

Demographic and Instructor-Student Interaction Factors Associated With Community College Students' Intent to Persist

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Abstract

The classroom is the main point of contact for community college students due to their part-time status, employment, family responsibilities, and limited campus involvement. To examine the relationship between community college students' demographics and instructor interactions as they relate to intention to persist in college, researchers utilized logistic regression analysis to analyze data from the Survey of Entering Student Engagement. Results indicated all eight predictor variables (instructor-student interaction, student-instructor interaction, age, sex, generation status, children, employment, and enrollment status) made statistically significant contributions to distinguishing between students who were most likely to intend to persist and those who were not.

Student engagement has received significant attention from numerous scholars (Astin, 1993a, 1993b; McClenney, 2007). Described by Hu and Kuh (2001) as the quality of effort students devote to educationally purposeful activities, student engagement is considered to be an important factor in student learning in higher and postsecondary education (Astin, 1993a, 1993b; Kuh, 2001; McClenney, 2007). Examples of engaging activities include classroom discussions, faculty and peer interactions, and interactive course assignments and homework (Hu & Kuh, 2000; Kuh, 2005, 2006; Ryan & Deci, 2000).

College student profile research findings indicate diversity in today's college campuses. Community colleges have traditionally dealt with diverse students; however, initial definitions of diversity primarily focused on race and ethnicity (Jenkins, 2007). More recent definitions have expanded to include the student's level of remediation, full-time versus part-time enrollment, and the age differences of traditional and nontraditional students (Cohen & Brawer, 2003). Diverse campus cultures have also led to changing student expectations in that students want to be challenged and engaged, and they want to know instructors are available to them both in and out of the classroom (Kuh, 2003).

The Center for Community College Student Engagement (CCCSE, 2009b) findings indicated that faculty and student interactions are related to quality student engagement and satisfaction in the classroom. The findings also indicated that the most successful engagement strategies are likely to happen in classrooms. This finding is especially important as most community college students spend little time on campus beyond class time due to attending college part-time, working, commuting, and sometimes caring for dependents.

In response to the 2007 Community College Survey of Student Engagement (CCSSE) findings which indicated that “many students have barely made it through the door before they slip off their college’s radar” (Ashburn, 2007, para. 2), the Survey of Entering Student Engagement (SENSE) was developed (CCCSE, 2009a, 2010). Grounded in research about what works in retaining and supporting entering students, SENSE focuses on students’ experiences from the time they decide to attend through the end of their third academic week.

Classroom Instruction

Classroom instruction is a major influence on student success and engagement. John Dewey (1993) believed instructors are guides who help lead students into engaging learning environments. Tinto (1997), who noted the importance of classroom instruction in student persistence, asserted that faculty-student interactions were most likely to occur in the classroom and stated:

The college classroom lies at the center of the educational activity structure of institutions of higher education . . . If academic and social involvement or integration is to occur, it must occur in the classroom. Seen in this light, it is surprising that the classroom has not played a more central role in current theories of student persistence. (Tinto, 1997, p. 1)

Similarly, Seidman (2005) found that for the motivated student, a bad classroom experience ranked high as a reason for withdrawing from classes and college.

Instructor-Student Interaction

As previously noted, due to community college students’ part-time status, employment responsibilities, lack of involvement in student activities, and attendance at non-residential campuses, the classroom is their main point of contact (Cohen & Brawer, 2003). Thus, community college students interact more with instructors than with anyone else. Numerous researchers have examined the role of instructor interaction and outcomes such as student development, students’ satisfaction level, and academic performance. Pascarella and Terenzini (1997, 2005) asserted that student-instructor interaction plays an essential role in the connection between a student and an institution. Likewise, Cotton and Wilson (2006) found that instructor-student interaction is not only positively correlated to student development and achievement, but also improves students’ satisfaction level and academic performance.

The role of instructor interaction on student persistence has also been examined (Braxton, Bray, & Berger, 2000). Bean (1983, 1990) included student-instructor contact as a behavioral measure in his student persistence model. His research findings demonstrated that student-instructor interaction played an important role in persistence, so much so that “When students feel faculty members do not care about their development, their bonds to the institution weaken” (Bean, 2005, pp. 225). Similarly, Filkins and Doyle (2002) found this interaction to be a strong predictor in first-generation students in that it impacts nontraditional students’ understanding of college expectations due to their possible lack of knowledge about college and career choices.

