?; and (c) What is the difference between FTIC and non-FTIC community college students in their academic challenge? These research questions were addressed for all students and then separately for male and for female students.

2. Method

2.1. Research Design

A causal-comparative research design [33, 34] was used in this investigation. Specifically analyzed herein were archival data that represented events that had already occurred [33]. In this investigation, the independent variable was the status of community college students who participated in the CCSSE survey. That is, student status was FTIC students and students who were not FTIC students. The dependent variables that were analyzed in this study were student engagement and the amount of effort put forth by community

college students who participated in the CCSSE survey. Because both the independent variable and the dependent variables had already occurred, neither can be manipulated nor can any extraneous variables be controlled. As such, the research design used herein is necessarily a causal-comparative one [33, 34].

2.2. Participants and Instrumentation

Archival data had previously been obtained from The Center for Community College Student Engagement. The sample for this study was the 2014 CCSSE cohort (i.e., 2012, 2013, and 2014 academic years). This cohort consisted of 684 participating institutions from 48 states the District of Columbia, three Canadian provinces, plus Bermuda, Micronesia, and the Marshall Islands [9].

The survey instrument, Community College Student Report (CCSR), is a national instrument developed to capture experiences and activities of students in 2-year colleges. This survey, administered via random sampling for each participating college, includes 38 questions with several subquestions, of which eight subquestions were used in this study. Also present were five CCSSE benchmarks: (a) active and collaborative learning, (b) student effort, (c) academic challenge, (d) student-faculty interaction, and (e) support for learners [9]. In this study, the student effort benchmark was examined.

Included in these data are student responses related to the CCSSE benchmark related to student effort. Measured in the student effort benchmark was the use of tutoring, computer labs, skill labs, updating two or more assignment drafts before submission, using various sources for papers or projects, the number of non-assigned books read for enrichment, and hours spent preparing for class [9]. Participants responded to these survey items through the use of a 4-item Likert response scale (i.e., Often, Sometimes, Rarely/Never, and Don't Know/NA).

3. Results

The three dependent variables (i.e., student effort, student engagement, and academic challenge) in this research article consisted of continuous and interval level data. These three dependent variables had been converted by the CCSSE staff into *T*-scores. *T*-scores are a type of standard score with a *M* of 50 and a *SD* of 10. The independent variable in this article was the student status that consisted of two groups – FTIC and non-FTIC. To determine whether statistically significant differences were present in these student engagement benchmark scores between FTIC and non-FTIC students in public community colleges, a multivariate analysis of variance (MANOVA) procedure was calculated. Although some of the underlying assumptions were not met, due to the robustness of the MANOVA procedure, it was appropriate to use in this study [35].

3.1. Results for All Students

A statistically significant difference was revealed, Wilks'

$\Lambda = .99$, $p < .001$, partial $\eta^2 = .008$, in the student engagement benchmark scores between FTIC and non-FTIC community college students. The effect size was reflective of a below small effect [36]. Following this overall analysis, univariate follow up analysis of variance procedures were calculated. A statistically significant difference was not yielded between FTIC and non-FTIC students in their active and collaborative learning benchmark scores, $F(1, 108192) = 0.14$, $p = .71$, nor in their academic challenge benchmark scores, $F(1, 108192) = 1.03$, $p = .31$. A statistically significant result was present, however, in student effort benchmark scores, $F(1, 108192) = 618.97$, $p < .001$, partial $\eta^2 = .006$. The effect size for this finding, Cramer's *V*, was below small [36]. With respect to active and collaborative learning and academic challenge, FTIC students and non-FTIC students were similar in their responses. Presented in Tables 1 and 2 are the descriptive statistics for the active and collaborative learning analysis and for the academic challenge analysis.

Table 1. Descriptive Statistics for Active and Collaborative Learning Benchmark Scores by FTIC Status.

Enrollment Status	<i>n</i>	<i>M</i>	<i>SD</i>
First Time in College	78,550	52.66	24.99
Non First-Time in College	29,646	52.72	25.84

Table 2. Descriptive Statistics for Student Academic Challenge Benchmark Scores by FTIC Status.

Enrollment Status	<i>n</i>	<i>M</i>	<i>SD</i>
First Time in College	78,550	52.64	24.21
Non First-Time in College	29,646	52.47	25.86

Concerning the student effort benchmark scores, the average benchmark scores for FTIC students were 4.2 points higher than for their non-FTIC peers. These differences in benchmark scores displayed more student effort by FTIC students in academic preparation, synthesis of information, frequency of attending classes unprepared, personal reading, and preparation for classes than displayed by their non-FTIC peers. Delineated in Table 3 are the descriptive statistics for this analysis.

Table 3. Descriptive Statistics for Student Effort Benchmark Scores by FTIC Status.