Hagedorn, Maxwell, Rodriguez, Hocevar, and Fillpot (2000) and Nadler and Nadler (2001) examined the differences between male and female community college students regarding peer and faculty-student interactions. Their research found that most students had low rates of contact with faculty outside of the classroom. Their findings also noted that female students were significantly more likely to develop close relations with faculty members and to discuss career plans with faculty than were male students.

Immediacy

The concept of immediacy is defined as communicative behaviors that enhance closeness to and nonverbal interaction with another (Mehrabian, 1969). Immediacy behaviors reduce the physical and/or psychological distance between communicators, thus leading to a perception of closeness and connectedness. Within the instructional context, immediacy is the degree of perceived physical or psychological closeness between instructors and students (Frymier & Houser, 2000). As one of the most influential instructor communication behaviors, immediacy is considered by instructional researchers to be one of the most important variables affecting the instructor-student relationship (Allen, Witt, & Wheelless, 2006) and classroom learning (Chesebro & McCroskey, 2001; Richmond & McCroskey, 1992).

Much of the student success research supports the intuitive theme that an important key to student retention is how likely students are to engage one-on-one with a faculty member (Kuh, 2006). Experts have argued compellingly that engagement promotes a sense of belonging to the institution and provides students with a mentor and role model as they navigate the academic terrain. Similarly, a significant body of research findings, starting with the study by Christophel (1990), substantiates the positive relationship between instructor immediacy, student engagement, and perceptions of learning. As suggested by Myers (2004), students who perceive instructors as more immediate will be more willing, likely, or interested in engaging with them.

Persistence

Extensive attention has been given to community college student persistence from researchers, practitioners, and policymakers in higher education, with community college persistence rates consistently reported as very low. Early research by Clark (1960) cited that 40% of community college freshmen did not return for their second year. In 2003, the Southern Regional Education Board (as reported by Summers, 2003) reported similar results with only 45% of community college first-time, full-time freshmen returning for their second year. Recent data released by the Center for Community College Student Engagement (McClenney, 2010) reported that of the 84% of community college students who indicated their goal was to complete an associate's degree, fewer than half attained that goal by six years after entering college. Overall, researchers and practitioners have continued to find that community college student dropout rates are significantly higher than those of four-year colleges and universities.

Summary

Researchers have studied the impact of a variety of variables on student persistence including student characteristics (age, gender, ethnicity, socioeconomic status), student variables (parental

education level, employment status, marital status), academic ability (high school grade point average, class rank, admission test scores, first-semester college grades), noncognitive factors (motivation, social integration, intent to return, and career aspirations), and availability and use of student services (Summers, 2003). Studies by Lanni (1997); Windham (1995); and Swager, Sarah, Campbell, and Orłowski (1995) found that students who worked full-time were more likely to drop out of college when compared to those who worked part-time or not at all. Gerardi (1996) found that parents' educational background contributed to persistence. Studies at Northern Virginia Community College (2000) found that among the factors reported by students as reasons for dropping out, competing demands from their family was frequently mentioned.

The communication and educational literature have acknowledged that instructor-student interaction is vital to student success. The literature has also recognized that students do not begin college with the intention of dropping out before the end of the term, yet many do. In addition, the research has overwhelmingly recognized that community colleges experience lower persistence rates than do four-year institutions. The research on instructor-student interaction also recognizes that for many community college students, the learning environment is primarily the classroom. Student's perception of instructor's availability, concern, and interest has positive and significant effects on persistence. Similarly, the more students feel connected to their instructors and their peers, the more likely they are to persist.

Students leave college before completing their degree for many reasons, and approximately half of the students who leave college do so within the first year. As many of the reasons are related to community college students' being first-generation, nontraditional students with excessive work and family responsibilities, it is important to investigate the impact of these variables on students' interactions with instructors and their intent to persist. It is also important to identify these factors during the first weeks of the first semester.

Conceptual Framework

The theoretical framework was guided by Tinto's (1975) model of student integration, Astin's (1984) student involvement theory, and Bean and Metzner's (1985) model of nontraditional student attrition. Tinto's model (1993) emphasized that a student's decision to persist begins with personal commitments and intentions and centered on the experiences of students once they were past the entry stage and the effects of institutional experiences. Students' interactions with other students, faculty, and staff were viewed as directly related to their social and academic integration, which in turn impacted persistence.

Astin's student involvement theory asserted that students learn by becoming involved. Student involvement, "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1985, p. 134), leads to behavioral actions that are important in understanding student participation and engagement. Astin also asserted that "the best" way to involve students in learning and in college life is to increase personal contact between instructors and students (p. 162). Variables in this study that related to Astin's (1985, 1993a, 1993b) theory included gender and hours worked per week.

Bean and Metzner's (1985) model of nontraditional student attrition asserted that students' personal background and environmental variables are major factors which affect their dropout and persistence decisions. Background variables include students' age and gender; environmental variables include students' enrollment status, family responsibilities, and hours worked per week. The model also asserted that students' decisions to persist are impacted by the degree to which they enjoy being students and are their interest in courses.

Both Astin's (1984) theory and Bean and Metzner's (1985) model significantly contributed to this study. Both perspectives contained variables included in this study and characterized the student engagement, instructor-student communication, and persistence literature. Both perspectives asserted that student engagement is essential and noted the fundamental importance of student interactions. For this study, researchers asserted that community college students' intent to persist (dependent variable) was impacted by their instructor-student interactions (initiated by the instructor), student-instructor interactions (initiated by the student), age, sex, generation, children, employment, and enrollment status.

The purpose of the current study was to examine the relationship between the student demographic variables (age, sex, and generation status) and time-commitment variables (children, employment, and college enrollment status), instructor-student interaction, and student-instructor interaction on community college students' intent to persist. Specifically, the research question was as follows: *Is there a relationship between the predictor (independent) variables of instructor-student interaction, student-instructor interaction, age, sex, generation status, children, employment, and enrollment status and the dependent variable, intent to persist, among community college students?*

Methods

Research Design

Researchers analyzed existing data from the Survey of Entering Student Engagement (*SENSE*) in this causal-comparative study of community college students' demographics and instructor interactions as they relate to intent to persist in college. Intent to persist in college served as the dependent variable and demographic variables (age, sex, and generation status), time-commitment variables (children, employment, and college enrollment status) and instructor-student interaction and student-instructor interaction served as the independent variables. The demographic and time-commitment variables were selected because of their depiction in the literature as characterizing traditional and nontraditional students, which is a key characteristic of community college students. The terms *traditional* and *nontraditional* are used by researchers to describe the two basic age categories (AACC, 2010). Full-time, post-secondary students between the ages of 18 to 24 are described as traditional students. Students who are age 25 or older and working while enrolled in college are described as nontraditional. The average age of a community college student is 29 years old; 47 % of students are age 21 or younger, 40% are ages 22–39, and 13% are over age 40.

Instrumentation

Developed by national experts in the field of community college research and practice and supported by extensive research on educational practices related to retention and other desired student outcomes, *SENSE* was designed to capture information about students' behaviors in the earliest weeks of college and the institutional practices that affect students during this time (CCCSE, 2009a, 2010). *SENSE* consists of 29 items including dichotomous, frequency, and 5-point Likert scales. The major content sections of the survey include factual items and behavior items associated with students' first impressions of the college; college services (admissions, registration, assessment, placement, orientation and financial aid); how they spend their time; their relationships and interactions with instructors, advisors, and other students; and what kinds of work they are challenged to do.