Enrollment Status	<i>n</i>	<i>M</i>	<i>SD</i>
First Time in College	78,550	53.31	24.55
Non First-Time in College	29,646	49.10	25.64

3.2. Results for Male Students

Concerning the student engagement benchmark scores for male FTIC students, the result was statistically significant, Wilks' $\Lambda = .99$, $p < .001$, partial $\eta^2 = .004$. The effect size was reflective of a below small effect [36]. Following this analysis, univariate follow up analysis of variance procedures were calculated. A statistically significant difference was not present between male FTIC and male non-FTIC students in their active and collaborative learning benchmark scores, $F(1,$

76778) = 1.84, $p = .17$. Similar average scores were present for both groups of students in their active and collaborative learning. Table 4 contains the descriptive statistics for this analysis.

Table 4. Descriptive Statistics for Active and Collaborative Learning Benchmark Scores by FTIC Status for Male Students.

Enrollment Status	<i>n</i>	<i>M</i>	<i>SD</i>
First Time in College	34,121	52.10	25.06
Non First-Time in College	12,213	51.74	25.75

Regarding student effort benchmark scores, a statistically significant difference was revealed for male FTIC students, $F(1, 76778) = 183.93$, $p < .001$, partial $\eta^2 = .004$; a below small effect size [36] was revealed. The average student effort benchmark scores for male FTIC students were 3.5 points higher than for male non-FTIC students. As such, male FTIC students put forth more effort toward preparing for class activities and completing class assignments. Presented in Table 5 are the descriptive statistics for this analysis.

Table 5. Descriptive Statistics for Student Effort Benchmark Scores by FTIC Status for Male Students.

Enrollment Status	<i>n</i>	<i>M</i>	<i>SD</i>
First Time in College	34,121	49.26	24.23
Non First-Time in College	12,213	45.76	25.17

With respect to academic challenge benchmark scores, a statistically significant difference was revealed, $F(1, 76778) = 22.80$, $p < .001$, partial $\eta^2 = .001$. The effect size for this finding was below small [36]. The average academic challenge benchmark scores for male FTIC students was 1 point higher than for male non-FTIC students. Academically, the male FTIC students perceived that coursework was more rigorous and intellectually challenging than male non-FTIC students. Delineated in Table 6 are the descriptive statistics for this analysis.

Table 6. Descriptive Statistics for Academic Challenge Benchmark Scores by FTIC Status for Male Students.

Enrollment Status	<i>n</i>	<i>M</i>	<i>SD</i>
First Time in College	34,121	49.99	23.58
Non First-Time in College	12,213	48.79	24.73

3.3. Results for Female Students

Concerning the student engagement benchmark scores for female FTIC students, a statistically significant result was present, Wilks' $\Lambda = .99$, $p < .001$, partial $\eta^2 = .012$. The effect size was reflective of a small effect [36]. Following this overall analysis, univariate follow up analysis of variance procedures were calculated. A statistically significant difference was not yielded between female FTIC and female non-FTIC students in their active and collaborative learning benchmark scores, $F(1, 120319) = 1.90$, $p = .168$, nor in their academic challenge benchmark scores, $F(1, 120319) = 2.97$,

$p = .085$. As such, female FTIC and female non-FTIC students were similar in their responses for both of these benchmark areas. Table 7 and 8 contains the descriptive statistics for these analyses.

Table 7. Descriptive Statistics for Active and Collaborative Learning Benchmark Scores by FTIC Status for Female Students.

Enrollment Status	<i>n</i>	<i>M</i>	<i>SD</i>
First Time in College	42,955	53.12	24.88
Non First-Time in College	16,935	53.43	25.86

Table 8. Descriptive Statistics for Academic Challenge Benchmark Scores by FTIC Status for Female Students.

Enrollment Status	<i>n</i>	<i>M</i>	<i>SD</i>
First Time in College	42,955	54.85	24.40
Non First-Time in College	16,935	55.24	26.20

Regarding the student effort benchmark scores, a statistically significant difference was revealed for female FTIC students, $F(1, 120319) = 501.41$, $p < .001$, partial $\eta^2 = .001$, a below small effect size [36]. The average student effort benchmark scores for female FTIC students was approximately 5 points higher than for their female non-FTIC peers. For this benchmark, female FTIC students reported exhibiting great effort with regard to completing assignments and time on task than reported by their female non-FTIC peers. Presented in Table 9 are the descriptive statistics for this analysis.

Table 9. Descriptive Statistics for Student Effort Benchmark Scores by FTIC Status for Female Students.