To create the dependent variable, intent to persist, the response values for the *SENSE* item, "When do you plan to take classes at this college again?," were recoded. Responses of, "I will accomplish my goal(s) this semester/quarter and will not be returning" and "Within the next 12 months" were coded as retained and responses of "I have no current plans to return" and "Uncertain" were coded as not retained. For the independent variable of instructor-student interaction, researchers averaged responses to six survey items pertaining to communication initiated by the instructor, such as, "All instructors clearly explained academic and student support available at this college." The internal-consistency reliability estimate for this scale was Cronbach's alpha = .74. The six item student-instructor interaction scale comprised of items such as, "How often did you discuss an assignment or grade with an instructor?" (Cronbach's alpha = .68). Age data were recoded for this study to reflect traditional (24 and younger) and nontraditional (25 and older) students. Responses to several items were combined to distinguish first-generation college students from other students. The children variable was dichotomous, indicating whether or not the students have children who depend on them for care. Employment was reported as the typical number of hours weekly worked for pay. Enrollment status was measured as either full- or part-time.

Participants and Procedures

Prior to analysis, a request for access to the 2010 cohort dataset for the *SENSE* was requested and approved from The Center for Community College Student Engagement. Additionally, the study was approved by the Institutional Review Board of the University of Arkansas at Little Rock. All data for the study were archival data from the *SENSE* dataset administered at 120 community colleges from 30 states (CCCSE, 2009a, 2010). These colleges represent a total enrollment of 789,012 students, with the survey generating more than 50,000 usable surveys from entering students.

The Center for Community College Student Engagement obtained the fall term Course Schedule File from member colleges (CCCSE, 2009a, 2010). The survey was administered in classes randomly selected from the population of all first college-level English, all first college-level math, and developmental education courses (excluding ESL courses). These courses were selected for the survey because they are the classes most likely to enroll entering students.

Students were sampled at the classroom level (CCCSE, 2009a, 2010). Because full-time students are enrolled in more classes and, therefore, are more likely to be surveyed, this sampling procedure introduces a bias. To more accurately represent the entering student population, *SENSE* results were weighted based on the most recent publicly data available from the Integrated Postsecondary Education Data System. Participant demographics ($N = 51,010$) indicated that 75.53% were nontraditionally aged ($n = 38,528$); 56.85% female ($n = 29,001$); 76.96% without dependent children ($n = 39,255$); 39.83% not employed ($n = 19,299$); 22.20% worked 30 hours or more per week ($n = 11,322$); 59.20% enrolled part-time ($n = 30,199$); 55.53% not first generation ($n = 28,328$); and 54.84% White ($n = 27,974$), 19.46% Hispanic/Latino/or Spanish ($n = 9,927$), and 16.08% Black/African American ($n = 8,204$).

Data Analysis

Researchers used listwise deletion of missing data in that only responses with complete data on all variables were used in the analysis, reducing the sample size from 56,690 to 51,010. Data were coded and entered into the Statistical Package for the Social Sciences (SPSS) software version 19. Logistic regression analysis was utilized to examine the relationship between community college students' intent to persist (dependent variable) and the predictor (independent) variables of instructor-student interaction, student-instructor interaction, age, sex, generation status, children, employment, and enrollment status. Logistic regression assumes that the relationship between predictor (independent) variables is linear; therefore, researchers examined this assumption prior to analysis. Inspection of the Variance Inflation Factors (VIF) for the variables revealed that the assumption appeared reasonable because all values were less than 10 with the values ranging from 1.02 to 1.45.

Results

When all eight predictor variables were considered together, the logistic regression results indicated variables were statistically reliable in distinguishing between students who are most likely to intend to persist and those who are not ($-2 \text{ Log Likelihood} = 54,541.327$; *Hosmer and Lemeshow Goodness-of-Fit*(8) = 11.27, $p = .187$; $\chi^2 = 1,454.258$, $N = 51,010$, $p < .05$). The model correctly classified 76.4% of cases, and Wald statistics indicated that all eight predictors made statistically significant contributions to the model with coefficients presented in Table 1.

Table 1.