Enrollment Status	<i>n</i>	<i>M</i>	<i>SD</i>
First Time in College	42,955	56.45	24.27
Non First-Time in College	16,935	51.44	25.66

4. Discussion

In this investigation, the degree to which differences were present in college student engagement benchmark scores between FTIC students and non-FTIC students was addressed. National data from the CCSSE were analyzed to answer these research questions. Statistically significant differences were revealed in student effort. For the student effort benchmark score, FTIC students had an average score that was approximately four points higher than their non-FTIC peers. This group of students reported that they expended more effort toward assignments and time on task than indicated by their non-FTIC peers. Male FTIC students had an average benchmark score 3.5 points higher in their student efforts than did their male non-FTIC peers. This score was reflective that male FTIC students reported that they exhibited more effort when completing assignments and preparing for classes than was indicated by their male non-FTIC peers. For female FTIC students, the average benchmark score was 5 points higher in their student efforts than was reported by their female non-FTIC peers. As such,

more effort in their academic assignments and preparation for classes was noted by female FTIC students than by their female non-FTIC peers.

4.1. Connection with Existing Literature

Past researchers [e.g., 16] linked student engagement with persistence in postsecondary education. Student engagement is often defined and measured by the degree to which students become actively involved with their educational processes, as represented by their academic and social behavior [18]. Researchers [e.g., 17, 10, 18, 15] agreed that enhancing student engagement is essential to promoting desirable outcomes such as academic achievement and persistence in higher education institutions.

Concerning active and collaborative learning, [32] suggested this component as being the greatest predictive value regarding student graduation rates. Conducting the literature review confirmed that heavy family and social obligations detracted from student's level of engagement, such as less classroom participation and being unprepared and unfamiliar with course topics. In this investigation, FTIC student and non-FTIC students were similar in their active and collaborative learning benchmark scores.

The time and energy students devote to purposeful, educational activities are excellent predictors of personal learning and development [31, 9, 30]. In this study, measurements used for the student effort benchmark were the use of tutoring, computer labs, skill labs, updating two or more assignment drafts before submission, using various sources for papers or projects, the number of non-assigned books read for enrichment, and hours spent preparing for class. Revealed in this study was an average student effort benchmark score approximately 4 points higher for FTIC students than indicated by their non-FTIC peers. In essence, FTIC students put forth greater effort when completing assignments and preparing for classes than did their non-FTIC peers.

Academic challenge, challenging intellectual and creative work, is another important student engagement component. Longerbeam [25] examined experiences related to academic challenge and support of first-year college students. She referenced academic challenge as academic rigor and level of effort required for students to succeed academically. Further, [25] reported students who had academic challenge and a supportive campus environment were significantly more likely to report gains in general education and more likely to graduate. Revealed in this study were similarities between FTIC students and non-FTIC students in their academic challenge.

4.2. Recommendations for Future Research

Based on the results of this national investigation, several recommendations for future research can be made. First, researchers should replicate this study with more current CCSSE data. This replication would help determine the degree to which the results presented are generalizable to

other community college students today. Second, this study should be extended to 4-year universities using National Survey of Student Engagement data. Until such a study is conducted, readers should not assume that the findings delineated herein on community college students would be generalizable to 4-year university students. Third, opportunities exist for researchers to use quantitative, qualitative, and mixed methodologies to explore the experiences of FTIC community college students. These explorations would provide insight into ways to enhance FTIC student engagement at the community college level. Finally, more research is needed to understand the underlying reasons for the lack of student engagement among FTIC students at the community college level.

4.3. Implications for Policy and Practice

As a result of this investigation, several implications for policy and practice can be suggested. First, [4] reported that personal and familial factors negatively influenced achievement outcomes for first-year students. Awareness of these perceived factors and barriers are even more critical when explored within the community college context. Community college leaders and administrators are encouraged to continue to seek ways to explore FTIC student perceptions and provide a variety of engagement opportunities, which should include family participation. Second, in this investigation, no statistically significant differences were revealed between FTIC and non-FTIC students in their active and collaborative learning and academic challenge. As such, educational leaders must develop and implement ways to increase these student engagement components. Third, student effort benchmark scores, in this study, were higher for FTIC students than for non-FTIC students. Therefore, educational leaders and college faculty need to encourage and motivate students to increase individual student efforts at community colleges.

5. Conclusion

In this investigation, the degree to which differences were present between FTIC community college students and non-FTIC community college students in their student engagement was addressed through the analysis of CCSSE data. Statistically significant differences were revealed for only student effort when all FTIC students were analyzed. Interestingly, statistically significant differences were not present with respect to active and collaborative learning and academic challenge for these groups of students. For male FTIC students, statistically significant differences were revealed in their student effort and academic challenges benchmark scores. Similarly, female FTIC students yielded statistically significant differences in their student effort benchmark scores. Community college leaders and policymakers should continue to search for, develop, and implement ways to increase student engagement activities which are beneficial for FTIC student success. In doing so, leaders should make these engagement activities family

friendly and offerings should be available at times that are conducive to FTIC student and family involvement.

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