Summary of Logistic Regression Analysis Predicting Intent to Persist

Variable	<i>B</i>	<i>SE</i>	<i>OR</i>	95% CI	Wald Statistic	<i>P</i>
Age	0.40	0.03	1.40	[1.40, 1.58]	160.08	.001
Sex	0.26	0.02	1.30	[1.25, 1.36]	148.71	.001
Generation status	0.19	0.02	1.21	[1.16, 1.27]	81.68	.001
Children	0.19	0.03	0.82	[0.77, 0.88]	35.95	.001
Employment	0.11	0.01	1.11	[1.10, 1.12]	410.15	.001
Enrollment	0.29	0.02	1.34	[1.29, 1.40]	177.10	.001
Instructor-student interaction	0.20	0.02	1.22	[1.18, 1.27]	120.30	.001
Student-instructor interaction	0.10	0.02	1.11	[1.07, 1.15]	28.26	.001

The odds ratio for age was greater than one which indicated that nontraditional students were 1.49 times more likely to intend to persist than their traditionally aged counterparts. Female students were 1.30 times more likely to intend to persist than male students. Students who were not first-generation were 1.21 times more likely to intend to persist. The odds ratio for children was less than one (odds ratio = .82), indicating that students who had children were .82 times less likely to intend to persist than students who did not have children. Employment status indicated that students who worked more than 30 hours per week were 1.11 times more likely to intend to persist than students who worked less than 30 hours per week. Students who were enrolled full-time were 1.34 times more likely to intend to persist than students who were enrolled less than full-time. The relationships between students' intent to persist and student-instructor interaction (odds ratio = 1.11) and instructor-student interaction (odds ratio = 1.22) were positively related as well. Specifically, students who have higher student-instructor interactions are 1.11 times more likely to intend to persist, and students who have increased instructor-student interactions are 1.22 times more likely to intend to persist.

Discussion

The logistic regression results supported findings in existing literature of a relationship among the predictor variables included in this study and community college students' intent to persist, correctly classifying 76.4% of cases. When all eight predictor variables (instructor-student interaction, student-instructor interaction, age, sex, generation status, children, employment, and enrollment status) were considered together, they were statistically reliable in distinguishing between students who intend to persist and those who do not.

The odds ratios for instructor-student interaction and student-instructor interaction indicated that students who have these interactions are more likely to intend to persist. These findings support previous researchers who reported that instructor-student interaction is positively correlated to student development and achievement and that interaction with instructors improves students' satisfaction level and academic performance (Cotton & Wilson, 2006; Seidman, 2005). These findings also support Tinto's model (1993) in which students' interactions with faculty were viewed as related to their social and academic integration, which in turn impacted persistence.

Similarly, Bean's (2005) findings demonstrated that student interaction with faculty played an important role in persistence.

The statistically significant association between age and students' intent to persist did not support the findings of previous research, as it relates to nontraditional students. Results of this study indicated that nontraditional students were 1.49 times *more likely* to intend to persist than traditional students. This result is somewhat surprising because previous research found older students are more likely to drop out than are younger students due to marriage, home and work responsibilities, and higher levels of absenteeism than younger students (Leppel, 2002; Summers, 2003; Windham, 1995). Although the cause for this contradictory finding could not be determined, a possible explanation could be that nontraditional students recognize the importance of obtaining a college degree in achieving their financial and career aspirations.

The results of this study indicated that female students were *more likely* to intend to persist than male students. These findings support Voorhees (1987) research which indicated females were more likely to persist. Other research, however, has not specifically indicated whether female or male students were more likely to persist; instead, the findings indicated why male and female students were likely to drop out. Grimes and Antworth (1996) indicated that male students are likely to drop out for academic reasons, and Bean (1983) found that men tend to drop out more during the freshmen year. According to Leppel's (2002) research,

Women may feel that their education is less critical since their husbands serve as the primary breadwinner. Married men may be more inclined to drop out of college because they feel pressured to earn a living and cannot meet the demands of employment and schooling simultaneously. (p. 446)

The odds ratio for generation status indicated that students who were *not* first-generation were more likely to intend to persist than first-generation students. This outcome supports findings from previous studies such as first-generation college students are less likely to persist and graduate in part because they face additional factors such as academic preparation and excessive work and family responsibilities (Ishitani, 2006; Pike & Kuh, 2005). First-generation college students are also more likely to take longer periods of time to complete their degree programs than non-first generation students. For example, Ishanti (2006) found that first-generation students were less likely to complete their degree programs in a timely manner. Specifically, his findings indicated that first-generation students were 51% and 32% less likely to graduate in the fourth and fifth years than were students whose parents graduated from college.

Not surprisingly, the results of this study indicated that students who had children (also known as student-parents) were *less likely* to intend to persist than students who did not have children. This finding supports previous research which found the lack of student persistence is often correlated with students' family responsibilities regardless of the availability of good academic and family support (Bean & Metzner, 1985; Bers & Smith, 1991; Schuetz, 2008). Although some institutions of higher education provide on-campus child care services, many do not (Austin & McDermott, 2004). Consequently, when student-parents are unable to obtain adequate day care, college enrollment is not a viable option and persistence is jeopardized.

Although previous research suggests that students who worked full-time were more likely to drop out of college when compared to those who worked part-time or not at all (Bean & Metzner, 1985; CCCSE, 2009b; Lanni, 1997; Swager et al., 1995), the findings in the current study were the opposite. The results indicated that students who worked more than 30 hours per week were *more* likely to intend to persist than students who did not work more than 30 hours per week. Specifically, students who worked more than 30 hours per week were 1.11 times more likely to intend to persist than students who did not. The cause for this contradictory finding could not be determined. A possible explanation could be the result of students who work full-time being financially responsible for their tuition. Additionally, as with the findings for age, students who work full-time may also recognize the importance of a college degree in achieving their financial and career aspirations. Thus, students who work full-time are more likely to *intend* to persist than those students who do not.

Results of this study indicated that students who were enrolled full-time were *more likely* to intend to persist than students who were enrolled less than full-time. These findings support previous research that suggests part-time students are less engaged and are at greater risk of leaving college without attaining their educational goals due to other responsibilities that may prevent them from attending class regularly (NCES, 2005; Sorey & Duggan, 2008).

Recommendations

In view of the findings, further research is needed. Though this study identified specific predictor variables that impact instructor-student interaction and students' intent to persist, research is necessary to determine if specific instructor-student interactions and instructor immediacy behaviors impact classroom student engagement and student outcomes. Research is also needed to determine if specific instructor-student interactions and immediacy behaviors are more helpful for specific subpopulations than for others. The patterns detected in this secondary analysis of quantitative survey data should be examined in subsequent studies through more direct measures of the constructs quantitatively and with more in-depth qualitative methods.

The cumulative findings of this study seem to identify a pattern of nontraditional students not only engaging *differently* with instructors than traditional students, but also needing and pursuing *more* interactions with instructors. Therefore, community college administrators should provide professional development which includes initiatives that encourage and increase more nontraditional student-instructor interactions and classroom engagement. Because the study results also indicated that male students were not only less engaged than female students but also less likely to intend to persist than female students, professional development should include strategies which promote and increase instructor-student interactions with male students.

The findings of this study also indicated that instructor-student interactions may be more beneficial for students *with* children than those without. Because students with children have competing demands on their time *outside* of the classroom, it is imperative that instructors recognize the importance of instructor-student interactions *inside* the classroom. Thus, professional development should include specific communication strategies to best serve this subpopulation.

Limitations

The variables included in this study were limited to variables available in the dataset, and the questions or survey items could not be changed to provide a better measure of the constructs or to investigate other variables of interest. As with all survey research, the findings may also be impacted by self-report bias. Unlike many educational studies, population and ecological validity threats were not major concerns (Onwuegbuzie, 2003). The *SENSE* survey is administered to a large number of community college students nationwide each year, thus the data is reasonably representative of community colleges across the United States.

Conclusion

As previously noted, the classroom is the main point of contact for community college students due to their part-time status, employment and family responsibilities, and lack of campus involvement. Thus, community college students interact more with instructors throughout the semester than with anyone else. Identifying the impact of these interactions on student persistence during the first weeks of students' first semester is essential, as this period is usually the most critical time of adjustment for college students.

Better understanding instructor-student interactions will allow community colleges to identify strategies to increase classroom engagement, academic performance, and persistence. Implementing strategies that underscore the importance of instructor interactions will also help to inform college administrators and faculty, along with higher education policy makers, about the significant factors that impact instructor-student interaction. In turn, this will assist in the implementation of policies which promote student engagement and positively impact students' intent to persist.

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